This document edited on
August 11, 2011.

# Manitoba RHA
# Indicators Atlas 2009

**September 2009**

**Manitoba Centre for Health Policy**
Department of Community Health Sciences
Faculty of Medicine, University of Manitoba

Randy Fransoo, PhD
Patricia Martens, PhD
Elaine Burland, MSc
*The Need to Know* Team
Heather Prior, MSc
Charles Burchill, MSc

This report is produced and published by the Manitoba Centre for Health Policy (MCHP). It is also available in PDF format on our website at:
**http://mchp-appserv.cpe.umanitoba.ca/deliverablesList.html**

Information concerning this report or any other report produced by MCHP can be obtained by contacting:

Manitoba Centre for Health Policy
Dept. of Community Health Sciences
Faculty of Medicine, University of Manitoba
4th Floor, Room 408
727 McDermot Avenue
Winnipeg, Manitoba, Canada R3E 3P5

Email: reports@cpe.umanitoba.ca
Phone: (204) 789 3819
Fax: (204) 789 3910

**How to cite this report:**

Fransoo R, Martens P, Burland E, *The Need to Know* Team, Prior H, Burchill C. Manitoba RHA Indicators Atlas 2009. Winnipeg, MB: Manitoba Centre for Health Policy, September 2009.

**Legal Deposit:**
Manitoba Legislative Library
National Library of Canada

ISBN 978-1-896489-50-6



1st Printing (September 2009)

# The Manitoba Centre For Health Policy

The Manitoba Centre for Health Policy (MCHP) is located within the Department of Community Health Sciences, Faculty of Medicine, University of Manitoba. The mission of MCHP is to provide accurate and timely information to health care decision-makers, analysts and providers, so they can offer services which are effective and efficient in maintaining and improving the health of Manitobans. Our researchers rely upon the unique Population Health Research Data Repository (Repository) to describe and explain patterns of care and profiles of illness, and to explore other factors that influence health, including income, education, employment and social status. This Repository is unique in terms of its comprehensiveness, degree of integration, and orientation around an anonymized population registry.

Members of MCHP consult extensively with government officials, health care administrators, and clinicians to develop a research agenda that is topical and relevant. This strength, along with its rigorous academic standards, enables MCHP to contribute to the health policy process. MCHP undertakes several major research projects, such as this one, every year under contract to Manitoba Health and Healthy Living (MHHL). In addition, our researchers secure external funding by competing for research grants. We are widely published and internationally recognized. Further, our researchers collaborate with a number of highly respected scientists from Canada, the United States, Europe and Australia.

We thank the University of Manitoba, Faculty of Medicine, and Health Research Ethics Board for their review of this project. MCHP complies with all legislative acts and regulations governing the protection and use of sensitive information. We implement strict policies and procedures to protect the privacy and security of anonymized data used to produce this report and we keep the provincial Health Information Privacy Committee informed of all work undertaken for MHHL.

# Acknowledgements

An Atlas report like this one inevitably relies on the efforts of many people, including those listed below (with apologies to those whose names have been inadvertently omitted). It also builds on previous MCHP reports which developed many of the indicators replicated in this report.

First and foremost, we thank all the members of *The Need To Know* Team, from its inception in 2001 through the present (listed):

- RHA members: Jody Allan, Laurel Biluk, Dr. Shelley Buchan, Maggie Campbell, Jane Curtis, Suzanne Dick, Tannis Erickson, Bonnie Frith, Jan Gunness, Susan Hunter, Catherine Hynes, Dr. Carol Kurbis, Lorraine Larocque, Sue Lockhart, Dr. Nawal Lutfiyya, Nancy McPherson, Ales Morga, Michel Petit, Dr. Lisa Richards, Vivian Salmon, and Faye White.
- Manitoba Health and Healthy Living (MHHL) members: Della Beattie, Sonia Busca Owczar, Deborah Malazdrewicz, Lorraine Dacombe Dewar, Rachel McPherson, Erin Schillberg, Heather Sparling, and Karen Serwonka. Rolf Puchtinger (MHHL, but not NTK) provided assistance with Diabetes indicators.
- MCHP support staff: Wendy Guenette and Linda Kostiuk.
- We also acknowledge the CEOs of all RHAs in Manitoba for their ongoing support for the work of the NTK team.

A key driver of the need for this report was the Community Health Assessment process, for which each RHA must provide a comprehensive written report to MHHL every 5 years. The Community Health Assessment Network (CHAN) involves representatives from every RHA in Manitoba—some of whom are also NTK team members. A sub-committee of CHAN derived the master list of required and optional indicators for CHA reporting. We thank all these participants as well.

We also appreciate the staff of MCHP who helped prepare, review, edit, and layout the report:

- Drs. Rob Santos, Marni Brownell, and Noralou Roos provided detailed feedback and reviews of the manuscript. Dr. Dan Chateau provided statistical support.
- Angela Bailly did the majority of the detail work, including creating and laying out most graphs, tables and text, correcting spelling, grammar and style, and formatting references. Wendy Guenette, Kari-Lynn McGowan, Eileen Bell, Stephanie Smith, Carole Ouelette, and Theresa Daniuk also contributed to this work.

# Table of Contents

# List of Figures

# List of Tables

# List Of Appendix Figures and Tables

# Executive Summary

## Major findings and implications

### *The social gradient in health*

The results in this report show that there continues to be a strong connection between socioeconomic status and health status. Residents of lower income areas have higher mortality rates and higher prevalence of physical and mental illness. However, they also receive more health care services, especially hospital care. In urban areas (Winnipeg and Brandon), residents of lower income areas also receive more physician visits, however in both urban and rural areas, they had slightly lower rates of consultations (mostly to specialists), and lower continuity of care. Many surgical and diagnostic procedures (cardiac care, cataract surgery) were performed at higher rates among residents of lower income areas, except Magnetic Resonance Imaging scans, which showed the opposite trend. Hip and Knee replacement rates were similar across income groups. Home care service rates were higher among residents of lower income areas within Winnipeg and Brandon, whereas in rural areas rates were equal across income groups. Immunization rates for influenza and pneumonia were not related to income, but mammography and Pap testing rates were lower among women from lower income areas. Prescription drug use rates were similar across income groups, though residents of lower income areas received a higher number of different drugs – possibly related to their higher disease prevalence. Quality of care indicators showed no consistent relationship with area-level income.

### *Demographics*

Manitoba's population size was relatively stable from 2000 to 2005, with a 2% increase overall. However, there were large differences across RHAs: some RHAs had increases in population, while others had decreases. Manitoba's population is also aging: there were fewer children and more middle-age and older residents in 2005 than in 2000.

### *Mortality rates and Population Health Status*

The results in this report show that overall, the health of Manitoba's population continues to gradually improve over time, in keeping with results from previous MCHP reports. Mortality rates are decreasing, and life expectancy is increasing, though the actual changes in these indicators are relatively small. However, the health status of residents of the North is not improving at all, and may even be declining. As a result, the gap in health status is widening over time. Circulatory diseases (heart disease and stroke), Cancer, and Respiratory diseases continue to be the leading causes of death, though the proportion attributed to circulatory diseases is decreasing over time.

### *Disease Prevalence and Incidence*

The prevalence of hypertension, diabetes, and osteoporosis in Manitoba increased, while that of arthritis, respiratory disease, and ischemic heart disease decreased slightly. However, the changes varied considerably by disease, and across geographic areas. Event rates of heart attacks, strokes and diabetes-related lower limb amputations decreased over time in Manitoba, and these decreases were consistently reflected in most areas of the province. The prevalence of some mental illnesses increased

in Manitoba, while for others, prevalence was stable or decreased slightly. Among those increasing over time were the two most prevalent illnesses: depression and anxiety, in addition to dementia.

***Physician Services***

Most indicators of the use of physician services showed remarkably stable patterns over time: the proportion with at least one visit, the number of visits, the number of consultations and total visits to specialists, and the location of visits were very similar in 2000/01 and 2005/06. Rates of physician service use do not appear to be strongly related to health status at the RHA level, though missing data (especially in the North) may affect this observation. The 'completeness' of data for physician services continues to be a concern, particularly among physicians working in rural areas, many of whom are paid by alternative payment systems (e.g. salary) and may not be completing 'shadow billing' claims for all services they provide.

***Hospital services***

The proportion of residents admitted to a hospital at least once was stable over time, but total separation rates and days used decreased slightly (though not significantly). Most indicators of hospital care were related to population health status, suggesting that hospital care continues to be responsive to the health needs of local populations. Winnipeg residents continue to have significantly lower hospitalization rates than residents of other RHAs. Patterns of the location of hospitalization for RHA residents, and of the catchment areas served by RHA hospitals were stable over time.

***Home Care and Personal Care Homes (PCH)***

Looking at Home Care and PCH results together, it would appear that the goal of delaying admission to PCHs by providing adequate home care services is being accomplished. The use of home care is increasing, as evidenced by a greater number of new and open cases, and a slight (non-significant) increase in the average length of these cases. Simultaneously, there are fewer people being admitted to and living in PCHs, and when they are admitted, they enter at higher levels of care and have shorter stays.

***Diagnostic and surgical procedures***

Rates of cardiac catheterizations ('angiograms'), coronary artery bypass surgery and cataract surgery have stabilized after years of steadily increasing rates. However, rates of Percutaneous Coronary Interventions (balloon angioplasty and stent insertion) continued to increase, as did rates of total hip and knee replacement. The rate of Magnetic Resonance Imaging (MRI) scans doubled over 5 years. Analysis of Computed Tomography (CT) scan rates was omitted because of the absence of data for scans performed in many rural hospitals.

***Preventive and Other Services***

Rates of vaccination for influenza and pneumonia among adults 65+ increased, while rates of mammography testing (for breast cancer) and Papanicolauo testing (for cervical cancer) did not change over time. The provincial Health Links / Info Santé service was used by 12.9% of Manitobans, but rates varied considerably across RHAs.

***Prescription Drug Use***
The proportion of the population receiving at least one prescription in a year was stable, but the number of different drugs prescribed increased. The proportion of the population using antidepressants went up, as did the prevalence of depression; however, the increase in antidepressant use was double the increase depression prevalence.

***Results from the Canadian Community Health Survey***
Most indicators do not show markedly different results across RHAs, and Manitoba averages are usually close to corresponding Canadian averages. There are exceptions to both of these statements, but no RHA had a pattern of results that consistently set it apart from other RHAs in Manitoba.

## Summary of key findings by chapter

### Chapter 1: Introduction
This report was produced by the Manitoba Centre for Health Policy (MCHP) to provide indicators of population health status, health care use, and quality of care for residents of all 11 Regional Health Authorities (RHAs) of Manitoba. It includes 105 indicators covering many aspects of health status and health care use, and is intended to assist RHAs in preparing their third comprehensive Community Health Assessment reports.

This report updates and expands on previous MCHP reports, most notably "The Manitoba RHA Indicators Atlas: Population-Based Comparisons of Health and Health Care Use" completed in 2003. Like that report, this one provides results for two time periods, to provide some indication of change over time. This report contains many indicators which have been developed or modified since the publication of the previous report. The analyses also use more advanced statistical methods than the previous study (generalized linear modeling, versus direct adjustment), so it was important to re-calculate rates for a common time frame (2000/01).

The analyses in this kind of 'Atlas' report are intended to be primarily descriptive, not explanatory. That is, the report shows what the data reveal, not how or why those results have come about. Answering the latter questions requires information about context, history, and local circumstances, which is not available in administrative data.

This report was developed with extensive involvement of *The Need To Know* (NTK) Team, and the Community Health Assessment Network (CHAN), which both include representatives of each RHA in Manitoba, as well as other stakeholders. Most indicators provide results for each RHA, as well as for the Districts within each (in Winnipeg RHA, the sub-areas shown are the 25 Neighbourhood Clusters). For more insightful comparison of results for rural RHAs, results for three 'Aggregate areas' are also shown: Rural South, Mid, and North – each aggregating results for 3 rural RHAs.

Most indicators show 'age- and sex-adjusted rates' which were calculated so that results could be fairly compared across areas, accounting for differences in population structure. Most analyses use a population-based approach – so all residents are included, and events are attributed to the region of residence, not the location of service provision.

In all bar graphs, RHAs and Districts within RHAs are ordered by population health status, using the premature mortality rate of area residents (see Ch 1). This allows more meaningful interpretation of results, as higher health service use would be expected among residents of less healthy areas. Results focus on fiscal years 2000/01 and 2005/06, with additional (prior) years of data being added when required to achieve statistically reliable results.

Our hope is that these results will be useful beyond the directly intended purposes, to provide information and insight for planners and researchers from a variety of areas.

### Chapter 2: Demographics

Manitoba's population was relatively stable over time, at 1,151,895 in 2000 and 1,175,235 in 2005, a 2% increase overall. However, the change varied by RHA. Several RHA populations increased from 2000 to 2005: South Eastman +10.9%, Central +4.5%, Brandon +4.0%, Interlake +2.5%, Burntwood +2.5% Winnipeg +2.1%, and North Eastman +1.6%. The remaining RHAs decreased: Churchill -5.1%, Assiniboine -4.2%, Parkland -4.0%, and Nor-Man -3.4%.

Manitoba's population is also aging in that there were fewer children and more middle-age and older residents in 2005 than in 2000. Residents aged 75 or older made up 8.35% of the population in 2000, and 8.50% in 2005. By comparison, residents aged 0-19 years made up 28% of the population in 2000, and 27% in 2005.

Below is a summary of the demographic profile for each RHA in 2005, comparing the proportion of children 0-19, adults 20-64, and seniors 65+ to the corresponding proportions for Manitoba overall. These were based on the values shown in Table 2.1, which are also graphed in Figure 2.1.

- South Eastman has more children, slightly fewer adults, and fewer seniors than Manitoba overall.
- Central has more children, fewer adults, and an average proportion of seniors.
- Assiniboine has fewer children, fewer adults, and more seniors.
- Brandon has slightly fewer children, slightly more adults, and an average proportion of seniors.
- Winnipeg has fewer children, more adults, and an average proportion of seniors
- Interlake has slightly fewer children, an average proportion of adults, and slightly more seniors.
- North Eastman has an average proportion of children, adults, and seniors.
- Parkland has slightly fewer children, fewer adults, and more seniors.
- Churchill has more children, more adults, and many fewer seniors.
- Nor-Man has many more children, slightly fewer adults, and many fewer seniors.
- Burntwood RHA has many more children, fewer adults, and many fewer seniors.

## Chapter 3: Population Health Status and Mortality

Mortality rates and population health status

- In most areas of Manitoba, total and premature mortality rates decreased and life expectancy values increased over time. This suggests that the population's health status continues to improve, extending results from the 2003 RHA Indicators Atlas.
- The exception is among residents of Northern RHAs and in some of the least healthy areas within Winnipeg where health status is not improving—and may even be deteriorating. This finding is consistent with and extends the trends found in previous MCHP reports (Martens et al., 2008; Brownell et al., 2003). All three reports show that the gap in health status is widening over time, due to improvement in health status among residents in healthy areas and lack of improvement among residents of the least healthy areas.

Causes of death

- Circulatory diseases (including both heart disease and stroke), cancer, and respiratory diseases continue to be the leading causes of death for Manitobans. However, the results, along with those from the 2003 Atlas, show that the proportion of deaths attributed to circulatory diseases is decreasing over time, from 40% in 1990–94 to 34% in 2001–05. By contrast, the proportion of deaths attributed to cancer and to respiratory diseases have remained stable at approximately 27% and 9%, respectively.
- Examination of premature death rates (0–74 years) revealed that cancer was the leading cause of premature death, followed by circulatory diseases. This order is the reverse of that seen for 'all' deaths. This implies that a higher proportion of the deaths attributed to circulatory diseases are among older residents (age 75+).

## Chapter 4: Prevalence and Mortality Burden of Physical Illness

- Over the two time periods studied, the prevalence of hypertension, diabetes, and osteoporosis in Manitoba increased, while that of arthritis, respiratory disease, and ischemic heart disease decreased slightly. However, the changes varied considerably by disease and across geographic and socioeconomic groups within Manitoba.
- Five–year mortality rates were higher among those with each of the diseases than those without, and this pattern was reflected in virtually all areas of Manitoba for most diseases. Of the six diseases studied, diabetes showed the greatest difference: the five–year mortality rate for residents with diabetes (11.7%) was more than twice that for those without diabetes (5.3%).
- Rates of heart attacks, strokes and diabetes–related lower limb amputations decreased over time in Manitoba, and these decreases were consistently reflected in most areas of the province.
- All illnesses except osteoporosis were more prevalent among residents of lower income areas, and this pattern held in both urban and rural settings. However, for hypertension and arthritis (the most prevalent illnesses analyzed), the associations with income were relatively modest in comparison with other indicators.

- The slight decrease in the prevalence of respiratory diseases seems contrary to the often–cited increase in the prevalence of asthma, especially among children. However, supplementary analyses suggest that asthma prevalence may be confounded by 'diagnostic exchange' with bronchitis. Concerns about the increasing prevalence of asthma in young children may need to be tempered by the decreasing prevalence of other respiratory diseases. The combined prevalence of total respiratory morbidity may be a better indicator of respiratory disease burden in the population than prevalence of individual diseases.

## Chapter 5: Mental Illness

- The prevalence of some mental illnesses increased in Manitoba, while for others, prevalence was stable or decreased slightly. Among those increasing over time were the two most prevalent illnesses: depression and anxiety, in addition to dementia. The prevalence of substance abuse declined, and that for schizophrenia and personality disorders (the two least prevalent illnesses) was stable.
- However, because there is significant co–morbidity among mental illnesses, the increase in the proportion of the population affected is not simply the sum of the changes in the individual illnesses. The 'cumulative mental illness' indicator was created to reveal the percentage of the population with any of five prominent mental illnesses: depression, anxiety, substance abuse, schizophrenia, and personality disorders. Prevalence increased from 22.4% in 1996/97–2000/01 to 24.3% of the population age 10 or older in 2001/02–2005/06. This indicator also helps overcome differences in specific diagnoses assigned: for example, in the North, the prevalence of depression is relatively low, but that of substance abuse is relatively high. The cumulative indicator shows that overall, the proportion of the population affected by mental illness was relatively low in the Rural South and Mid areas, but higher in the North.
- Unlike most physical illnesses, the prevalence of mental illness is not directly related to general health status of residents at the RHA level (using premature mortality rates).
- Some mental illnesses are more prevalent among residents of Winnipeg and Brandon RHAs, though some portion of this difference may have been caused by residents of other areas moving to those centres in order to be closer to services they need. (This is important because in order to be defined as cases, people must seek help and have their disorder(s) diagnosed by physicians—during visits or hospitalizations).
- The prevalence of depression, anxiety, and dementia were consistently related to income among residents of urban areas (lower income areas had higher prevalence), but not rural areas. For the other mental illnesses, significant associations with income were seen among both urban and rural areas.

## Chapter 6: Physician Services

- The proportion of residents visiting a physician at least once in a year was 83%, a value which has been relatively stable since 1995/96.
- The average rate of 'ambulatory visits' was also stable, at just under five visits per resident per year in 2000/01 and 2005/06. Visit rates for Winnipeg and Brandon residents continue to be higher than those for residents of other RHAs.
- Access to specialist physicians also appears to be stable, as the 'ambulatory consultation' rates were similar in 2000/01 and 2005/06, at a rate slightly higher than that reported for 1995/96.
- Residents of Winnipeg RHA had slightly higher than average 'ambulatory consultation' rates, but significantly higher than average total visit rates to specialist physicians. Residents of most areas bordering on Winnipeg also had higher specialist visit rates.
- Continuity of care and diagnoses attributed during visits were very similar in 2000/01 and 2005/06.
- The age– and sex–specific rates of visits to physicians changed somewhat over time, with children and young adults having slightly fewer visits and older adults having more visits per year in 2005/06 than in 2000/01.
- The majority of visits to General and Family Practitioners continue to be provided relatively close to home, with visits to Specialists more often occurring in Winnipeg or Brandon.
- Rates of physician service use (access, visit rates, consult rates) do not appear to be strongly related to health status at the RHA level, though missing data (especially in the North) may affect this observation.
- There was no consistent relationship between physician service use and area–level income: some services were significantly related to income, but others were not.
- These latter two observations suggest that physician services may not be as responsive to population health status as other services (e.g., hospital use), but the issue of missing data (especially in the North) makes it impossible to draw firm conclusions from these results.
- The 'completeness' of data for physician services continues to be a concern, particularly among physicians working in rural areas, many of whom are paid by alternative payment systems (e.g., salary) and may not be completing 'shadow billing' claims for all services they provide.
    - This issue also affects other indicators which depend on physician visit data: for example, prevalence of diseases and relationships with other variables.

## Chapter 7: Hospital Services

- The supply of hospital beds per capita continues to decrease slowly over time, as do most of the (age and sex adjusted) indicators of hospital use rates.
- The proportion of area residents admitted to a hospital at least once in a year was stable over time, but varied significantly by RHA, from 5.8% of Winnipeg residents to 14.6% of Burntwood residents. Some portion of this difference is likely explained by geographic distances and access to hospitals.
- Most other indicators also showed that hospital use was lower for Winnipeggers than residents of any other RHA.
- Total hospital separation rates and rates of days used for short and for long hospital stays decreased over time, though these changes did not reach statistical significance. These decreases reflect a continuation of trends seen in previous reports, though they suggest that rates of hospital use may be stabilizing rather than continuing to decrease significantly.
- Most indicators of hospital care were related to population health status at the RHA and/or aggregate area level, which suggests that hospital care continues to be responsive to the health needs of local populations. This is reinforced by the consistently strong relationships between hospital use and area–level income.
- Causes of hospitalization were stable over time, with Pregnancy and Birth continuing to be the leading cause of hospital admission. However, the ranking of top causes varied by aggregate area (e.g., Injuries were more prominent in the North).
- Among hospitalizations for Injury, accidental falls continued to be the dominant cause accounting for more than 40% of all injury–related hospitalizations.
- Patterns of the location of hospitalization for RHA residents and of the catchment areas served by RHA hospitals were stable over time. For all RHAs, most hospitalizations provided were used predominantly by residents of that RHA, though Winnipeg and Brandon were notable exceptions (along with Churchill, which serves many non–Manitoba residents).

## Chapter 8: High Profile Surgical and Diagnostic Services

- Rates of cardiac catheterizations and coronary artery bypass surgeries have stabilized after years of steadily increasing rates. These may be related to the increasing rate of Percutaneous Coronary Interventions (PCI) procedures (angioplasty with or without stent insertion):
    - In recent years, clinical practice has shifted toward 'primary PCI' for patients with acute myocardial infarctions (heart attacks), possibly reducing the need for cardiac catheterizations.
    - Furthermore, patients whose heart disease does not involve multiple vessels are increasingly likely to be recommended for PCI with stent insertion rather than bypass surgery.
- Hip & knee replacement rates continue to increase significantly over time.

- Cataract surgery rates appear to have stabilized after years of increasing rates.
- The MRI scan rate in Manitoba almost doubled over five years. Increases were seen in all areas, but the rate for Brandon residents more than quadrupled—from below the provincial average to near double the provincial average. This finding requires further study to understand variations in scan rates in relation to clinical indications for use of MRI.
- Associations with area–level health status and area–level income measures showed mixed results for the various indicators in this chapter. The exception was MRI scan rates, which had trends opposite to what might be expected in a universal healthcare system: MRI scan rates were lowest in the least healthy and lowest income areas.
- Analysis of CT scan rates had to be omitted because collection of individual–level data is not mandatory for all CT scans performed in rural hospitals. This 'missing data' problem is likely getting worse over time, as more rural hospitals have been equipped with CT scanners. This lack of data inhibits effective monitoring and evaluation of CT services in Manitoba. The situation should improve in the future as new Radiology Information Systems are put in place.

### Chapter 9: Use of Home Care Services

- There was a significant increase in the percentage of residents with new, open, and closed home care cases, and all three indicators were related to health status at the aggregate level but not the RHA level.
    - Assiniboine RHA had lower than average rates for these indicators, which may prompt further research in that RHA.
- The average length of cases remained stable over time and appears to be inversely related to health status at the aggregate level.
- There were higher rates of new and closing cases in urban than rural areas, suggesting a higher turnover rate of home care cases in urban areas.
- For rates of new, open, and closing cases, there was a strong relationship with area–level income in urban areas, but not in rural areas. This may indicate that in urban areas, services are being effectively targeted to high–need clients (presuming area–level income is a reasonable proxy for population–level need for home care). Alternatively, it may suggest that the need for home care is distributed differently within rural income quintiles than within urban income quintiles.

### Chapter 10: Use of Personal Care Homes (PCHs)

- Even though there has been a slight decrease in the number of PCH beds per 1,000 residents age 75+, there has also been significantly fewer admissions to, and residents living in, PCHs. This is consistent with the general trend toward reducing the need for institutionalization in favour of community–based care.

- Waiting times for admission to PCHs decreased over time, as did residents' lengths of stay once admitted to a PCH.
- There has been a slight increase in the 'acuity' or 'sickness level' of people being admitted to PCH, shown by the level of care at admission: a higher proportion of residents were admitted at higher levels of care (levels 3 and 4).
- Patterns of location and catchment were remarkably stable: the vast majority of RHA residents were admitted to PCHs in their 'home' RHA and the vast majority of residents served in each RHA's PCHs were residents from that RHA.

### Chapter 11: Preventive and Other Services

- The proportion of Manitobans age 65+ receiving a flu shot increased from 54.5% in 2000/01 to 66.4% in 2005/06, and this increase was seen in virtually all areas.
- Rates of pneumococcal vaccination among residents age 65+ increased dramatically from 23.6% as of 2000/01 to 58.7% as of 2005/06.
- Mammography and Pap test rates, for detecting breast and cervical cancer respectively, were stable over time. Rates for both tests also continue to show 'negative' associations with income: women in lower income areas had significantly lower testing rates than women in higher income areas.
    - New or enhanced approaches may be required to equalize rates of these services across income groups.
- The provincial Health Links/Info Sante service was used by 12.9% of Manitobans, but rates varied considerably across RHAs from 3.7% of Burntwood residents to 17.4% of Winnipeg residents.

### Chapter 12: Prescription Drug Use

- The proportion of the population receiving at least one prescription in a year was stable at 68%, after years of slow but steady increases.
    - Rates were relatively comparable across RHAs, and stable over time within most RHAs except Burntwood, where improvements in the data recording system explain a portion of the increase seen.
- The number of different types of drugs dispensed per user increased over time from 3.6 to just under 4 in 2005/06. Rates appear to be related to the health status of the population at the RHA and aggregate levels: residents of areas with poorer health status received more prescriptions.
- The proportion of the population receiving at least 2 prescriptions for antidepressants also continues to increase over time, consistent with the increasing prevalence of depression (see Chapter 5).

## Chapter 13: Quality of Primary Care

- Results from the indicators in this chapter suggest a mixed picture regarding changes in rates of quality of primary care over time:
    - Significant improvement was noted for Post–Myocardial Infarction care, asthma care, and diabetes care (eye exams)
    - Rates were basically stable for antidepressant follow–up
    - Rates got slightly worse for benzodiazepine prescribing among seniors age 75+, in both community–dwelling and Personal Care Home settings.
- Relationships with population health status and with income were mixed. Some indicators showed strong trends; others showed weak or no association.
    - For diabetes care and post–AMI care, there were strong 'negative' associations—indicating that residents of lower income areas were less likely to receive quality care.

## Chapter 14: Results from the Canadian Community Health Survey

***Context:***

- The results from this chapter need to be interpreted somewhat differently than those in all other chapters, as the data are drawn from the responses of those Manitobans randomly chosen to participate in the Canadian Community Health Survey (CCHS). There are three major implications of this:
    - First, the results do not represent the entire population in the same way that results in other chapters do (even though the surveys involved thousands of residents)
    - Second, the survey sample does not include any residents of First Nations communities (though Aboriginal peoples living in other areas may well be included in the survey). This limitation is most troublesome for northern RHAs, but affects all RHAs and the provincial average to some extent.
    - Third, because the data collection involves interviewers asking questions of participants, their answers can be affected by personal bias, recall error, and self–serving responses.
- In order to provide more reliable results, and results at the sub–RHA level, analyses in this chapter combined information from multiple survey waves, so changes over time could not be measured.
- Data for Churchill RHA remain suppressed for all CCHS indicators because of inadequate sample size (even after multiple survey waves were combined).

***Key findings:***

- Most indicators do not show markedly different results across RHAs, and Manitoba averages are usually close to corresponding Canadian averages. There are exceptions to both of these statements, but no RHA had a pattern of results that consistently set it apart from other RHAs in Manitoba.
- Overview of results: for most RHAs and for Manitoba:
    - Just over 60% of residents report being in Excellent or Very Good health, rates virtually identical to national averages.
    - Most residents reported excellent physical functioning and general mental health.
    - Indicators of work stress and life stress showed a broad distribution of responses, whereas satisfaction with life, which showed distinctly positive results.
    - Smoking prevalence and exposure to second–hand smoke were both higher in Manitoba than Canada and appear to be related to health status at the area level within the province, in that there were higher rates in northern areas.
    - Binge drinking of alcohol was considerably lower than the Canadian average, but like smoking, was more frequent in northern areas.
    - Body Mass Index (BMI) values for adults were higher than national averages and higher among northern residents.
    - Physical activity levels were relatively similar across RHAs, but showed strong trends with income quintile (see below).
    - Fruit and vegetable consumption was considerably lower than the Canadian average and within the province was not distributed as might have been expected given health status of regional populations. That is, the areas with the healthiest populations were not consistently those areas with the highest frequency of fruit and vegetable consumption.
- Relationships with area–level income were highly variable: some indicators showed no relationships, others showed trends in either urban or rural areas but not both, and still others showed strong relationships in both.
    - The most intriguing finding from these analyses was that total physical activity levels (work + leisure + travel = total physical activity) were higher among residents of low income areas than high income areas. This is opposite to the trend found for leisure time activity levels alone, which showed that residents of higher income areas have higher activity levels. The apparent discrepancy is explained by the fact that most people spend more hours in work time activities than leisure time activities, so work time physical activity contributes much more to total activity levels than leisure time activities.

# Chapter 1: Introduction & Methods

## 1.1 Background

This report was produced by the Manitoba Centre for Health Policy (MCHP) to provide indicators of population health status, healthcare use, and quality of care for residents of all 11 Regional Health Authorities (RHAs) of Manitoba. It includes 105 indicators covering many aspects of health status and healthcare use and was intended to assist RHAs in preparing their third comprehensive Community Health Assessment reports. Other key sources include MCHP's Child Health Atlas Update (Brownell et al., 2008), the 2008 Regional Profile documents by Manitoba Health and Healthy Living, the 2008 Women's Health Profile report, data from CancerCare Manitoba, and previous MCHP reports, including the Sex Differences report (Fransoo et al., 2005), the Mental Illness report (Martens et al., 2004) and the RHA Atlas 2003 (Martens et al., 2003).

This report updates and expands on previous MCHP reports, most notably "The Manitoba RHA Indicators Atlas: Population–Based Comparisons of Health and Healthcare Use" completed in 2003 (hereinafter referred to as 'the 2003 Atlas'). Like that report, this one provides results for two time periods to give some indication of change from 2000 to 2005. The timing of these reports was designed to match the five–year cycle of the Community Health Assessment process and allow for both overlapping and updated data on many indicators. The overlap is important as this report includes many indicators which have been developed or modified since the publication of the previous report. The analyses in this report also use more advanced statistical methods than the previous study (generalized linear modeling, versus direct adjustment), so it was important to recalculate rates for a common time frame.

The analyses in this kind of 'Atlas' report are intended to be primarily descriptive, not explanatory. That is, the report shows what the data reveal, not how or why those results have come about. Answering the latter questions requires information about context, history, and local circumstances, which are not available in administrative data.

## 1.2 The Collaborative Networks Involved

Two collaborative networks were involved in creating this report: *The Need To Know* team (NTK) and the Community Health Assessment Network (CHAN). The NTK team was intimately involved in all aspects of this report since its inception, including determining which indicators were included, how they were analyzed and reported, and how they can be used to influence regional health planning and service provision. The NTK team is a collaborative researcher/planner group which includes representatives from all Manitoba RHAs, several representatives of Manitoba Health and Healthy Living, and staff of the Manitoba Centre for Health Policy (MCHP). The Team was established in 2001 through a five–year grant from the Canadian Institutes of Health Research (CIHR) and has continued with support from various sources—most recently a CIHR–PHAC Applied Public Health Research Chair awarded to Dr. Patricia Martens, Director of the NTK Team and MCHP.

The Community Health Assessment Network (CHAN) also includes representation from every RHA in Manitoba and from several units within Manitoba Health and Healthy Living, along with representatives from other stakeholder groups including MCHP, Cancercare Manitoba, and others. CHAN confirmed the need for population–based indicators to inform each RHA's upcoming Community Health Assessment and produced the comprehensive list of indicators to be included in the CHA reports (most of the indicators in this report, plus others).

## 1.3 The Geographical Boundaries in This Report

This report provides data for all 11 Regional Health Authorities (RHAs) in Manitoba, shown in Figure 1.1, as well as, the sub–areas within them. Each non–Winnipeg RHA has divided itself into at least four Districts (shown in Figures 1.2 and 1.3), and this report provides District–level results whenever possible. Appendix 1 contains a listing of municipalities, towns, and villages within each District. The Winnipeg RHA has two levels of sub–areas: 12 Community Areas (CAs), which further sub–divide into 25 Neighbourhood Clusters (NCs), as shown in Figure 1.4. In this report, the graphs show results for the 25 NCs, and CA–level results are shown in Appendix tables.

Furthermore, the results for all indicators, at RHA and sub–RHA levels (except when suppressed due to small numbers), are available on the MCHP website, where the data are posted for viewing or downloading in spreadsheet form. The results also include data by area–level income groups, calculated separately for urban and rural areas. Appendix 2 contains a map which shows these areas.

For comparison purposes, the following aggregations of rural RHAs are also shown in the RHA–level graphs of the indicators:

- the Rural South, comprised of South Eastman, Central, and Assiniboine RHAs
- Mid, comprised of North Eastman, Interlake, and Parkland RHAs
- North, comprised of NOR–MAN, Burntwood, and Churchill RHAs

The Manitoba averages for each time period are shown at the bottom of bar graphs, and the vertical dashed lines correspond to these values.

**Figure 1.1: Regional Health Authorities (RHAs) of Manitoba**

**Figure 1.2: Districts of Northern RHAs**

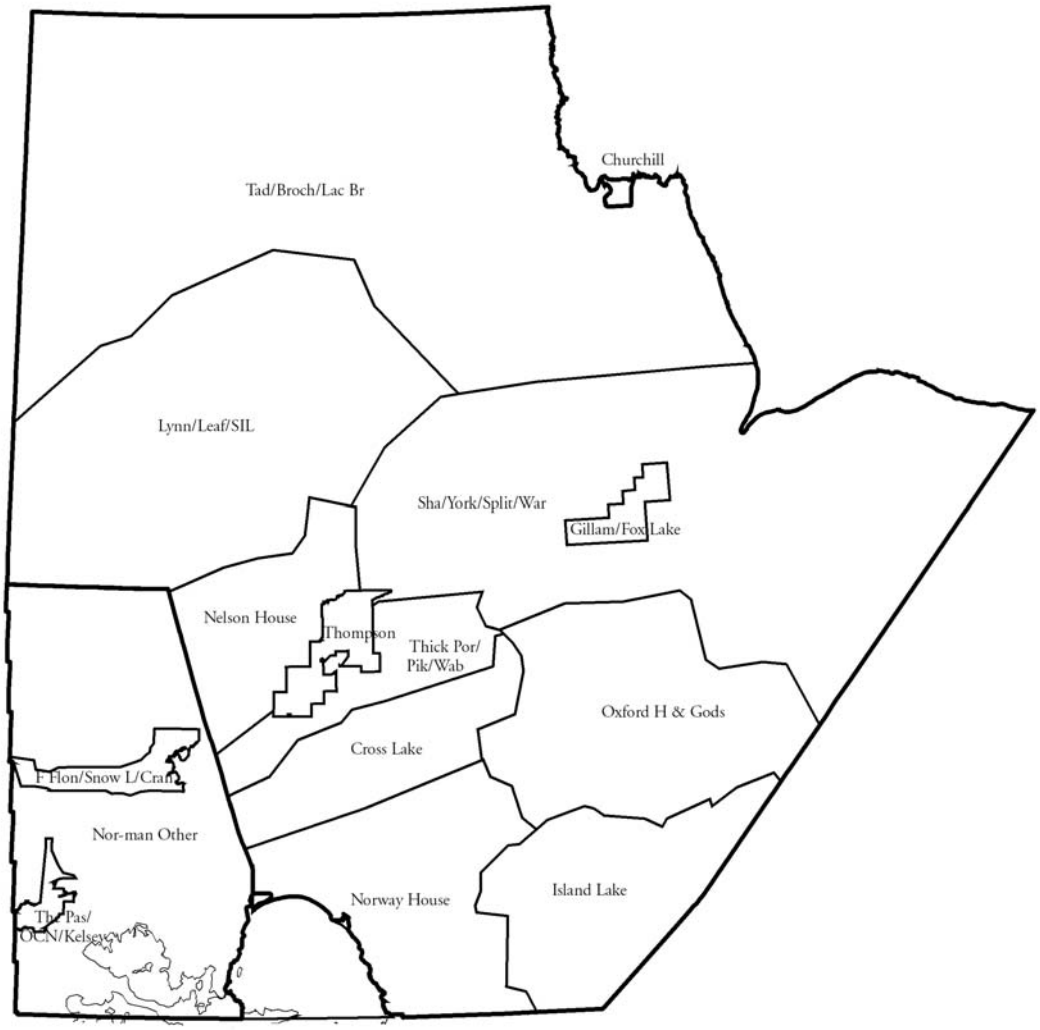
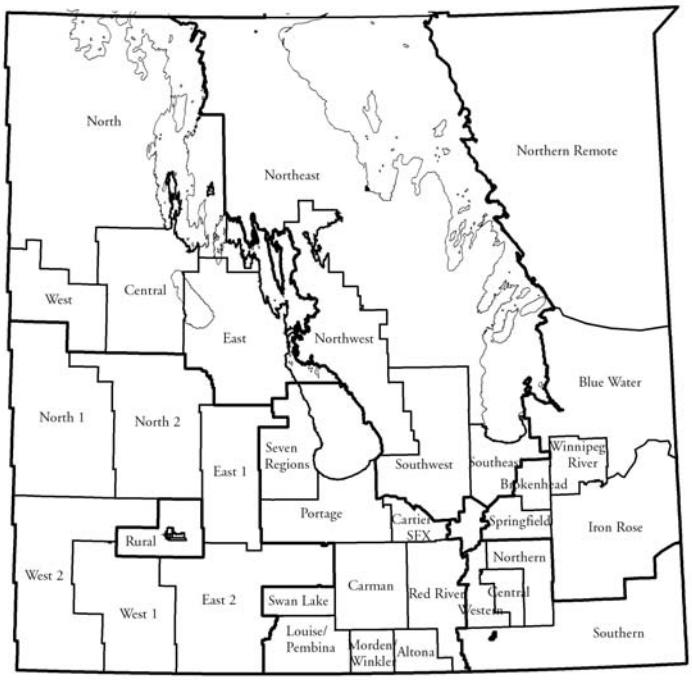


**Figure 1.3: Districts of Southern RHAs & Brandon RHA**




**Brandon RHA**

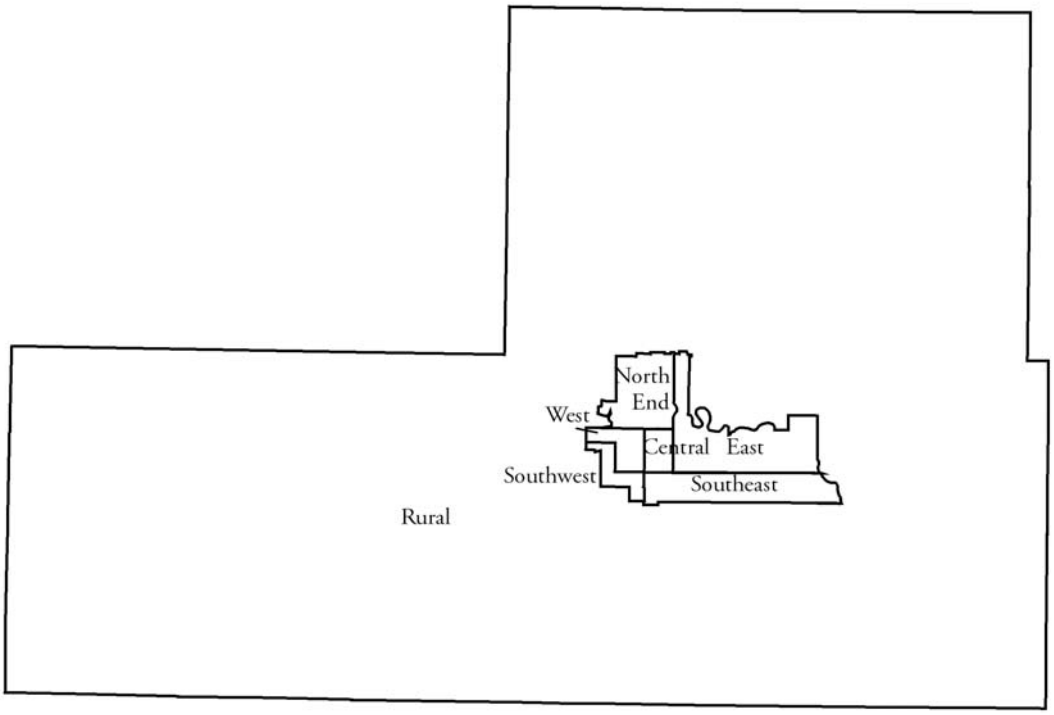
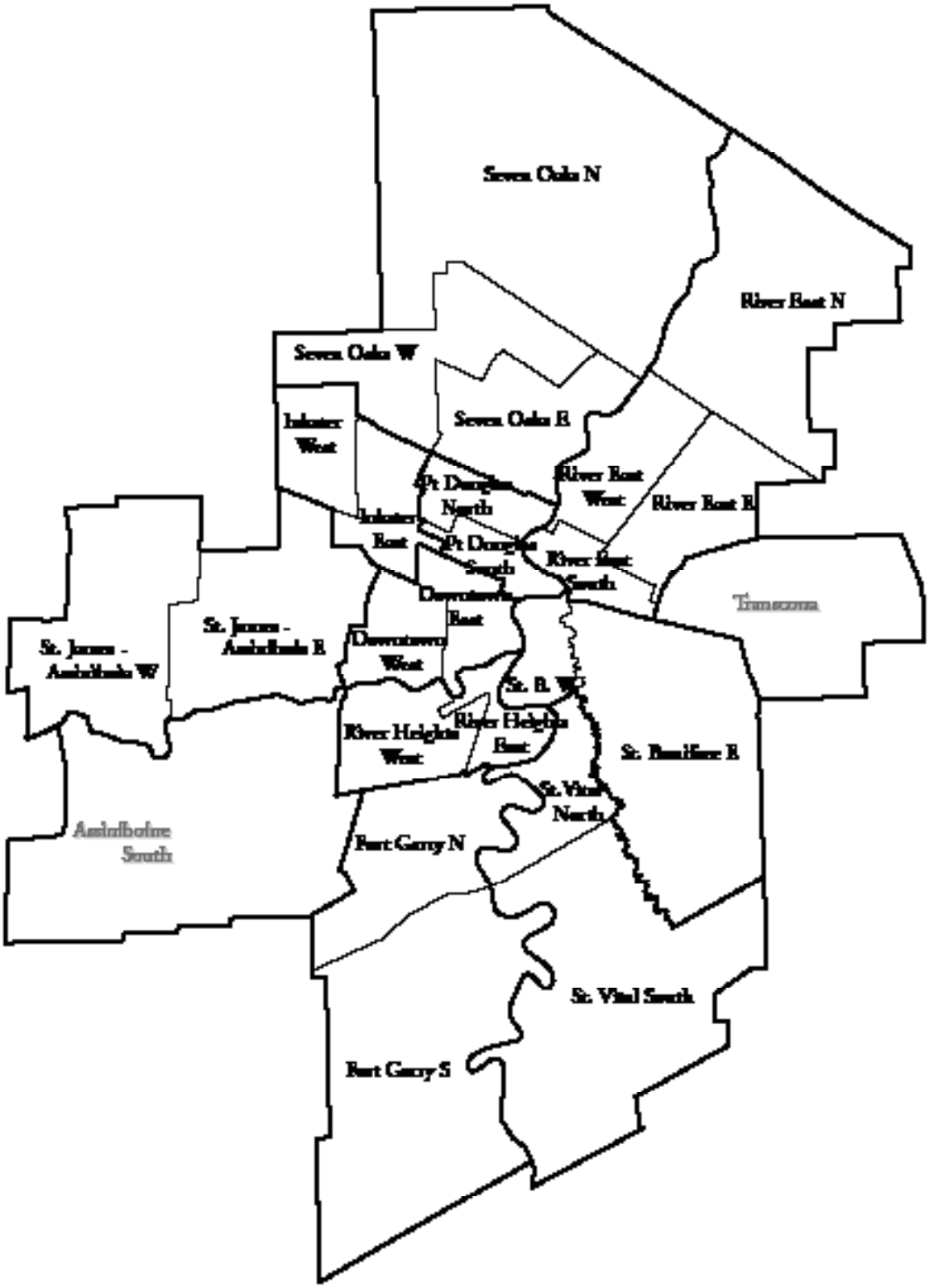


**Figure 1.4: Winnipeg Neighbourhood Clusters**



## 1.4 What's in This Report?

The purpose of this report is to provide data for regional and provincial planners and decision–makers. The following areas are covered:

- Demographics (Chapter 2)
- Population Health Status and Mortality (Chapter 3)
- Prevalence and Mortality Burden of Physical Illness (Chapter 4)
- Prevalence of Mental Illness (Chapter 5)
- Physician Services (Chapter 6)
- Hospital Services (Chapter 7)
- High Profile Surgical and Diagnostic Services (Chapter 8)
- Use of Home Care Services (Chapter 9)
- Use of Personal Care Homes (PCHs) (Chapter 10)
- Preventive and Other Services (Chapter 11)
- Prescription Drug Use (Chapter 12)
- Quality of Primary Care (Chapter 13)
- Results from the Canadian Community Health Survey (Chapter 14)

Additional data provided:
Male– and female–specific results for most of the indicators in this report were provided in MCHP's November 2005 report 'Sex Differences in Health, Health Care Use, and Quality of Care.' For the new or revised indicators in this report, sex–specific values are shown in Appendix 3.

## 1.5 The Indicators—Key Concepts

Most indicators in this report were calculated using a population–based approach. This means that the rates or the prevalence shown are based upon virtually every person living in Manitoba.[1] The exception is Chapter 14, which uses data from Canadian Community Health Surveys (CCHS) conducted by Statistics Canada. These surveys were comprised of a sample of Manitobans selected to be representative of the provincial community–dwelling population, but excluded residents living in First Nations communities.

Furthermore, the indicators in this report reflect where people live, not where they received services. For example, a person living in a remote area may be hospitalized in Winnipeg, but the hospitalization is attributed back to the rate for the remote area. Thus, the results offer insight into the complete health and healthcare use patterns of the population living in the area, no matter where they receive their care. Selected indicators of physician and hospital use also show the distribution of locations of service provision.

[1]Excludes persons in Federal penitentiaries and personnel of the Canadian Armed Forces and Royal Canadian Mounted Police.

Residents of some areas also receive health services from nurses working in nursing stations operated by the Federal government (especially in Burntwood and NOR–MAN RHAs). These services are not recorded in the provincial data files used in our analyses.[2] Therefore, service use rates shown in this report under–estimate the total level of service provision to some residents. Similarly, about 20% of drug prescriptions dispensed from nursing stations were not coded in the pharmaceutical data system before November 2004, after which time virtually all prescriptions are recorded.

Data available on MCHP's website also provide results for most of the indicators with residents grouped by neighbourhood income quintile, which is based on the average household income of small census areas. These quintiles were created separately for Urban (Winnipeg and Brandon) and Rural areas.

Since age and sex are often key determinants of health status and health service use, the results shown are adjusted rates estimated from statistical models which control for age and sex differences among areas. This allows fair comparison of health status and health service use across areas that have different population compositions (described in Chapter 2). The actual number of events observed, along with corresponding crude rates (the number of events divided by the population) are provided in Appendix 3.

## 1.6 The Graphs: Order of RHAs and Districts

In this report, RHAs and Districts are shown in a particular order, which is consistent throughout the report and similar to other MCHP reports. This order is based on the overall health status of the population of each area as measured by the premature mortality rate over the ten–year period from 1996 through 2005. Ten years of data were used because some districts have small populations, so multiple years are required to provide reliable estimates. A death before the age of 75 years is considered premature, so the premature mortality rate (PMR) indicates the average annual rate at which areas residents died before reaching age 75, per 1,000 area residents under 75.

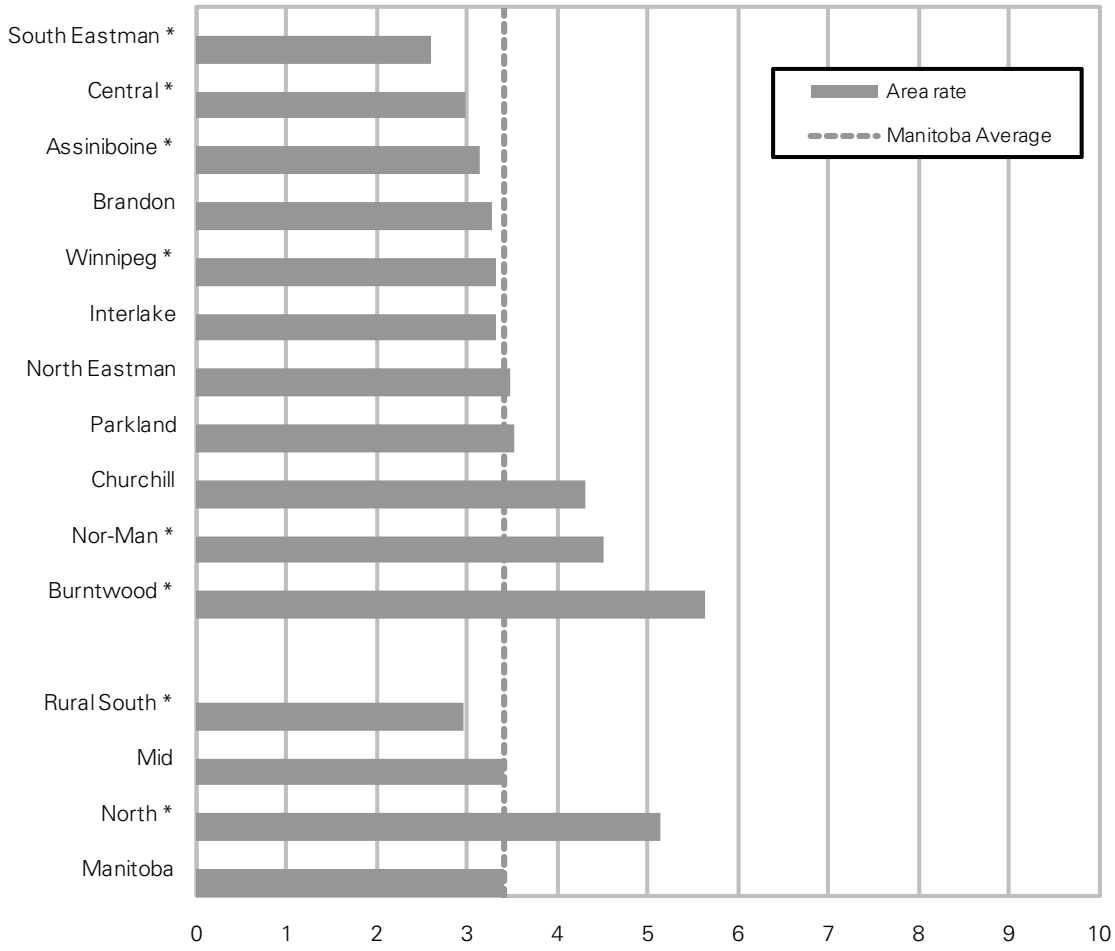
The premature mortality rate is considered the best single indicator of the overall health status of a region's population and need for healthcare (Carstairs & Morris, 1991; Eyles et al., 1991; Eyles, Birch, Chambers, Hurley, & Hutchison, 1993). PMR is correlated with morbidity and with self–rated health, as well as, socioeconomic indicators (Martens, Frohlich, Carriere, Derksen, & Brownell, 2002), and populations having a high PMR are presumed to require more healthcare services than healthier populations. PMR values for RHAs, Districts, and Winnipeg NCs are shown in Figures 1.4, 1.5, and 1.6, respectively. Like most other indicators in this report, the PMR results were adjusted to account for the age and sex composition of each area's population.

In Figure 1.4, the RHAs with the lowest PMR (that is, the best overall health status) are shown at the top of each graph (South Eastman, Central, Assiniboine), and the other RHAs follow in order of increasing PMR, ending with Burntwood RHA, which has the highest PMR (poorest overall health status). Below that are the aggregate areas: the Rural South, the Mid, and the North (all defined in

[2]The exception is immunizations, which are entered into the Manitoba Immunization Monitoring System when performed by nursing station staff.

**Figure 1.5: Premature Mortality Rates by RHA, 1996-2005**

Age- and sex-adjusted annual rate of deaths before age 75, per 1,000 residents aged 0-74

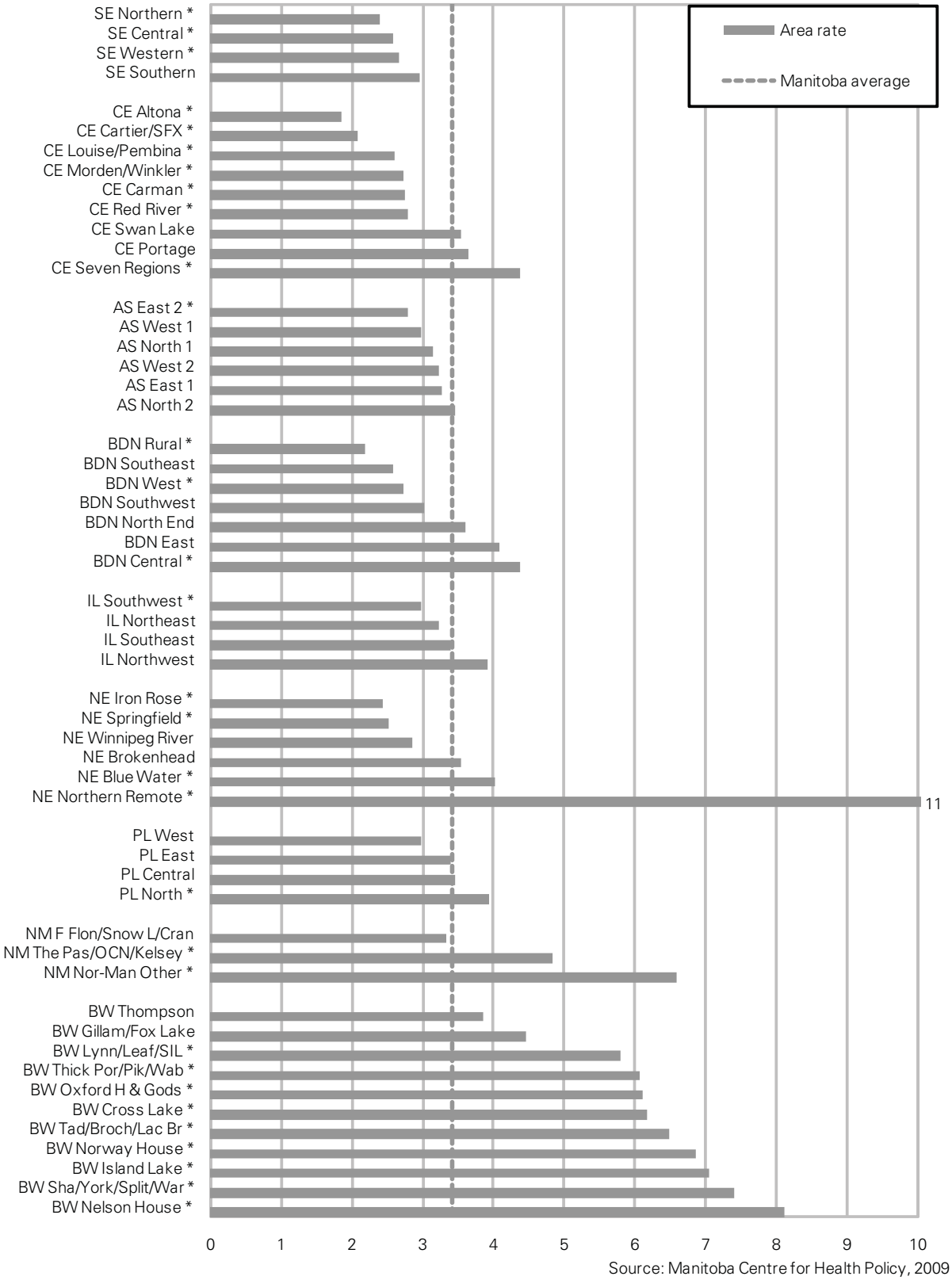



'*' indicates area's rate was statistically different from Manitoba average

Source: Manitoba Centre for Health Policy, 2009

**Figure 1.6: Premature Mortality Rates by District, 1996-2005**

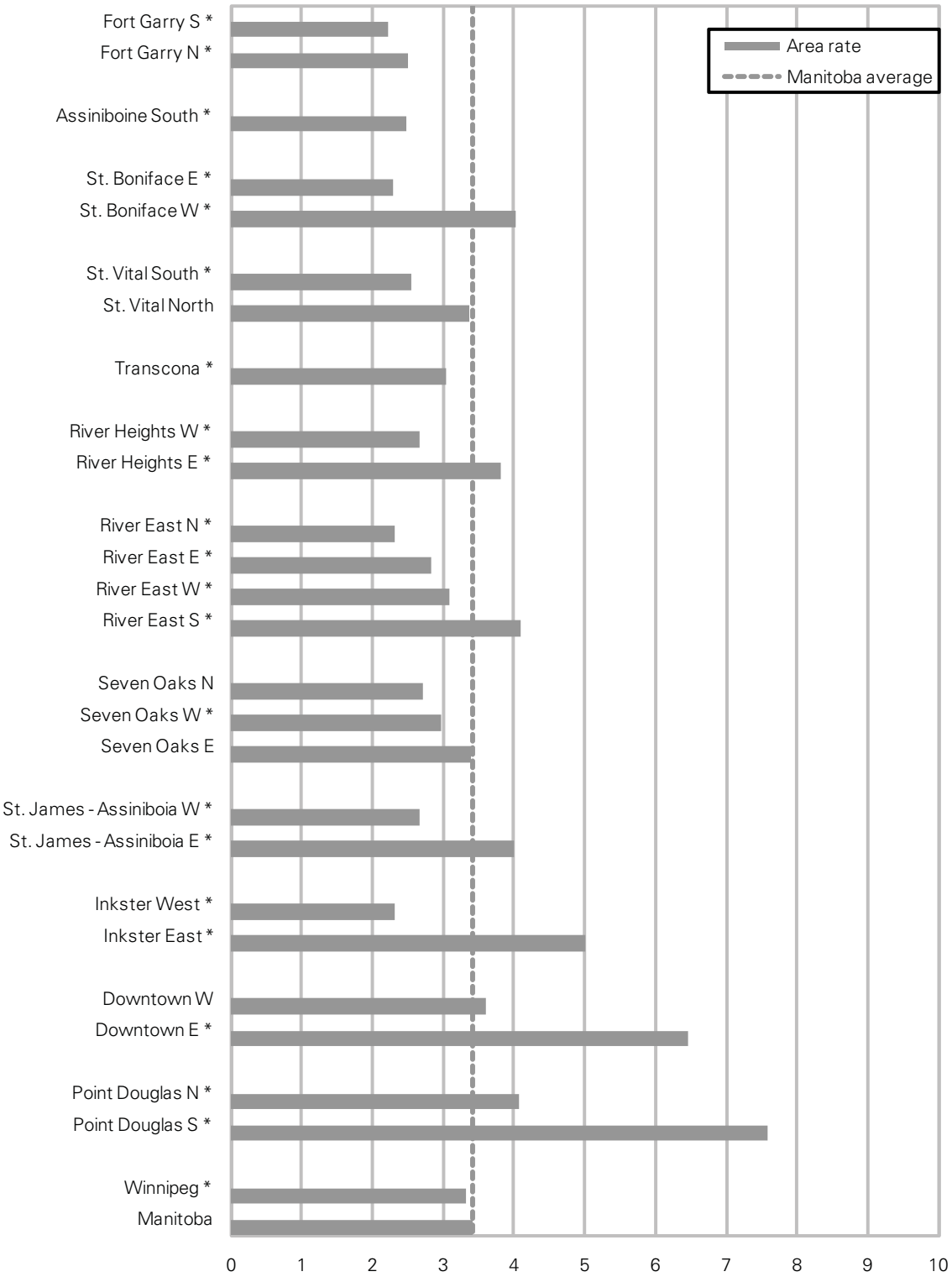
Age- and sex-adjusted annual rate of deaths before age 75, per 1,000 residents aged 0-74




Source: Manitoba Centre for Health Policy, 2009

**Figure 1.7: Premature Mortality Rates by Winnipeg Neighbourhood Cluster, 1996-2005**

Age- and sex-adjusted annual rate of deaths before age 75, per 1,000 residents aged 0-74




Source: Manitoba Centre for Health Policy, 2009

Section 1.3), along with the Manitoba average for that indicator. Dashed lines are drawn vertically to allow easy comparison of the provincial average to each area's rate, for each time period.
In the district–level graphs, the same order of the RHAs is maintained, and the districts within each RHA are ordered according to PMR. Within each RHA, the district with the lowest PMR (the best overall health status) is listed first, with the others listed below it in order of increasing PMR. For the Winnipeg sub–areas, a similar process was used: first the 12 CAs were ordered by PMR, then the 25 NCs within them were ranked by PMR within their CAs resulting in the ordering shown in Figure 1.6.

## 1.7 Data Sources and Years of Data Used

The data used for this report are housed at the Manitoba Centre for Health Policy (MCHP), which maintains the Population Health Research Data Repository ('the Repository'). Most of the data in the Repository are derived from administrative records: data which were collected in order to administer health and social services. Data are sent to MCHP from Manitoba Health and Healthy Living only after identifying information (e.g., names, personal health information number) is removed or encrypted. The Repository includes information of key interest to health planners, such as mortality and birth information, physician and hospital use, pharmaceutical use, and use of services such as home care and nursing homes (personal care homes). As well, area–level information from public–use census data, like average household income for a geographical area, is used to provide insight into the influence of socioeconomic factors on health and healthcare use. The report also uses data from several waves of the Canadian Community Health Survey conducted by Statistics Canada; this survey data for Manitoba residents is available to MCHP through Manitoba Health and Healthy Living. These survey data do not include residents living in First Nations communities.

All indicators in this report using Repository data are provided for two time periods, in order to allow some assessment of change over time, as was done in the 2003 Atlas report. The two reports thus provide a moving window of observation, each of which incorporates two time periods. For each reporting period, providing the most recent data available was the priority; additional (prior) years were added as needed to provide statistically reliable results. The second time period in the 2003 report is the first time period in this report: fiscal year 2000/01, plus up to four preceding years of data. The second time period in this report is five years later: 2005/06, again adding up to four preceding years as necessary.

In the hospital abstract data system, diseases and procedures were coded using the International Classification of Diseases system ICD–9–CM through March 31, 2004. As of April 1, 2004, the ICD–10–CA system was adopted for coding diseases, and the Canadian Classification of Interventions (CCI) system was used for procedures. Records in the medical claims data (for physician visits) remain in the ICD–9–CM system. Where comparisons over time were made by disease group (e.g., most frequent diagnoses for hospitalizations), ICD–10–CA codes were converted to ICD–9–CM equivalents using a conversion file created by the Canadian Institute of Health Information. Changes in categories over time should be interpreted with caution.

## 1.8 Rates and Prevalence, Adjusted Rates, and Statistical Analyses

### Rates and Prevalence

Prevalence refers to the proportion of the population that has a certain condition, either at a given point in time (point prevalence) or over a period of time (period prevalence). It is an indication of how common the condition is and, therefore, has implications for the provision of services. Most indicators in this report use the concept of period prevalence—over one–year, three–year or five–year periods.

In contrast, a rate refers to a change in state over time and is used to express the frequency of events during a given period. Many health–related events can happen to a given person more than once. For example, the physician visit rate shows how often residents visit physicians each year. Where an indicator covers a period longer than one year, the rate is annualized— that is, given as an annual average.

The administrative data used for this report do not directly indicate who 'gets' or 'has' diseases, but does record who gets 'treated' for which diseases (i.e., visits a physician, gets prescribed certain drugs, or is hospitalized, and receives the appropriate codes). When we report the prevalence of a disease, we are reporting the proportion of the population who were 'treated' for that disease in the period (though different diseases/indicators have different case definitions—see each indicator for its definition). In other reports, including previous MCHP reports, indicators like this are sometimes referred to as "Treatment Prevalence" values because they are derived from records of healthcare treatment.

Many of the indicators in this report use data from physician claims. The majority of these claims are generated by fee–for–service physicians, though a growing proportion are 'shadow billing' claims generated by physicians covered under alternate payment methods (e.g., salary). Shadow billing claims may not be 100% complete, so some indicators may under–report actual values. Furthermore, in some northern and remote areas, residents are served by nurses (e.g., in nursing stations), and these encounters are not included in physician claims data. Also, rates for Churchill can vary substantially over time, some of which is due to irregularity in reporting of physician services, in combination with the small population.

### Adjusted rates

Most of the indicators are labeled as 'age–and sex–adjusted' rates because the results have been statistically adjusted to account for the different age and sex composition of the populations living in different areas. This adjustment allows for fair comparisons among areas with different population characteristics (described in Chapter 2). Adjusted rates show what that area's rate would have been if the area's population had the same age and sex composition as the Manitoba population. For most of the analyses, these rates were derived from the statistical procedure called Generalized Linear Modeling (see below).

Appendix 3 contains tables listing the crude rates/prevalence values and the actual numbers of events observed for each indicator, by RHA. This type of information is helpful in giving a more pragmatic view of the possible burden on the healthcare system—for example, actual numbers of residents who may require healthcare services.

## Statistical Analyses

Most of the analyses for this report were done using a generalized linear modeling approach, incorporating interaction terms and a quadratic age term. Parameters in the model included age, sex, and area of residence (or income quintile). Because we were modeling rates not events, we used the logarithm of the population as an offset in the model. One model provided rates for the non–Winnipeg RHAs and the 12 Winnipeg CAs (along with aggregate areas for comparison), and a second model provided rates for RHA Districts and the 25 Winnipeg NCs.

Even though most of the analyses in this report include the entire Manitoba population, we use statistical significance tests to indicate how much confidence to put in the rates. If a difference is "statistically significant," then this difference is large enough that we are confident it is not just due to chance. So we would expect to see the rate remain different from the provincial average from year to year, unless some change is implemented.

It is important to not over–interpret the importance of small differences, especially those that are not statistically significant. When you see a difference that is not statistically significant (whether the difference is small or large), the rate should be considered similar to the provincial average, since it could fluctuate from year to year. This is usually due to the rate being based on small numbers: either a small number of events, or a small underlying population. For RHA– and CA–level comparisons, we used the 99% confidence level, and for District– and NC–level comparisons, we used the 99.5% confidence level. These were chosen to balance the need for control of type–I errors, without adhering to a strict Bonferroni–type correction, which would have required differences to be much larger before being labeled as statistically significant.

In most figures, the results from both time periods are shown: the most recent period in black bars, and the older period in grey bars. Each area's name is followed by a set of parentheses that can include the following indicators: (1, 2, t, s)

- a '1' indicates that in the first time period, that area's rate was statistically different from the Manitoba average at that time (grey dashed line)
- a '2' indicates that in the second time period, that area's rate was statistically different from the Manitoba average at that time (black dashed line)
- a 't' indicates that for that area, the change in rates from Time 1 to Time 2 was significant
- an 's' indicates that the results were suppressed to ensure confidentiality

MCHP's confidentiality policy requires that whenever the number of events or persons involved is less than 6, the results are not shown. However, this excludes a true '0', as the non–occurrence of events can be shown without compromising confidentiality. Therefore, some graphs might seem to be missing a bar, but if there is no 's' beside the area's name, this reflects the fact that zero events occurred. This can be confirmed by looking at the Tables in Appendix 3.

### 'Default' conventions for analyses (exceptions noted)

The values provided for most indicators were calculated by generalized linear models, which accounted for the different age and sex distribution of residents of different areas (and other factors, including the time period and an age–squared term to capture non–linear effects). Therefore, the values can be fairly compared across areas with different population compositions. The reference group for all estimates is the Manitoba population in the first time period. Therefore, in time period 1, each area's rate is age and sex adjusted to the Manitoba population, and the provincial averages are the same as the 'crude' (i.e., unadjusted) rates. In time period 2, all rates (including the provincial averages) are adjusted to the population in the first time period. As a result, changes in rates over time are not attributable to changes in population characteristics (e.g., aging).

Age was calculated as of December 31 of each year. People were assigned to an area of residence based on the first record in the file being analyzed. People registered with the Office of the Public Trustee ('Wards' of the province) were assigned to a separate 'virtual' area, because their actual area of residence is not known. Results for this group are provided in the appendix tables.

For Chapter 14, which uses survey data, the statistical analyses involved direct standardization of rates, using bootstrap variance estimates to control for survey design effects, and weighting using the sample weights provided by Statistics Canada.

All data management, programming and analyses were performed on MCHP's central Unix server using SAS® version 9 software.

## 1.9 Putting Evidence Into Action

There is a wealth of information in this report. *The Need To Know* Team hopes that it will be useful to regional and provincial planners and decision–makers in Manitoba, as well as other planners and researchers across Canada and elsewhere. The information can be used in many ways. A region can obtain an overview of the population it is serving, the proportion of the region's population having various diseases or events, the use of healthcare services, and the quality of care being provided.

Regions can "cross–compare" their information with other regions and within their own districts. Furthermore, regional planners will ask many questions about the context of their profiles—how do the data add to the knowledge that planners have about their region and its services? What factors caused these results to come about? What can or should be done?

An electronic version of this report is available on the website of the Manitoba Centre for Health Policy (URL below), under Publications, which includes all MCHP Reports. Also available are Excel spreadsheets for the graphs in this report (and graphs from other key reports of interest to RHA planners) by selecting the 'Data Extras' link provided.

The MCHP website address is http://umanitoba.ca/medicine/units/mchp/

# Chapter 2: Demographics

## Key Findings in Chapter 2

Manitoba's population was relatively stable over time, increasing by 2% from 1,151,895 on December 31, 2000 to 1,175, 235 on December 31, 2005. However, the changes varied considerably by RHA. Several RHA populations increased: South Eastman +10.9%, Central +4.5%, Brandon +4.0%, Interlake +2.5%, Burntwood +2.5% Winnipeg +2.1%, and North Eastman +1.6%. The remaining RHAs decreased: Churchill –5.1%, Assiniboine –4.2%, Parkland –4.0%, and NOR–MAN –3.4%.

Manitoba's population is also aging in that there were fewer children and more middle–age and older residents in 2005 than in 2000. Residents aged 75 or older made up 8.35% of the population in 2000 and 8.50% in 2005. By comparison, residents aged 0–19 years made up 28% of the population in 2000 and 27% in 2005.

Below is a summary of the demographic profile for each RHA in 2005 comparing the proportion of children 0–19, adults 20–64, and seniors 65+ to the corresponding proportions for Manitoba overall. These were based on the values shown in Table 2.0, which are also graphed in Figure 2.0.

- South Eastman has more children, slightly fewer adults, and fewer seniors than Manitoba overall.
- Central has more children, fewer adults, and an average proportion of seniors.
- Assiniboine has fewer children, fewer adults, and more seniors.
- Brandon has slightly fewer children, slightly more adults, and an average proportion of seniors.
- Winnipeg has fewer children, more adults, and an average proportion of seniors
- Interlake has slightly fewer children, an average proportion of adults, and slightly more seniors.
- North Eastman has an average proportion of children, adults, and seniors.
- Parkland has slightly fewer children, fewer adults, and more seniors.
- Churchill has more children, more adults, and many fewer seniors.
- NOR–MAN has many more children, slightly fewer adults, and many fewer seniors.
- Burntwood RHA has many more children, fewer adults, and many fewer seniors.

## Introduction

This chapter contains information about the age and sex composition of each RHA's population, both in comparison to the Manitoba population as of December 31, 2005 and comparing December 31, 2000 to December 31, 2005 for each RHA. Areas with young populations have a triangular shape, reflecting the presence of many young residents and few elderly, whereas areas with older populations have more rectangular (vertical) shapes.

Manitoba RHAs vary widely in terms of demographic profiles. Burntwood RHA has the youngest population, whereas Assiniboine and Parkland have the oldest populations. These differences have important implications for health and health service use, which is why most indicators in this report show age and sex 'adjusted' rates (see Chapter 1). This adjustment allows results to be validly compared across areas, ensuring that any differences shown were not determined by differences in age/sex distributions of local populations.

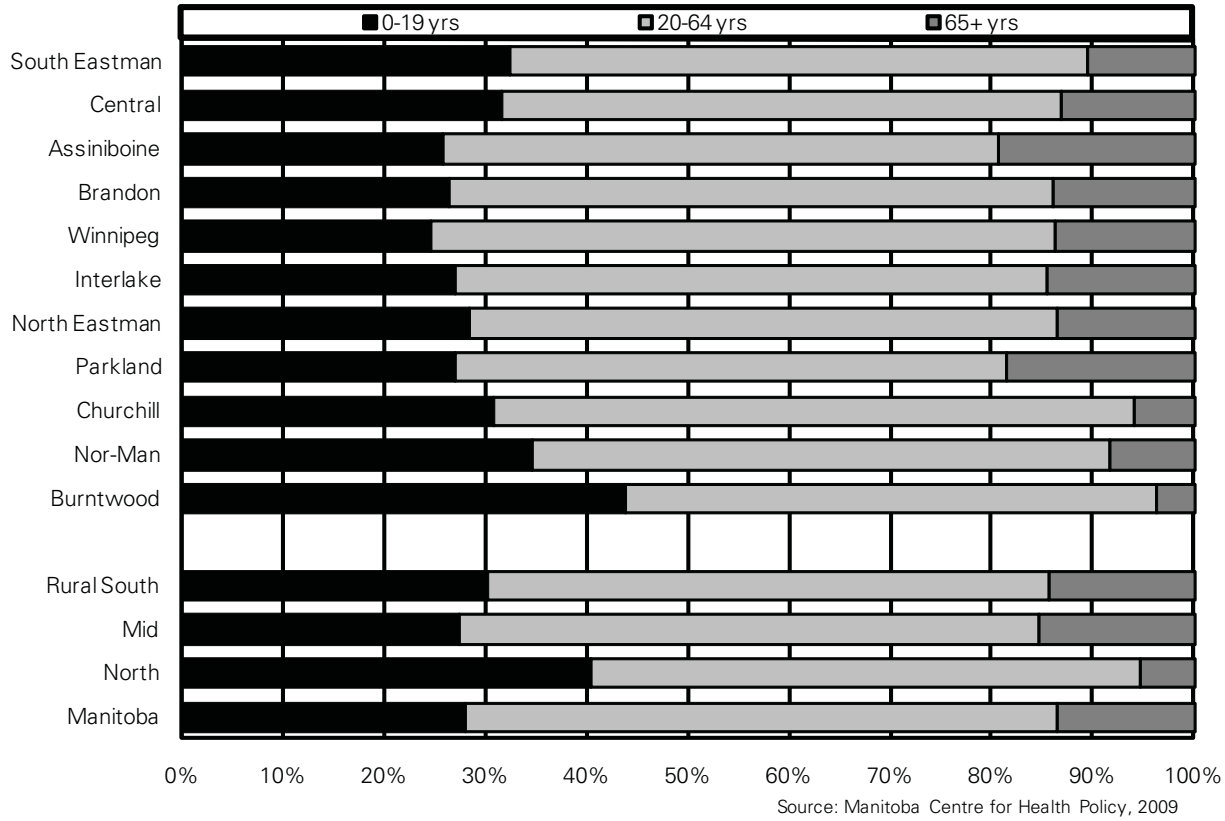
**Table 2.0: Demographic Summary, December 2005**

Proportion of RHA population in each age group

| | 0-19 yrs | 20-64 yrs | 65+ yrs |
|---|---|---|---|
| South Eastman | 32.4% | 57.0% | 10.6% |
| Central | 31.6% | 55.3% | 13.2% |
| Assiniboine | 25.8% | 54.8% | 19.4% |
| Brandon | 26.3% | 59.8% | 14.0% |
| Winnipeg | 24.6% | 61.8% | 13.7% |
| Interlake | 26.9% | 58.6% | 14.5% |
| North Eastman | 28.4% | 58.1% | 13.5% |
| Parkland | 26.9% | 54.4% | 18.7% |
| Churchill | 30.7% | 63.3% | 6.0% |
| Nor-Man | 34.5% | 57.2% | 8.4% |
| Burntwood | 43.7% | 52.5% | 3.7% |
| | | | |
| Rural South | 30.1% | 55.6% | 14.3% |
| Mid | 27.3% | 57.3% | 15.4% |
| North | 40.4% | 54.3% | 5.3% |
| Manitoba | 28.0% | 58.3% | 13.6% |

**Figure 2.0: Summary of RHA Demographics, December 2005**

Proportion of RHA population in each age group




Source: Manitoba Centre for Health Policy, 2009

## 2.1 Population Pyramids

Definition: A population pyramid is a graph showing the age and sex composition of the population. The percentage (or actual number) of residents within each five–year age group (0–4, 5–9, etc, up to 90+ years old) is shown for both males (on the left side of the graph) and females (on the right side). In this report, there are two types of population pyramids shown for each RHA:

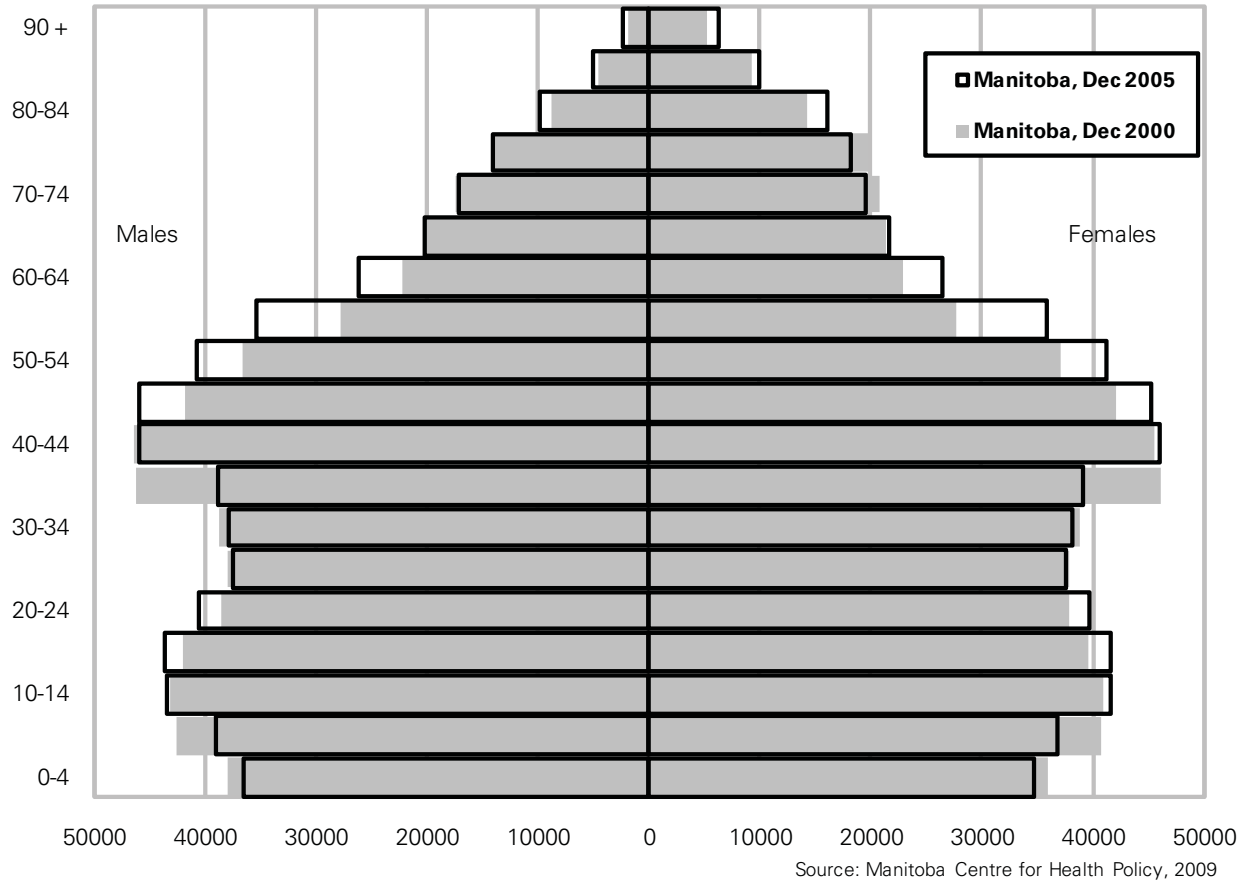
a) The first pyramid is a comparison of one RHA to the Manitoba population on December 31, 2005 showing the percentage of males and females in each five–year age category. For each RHA and for Manitoba, the male plus female bars add up to 100%.

b) The second pyramid shows how each RHA has changed over time. The RHA population on December 31, 2000 is compared with that on December 31, 2005, showing the actual number of males and females in each five–year age category (males on the left, females on the right). The numbers in each of the bars add up to the total population for that RHA in each year.

**Figure 2.1.1: Age Profile of Manitoba**

Population 2000: 1,151,895

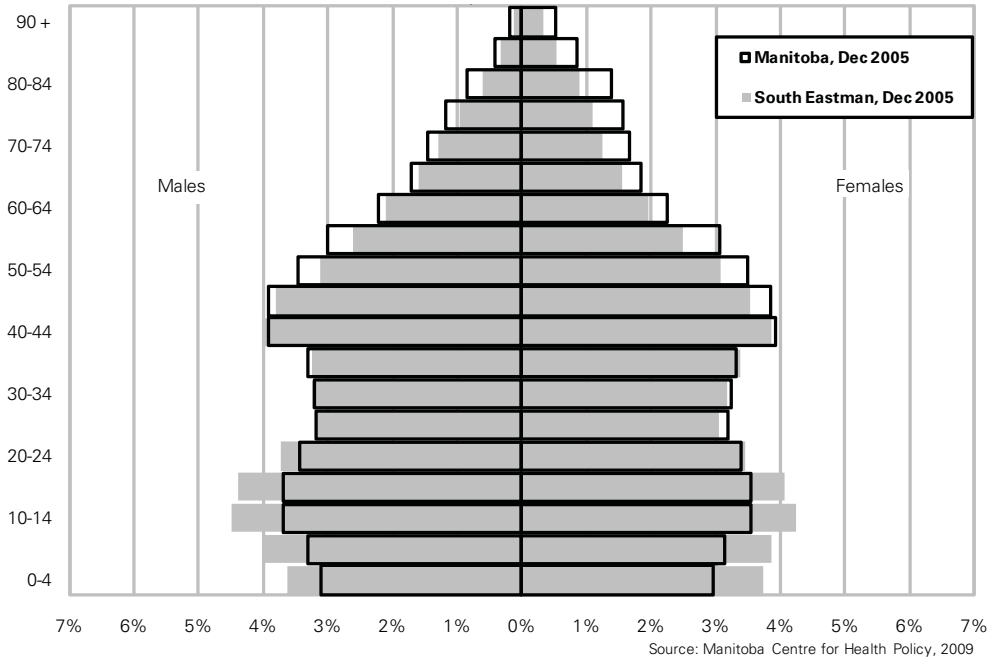
Population 2005: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.2a: Age Profile of South Eastman, 2005**

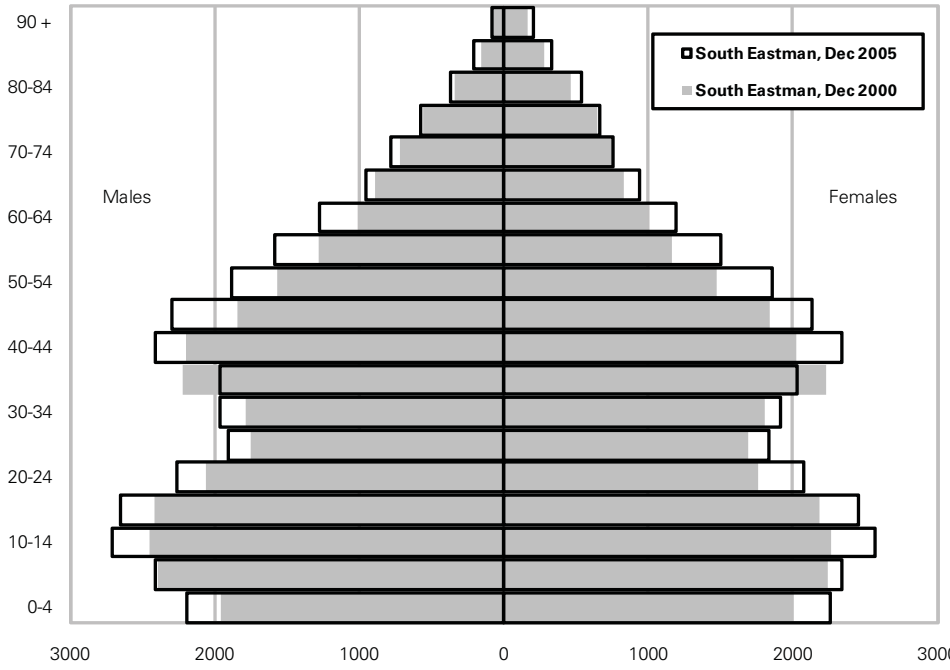
South Eastman Population: 60,368
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.2b: Age Profile of South Eastman**

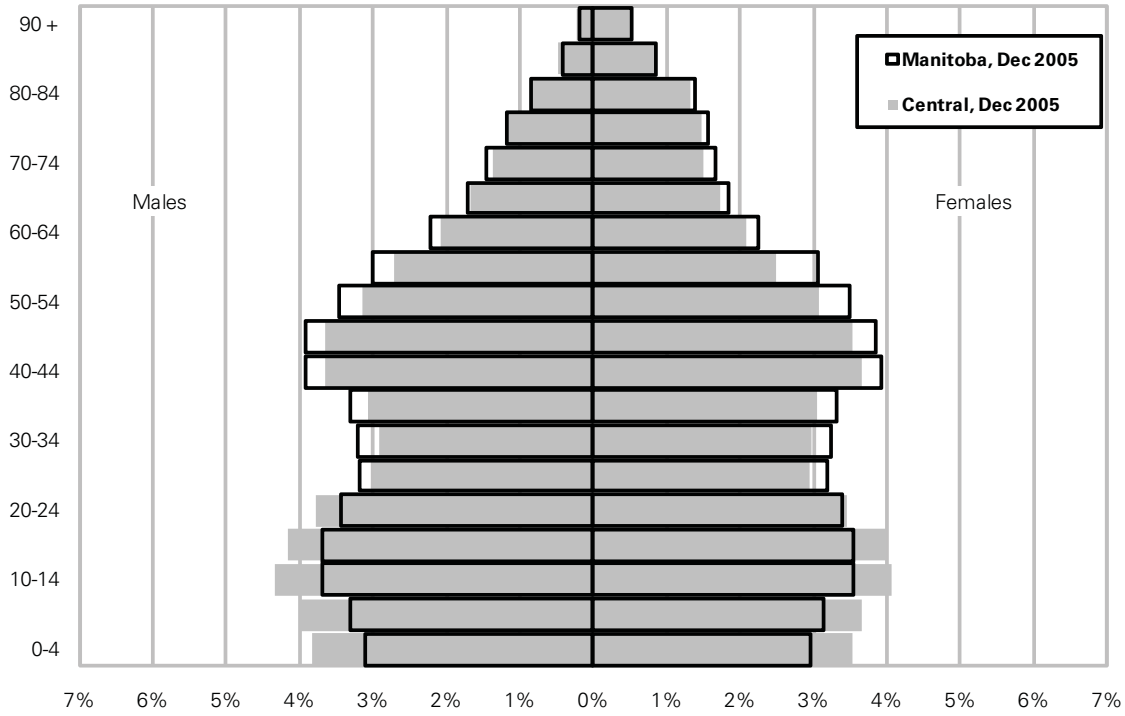
Population 2000: 54,427
Population 2005: 60,368




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.3a: Age Profile of Central, 2005**

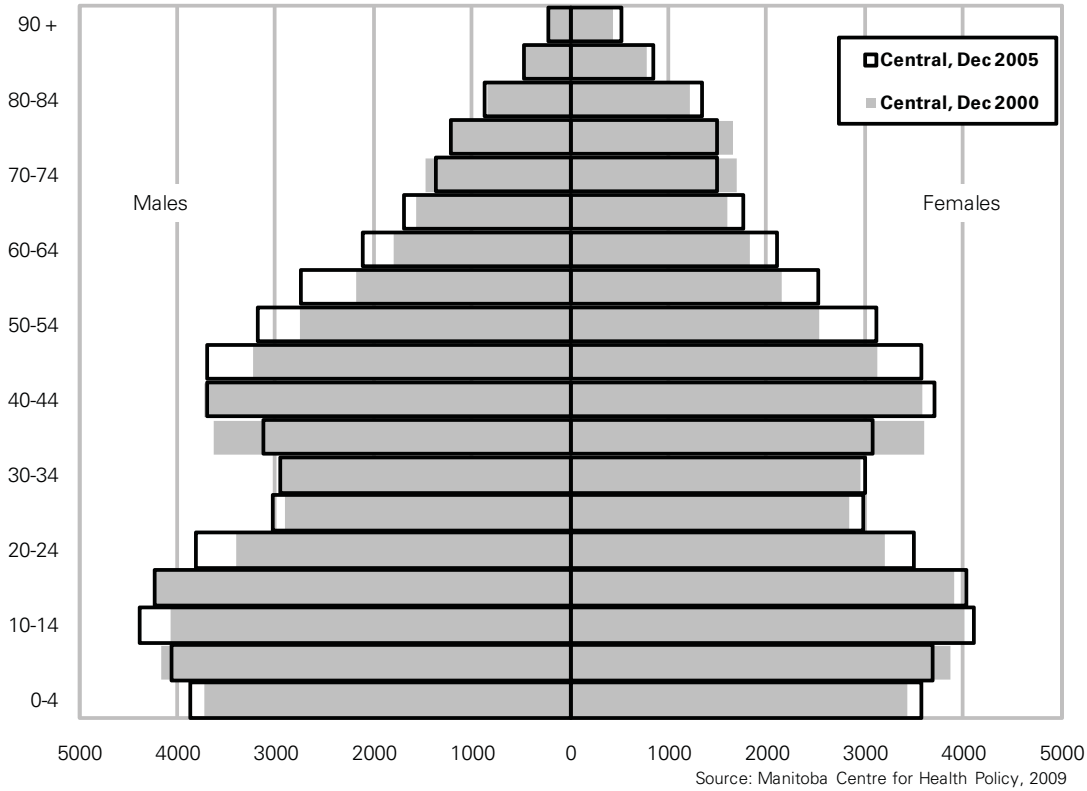
Central Population: 101,164
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.3b: Age Profile of Central**

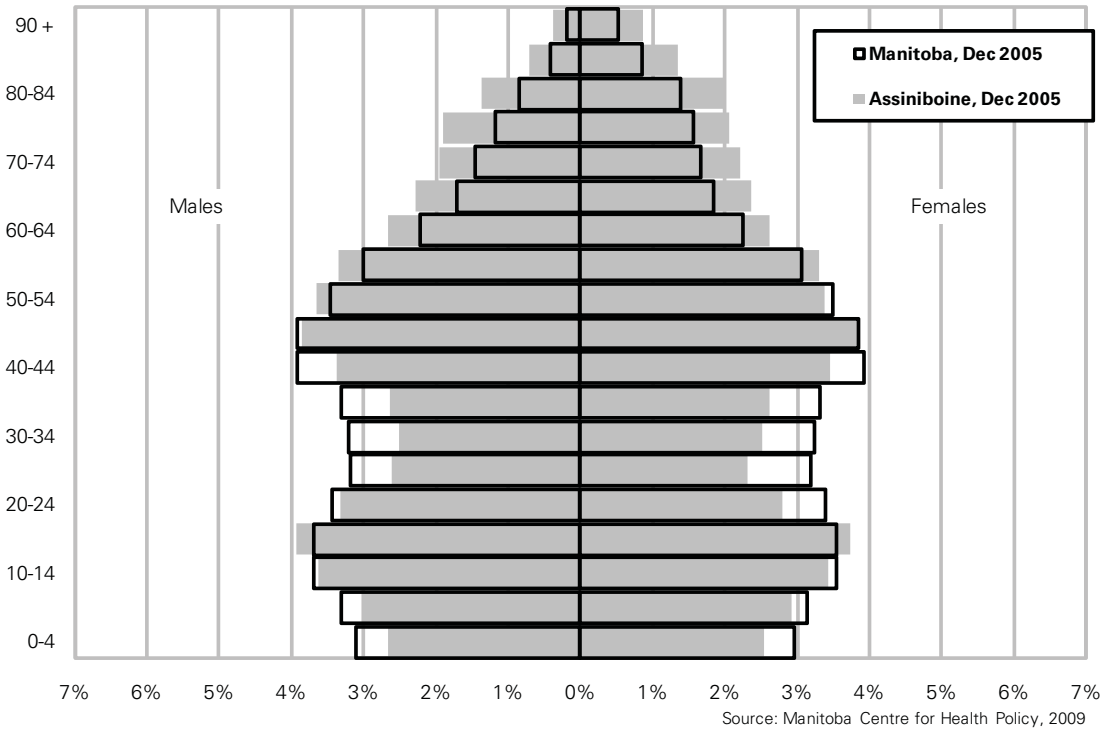
Population 2000: 96,836
Population 2005: 101,164




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.4a: Age Profile of Assiniboine, 2005**

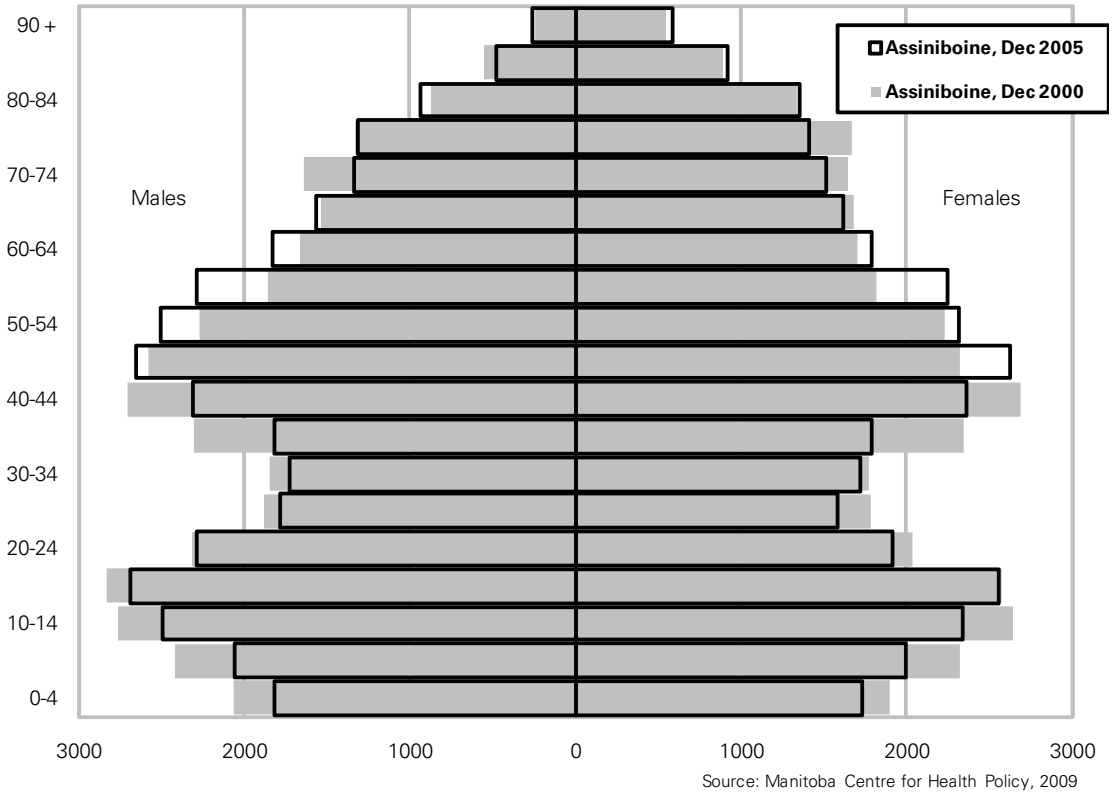
Assiniboine Population: 68,515
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.4b: Age Profile of Assiniboine**

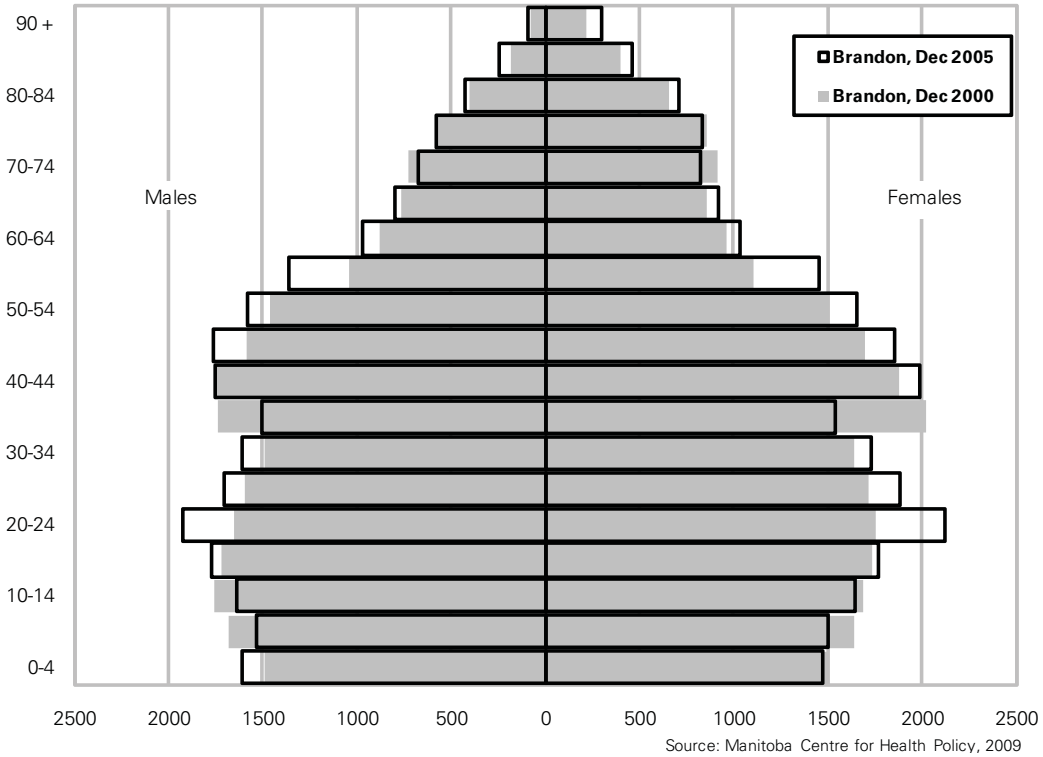
Population 2000: 71,544
Population 2005: 68,515




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.5a: Age Profile of Brandon, 2005**

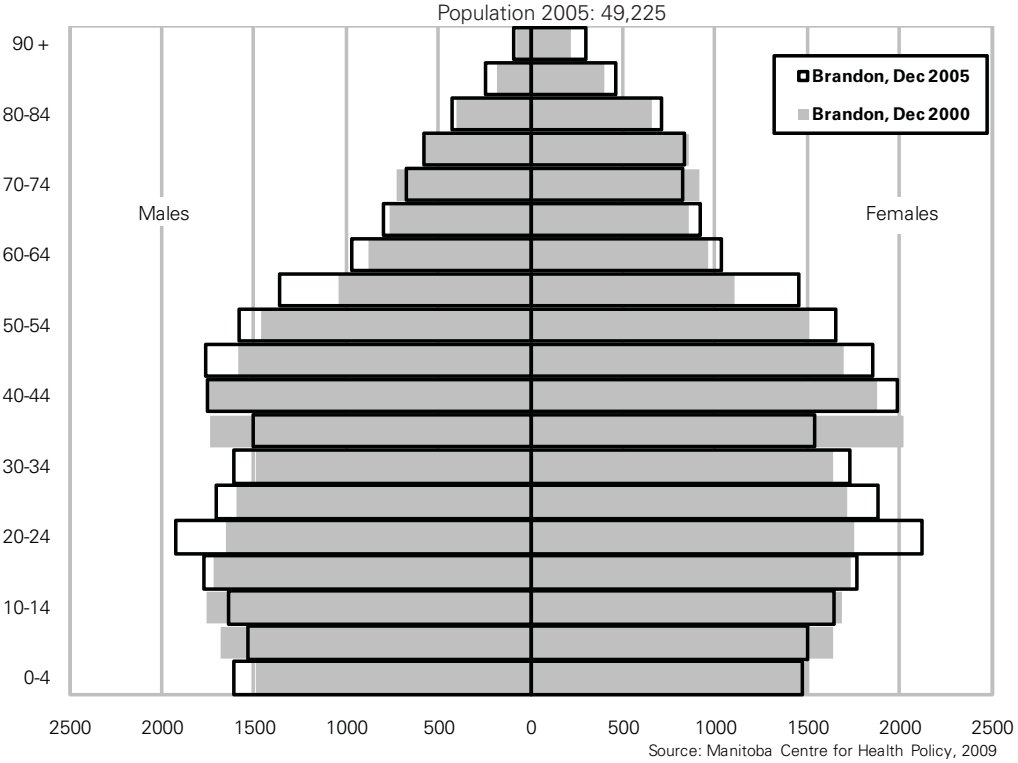
Brandon Population: 49,225
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.5b: Age Profile of Brandon**

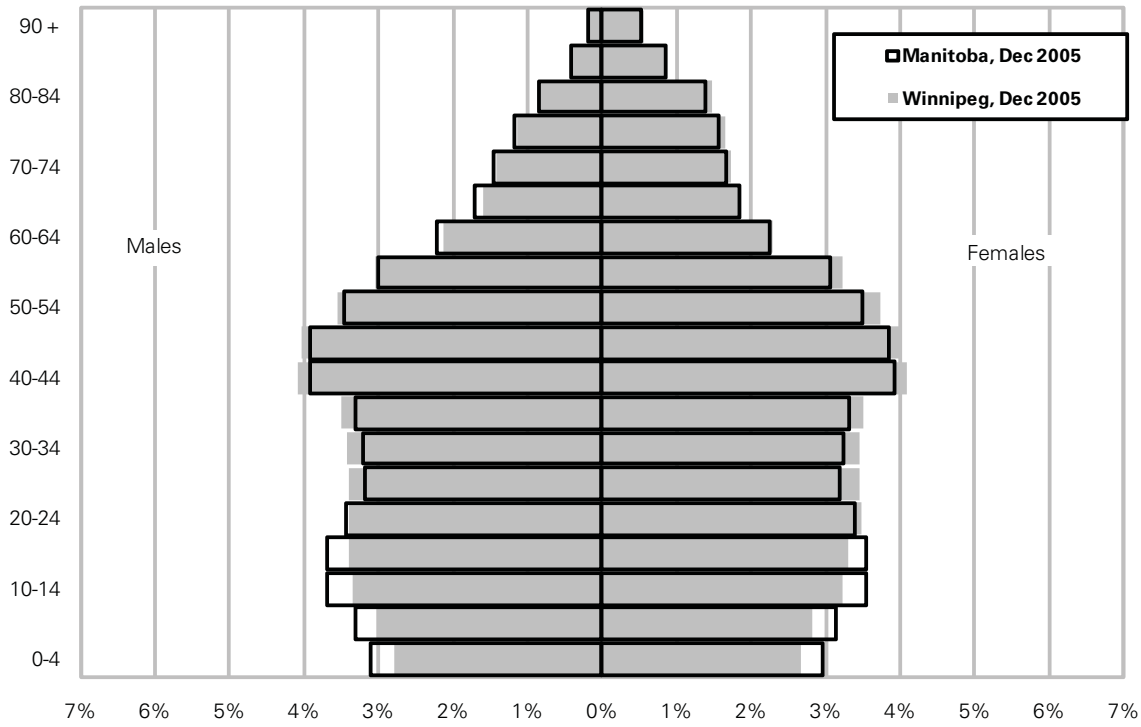
Population 2000: 47,337
Population 2005: 49,225




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.6a: Age Profile of Winnipeg, 2005**

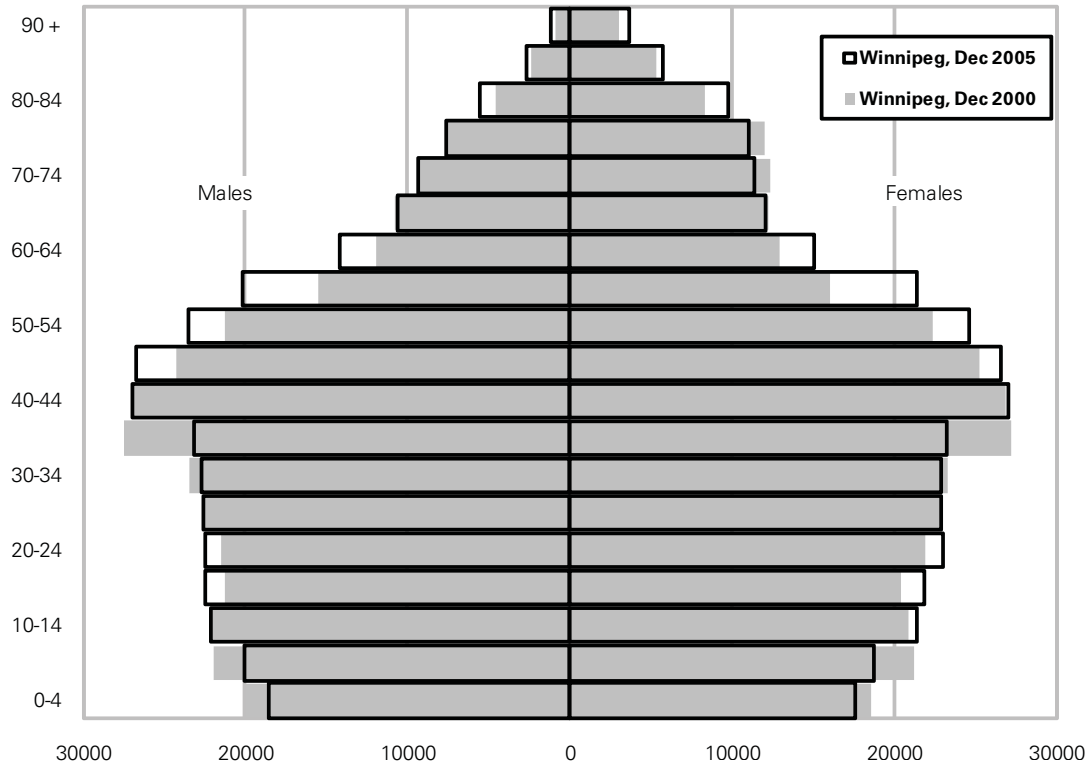
Winnipeg Population: 662,521
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.6b: Age Profile of Winnipeg**

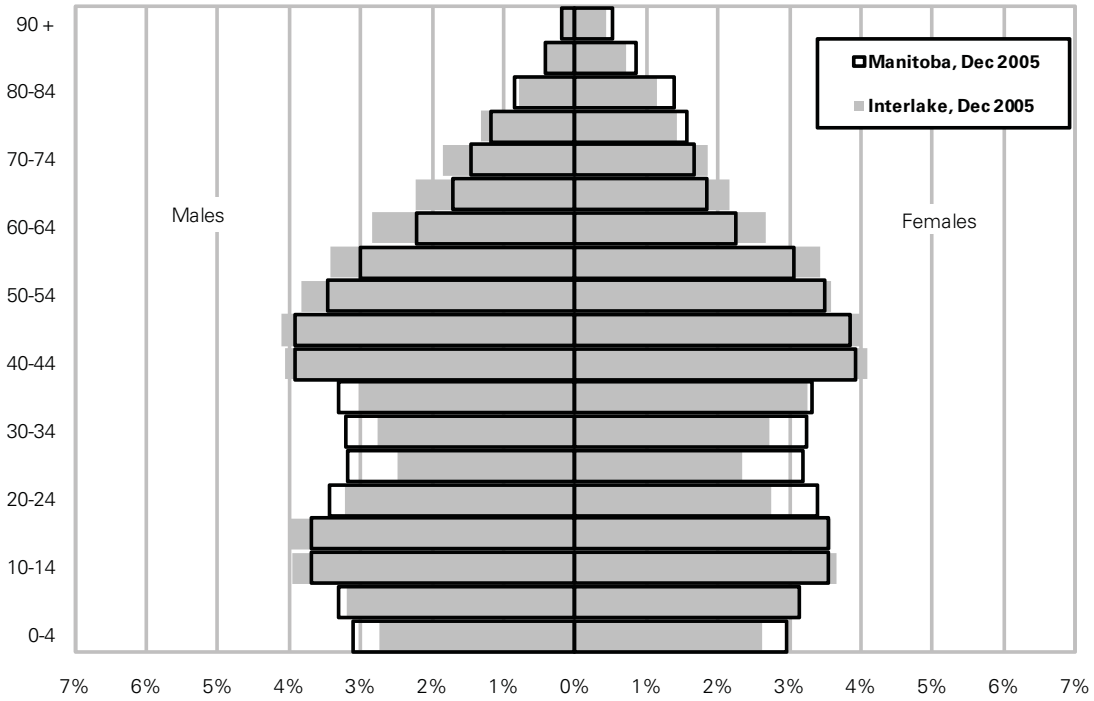
Population 2000: 649,012
Population 2005: 662,521




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.7a: Age Profile of Interlake, 2005**

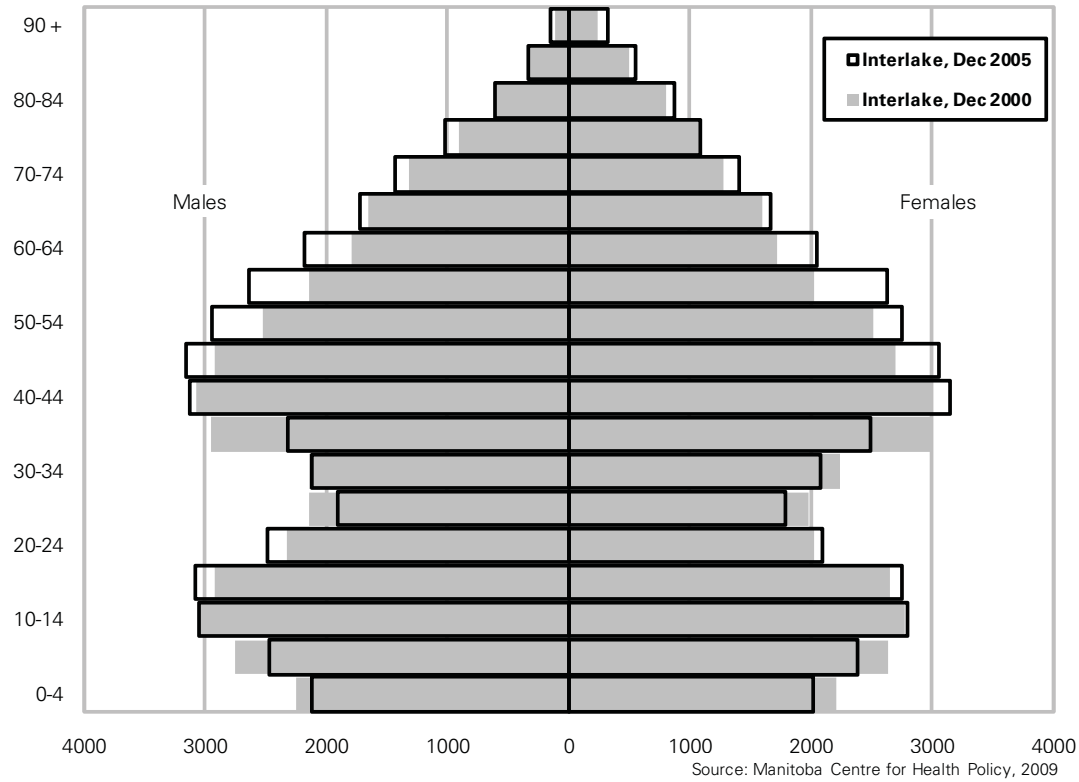
Interlake Population: 76,815
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.7b: Age Profile of Interlake**

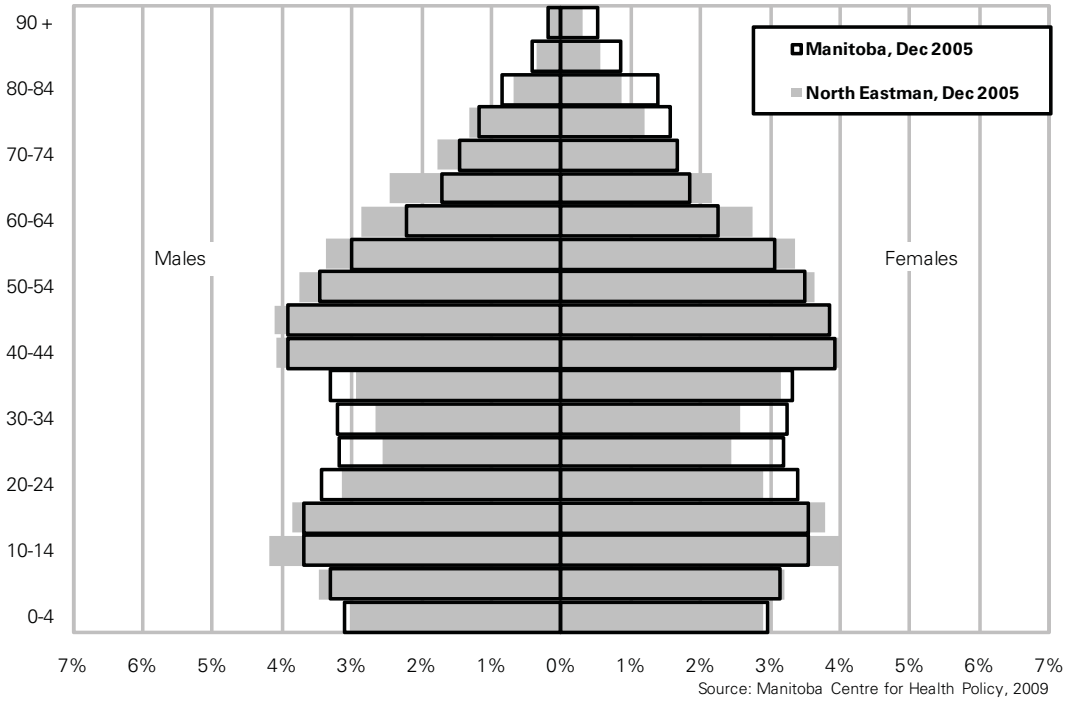
Population 2000: 74,943
Population 2005: 76,815




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.8a: Age Profile of North Eastman, 2005**

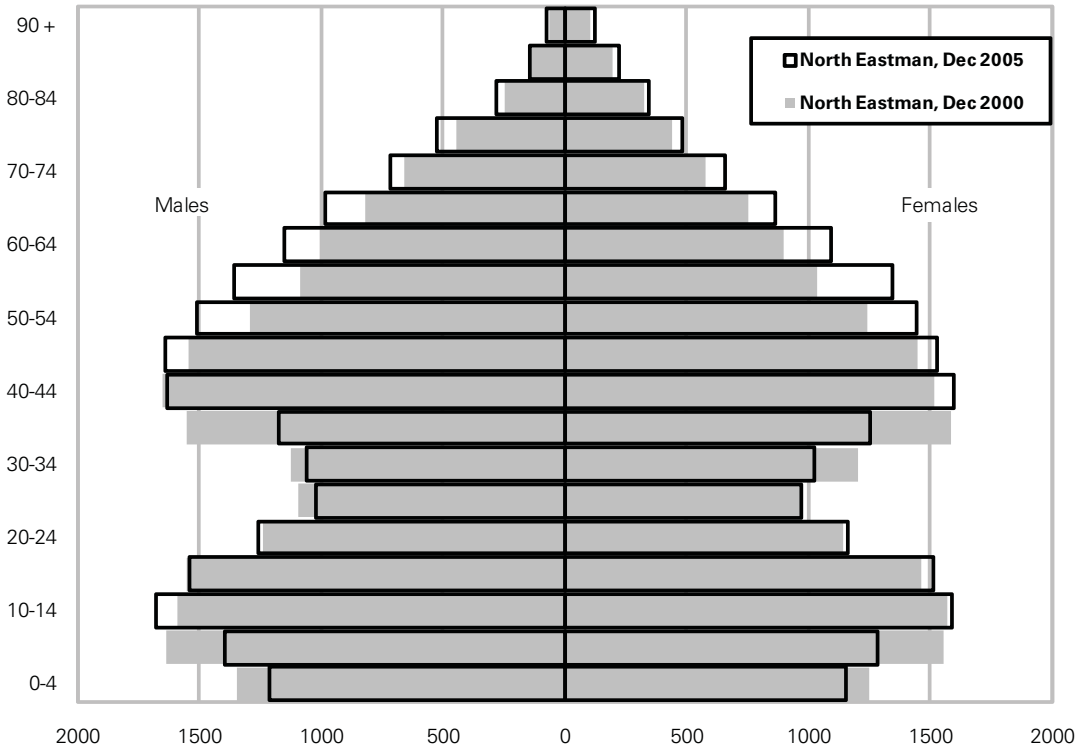
North Eastman Population: 40,012
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.8b: Age Profile of North Eastman**

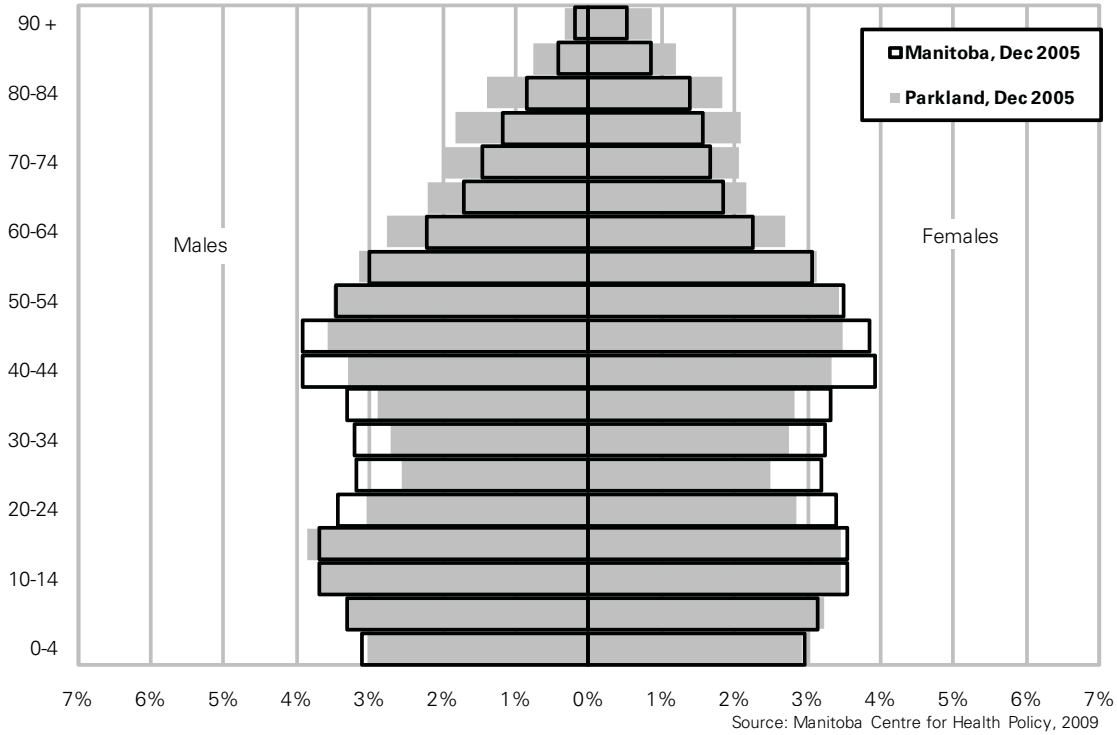
Population 2000: 39,369
Population 2005: 40,012




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.9a: Age Profile of Parkland, 2005**

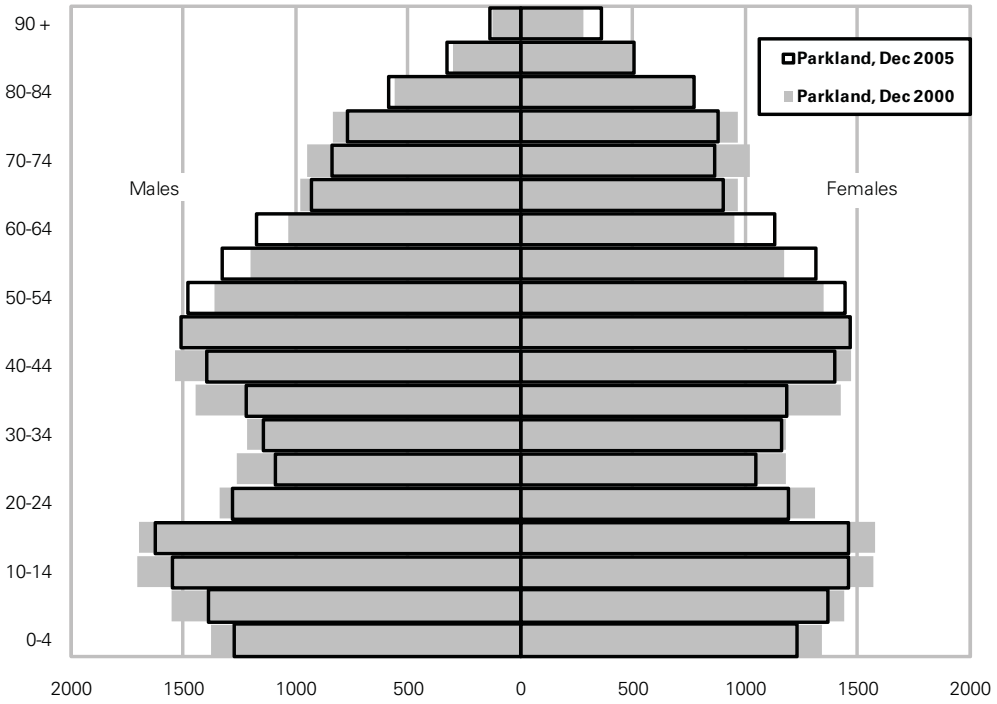
Parkland Population: 42,192
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.9b: Age Profile of Parkland**

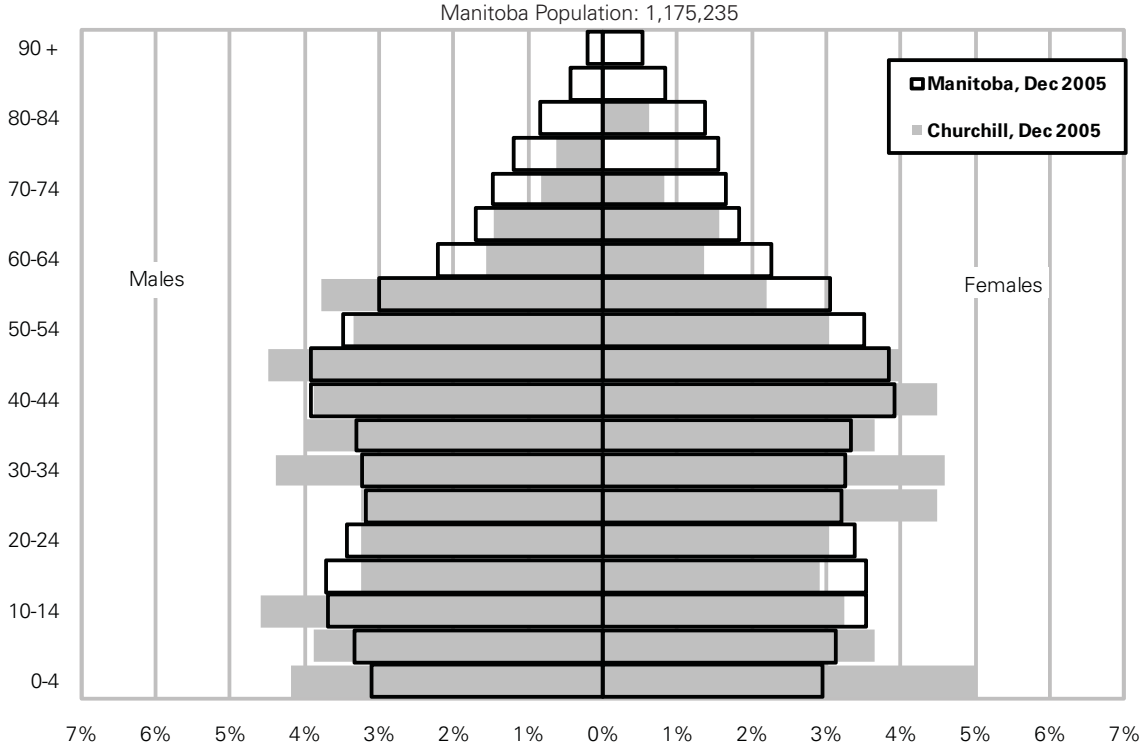
Population 2000: 43,939
Population 2005: 42,192




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.10a: Age Profile of Churchill, 2005**

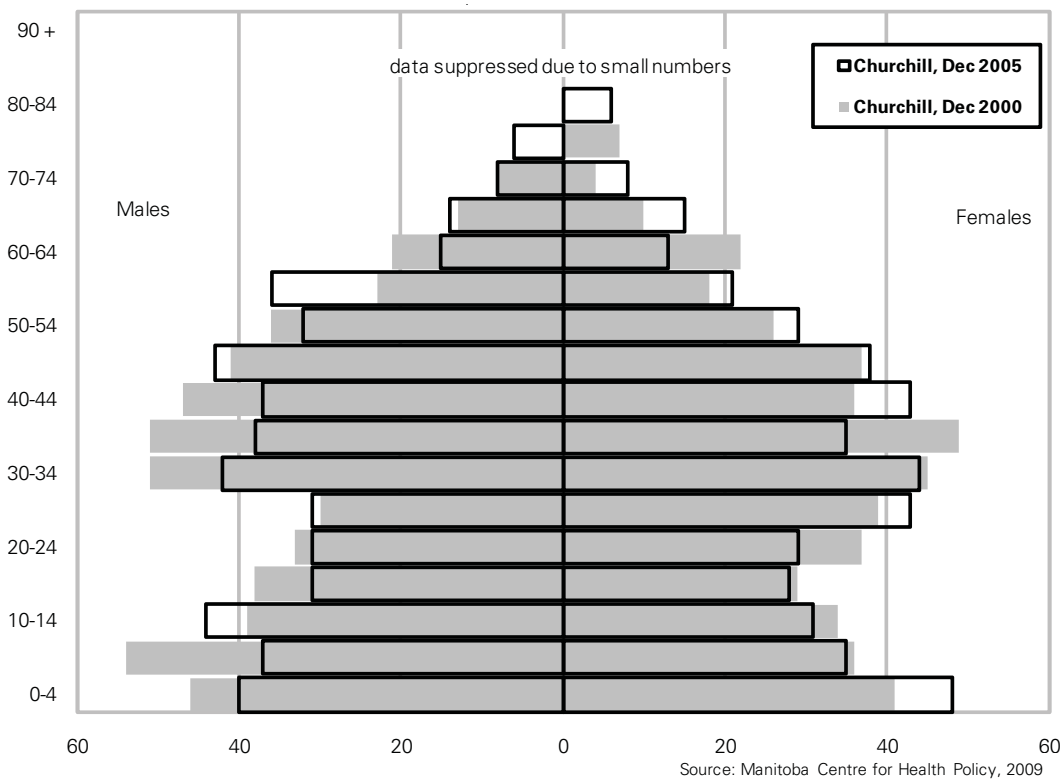
Churchill Population: 957
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.10b: Age Profile of Churchill**

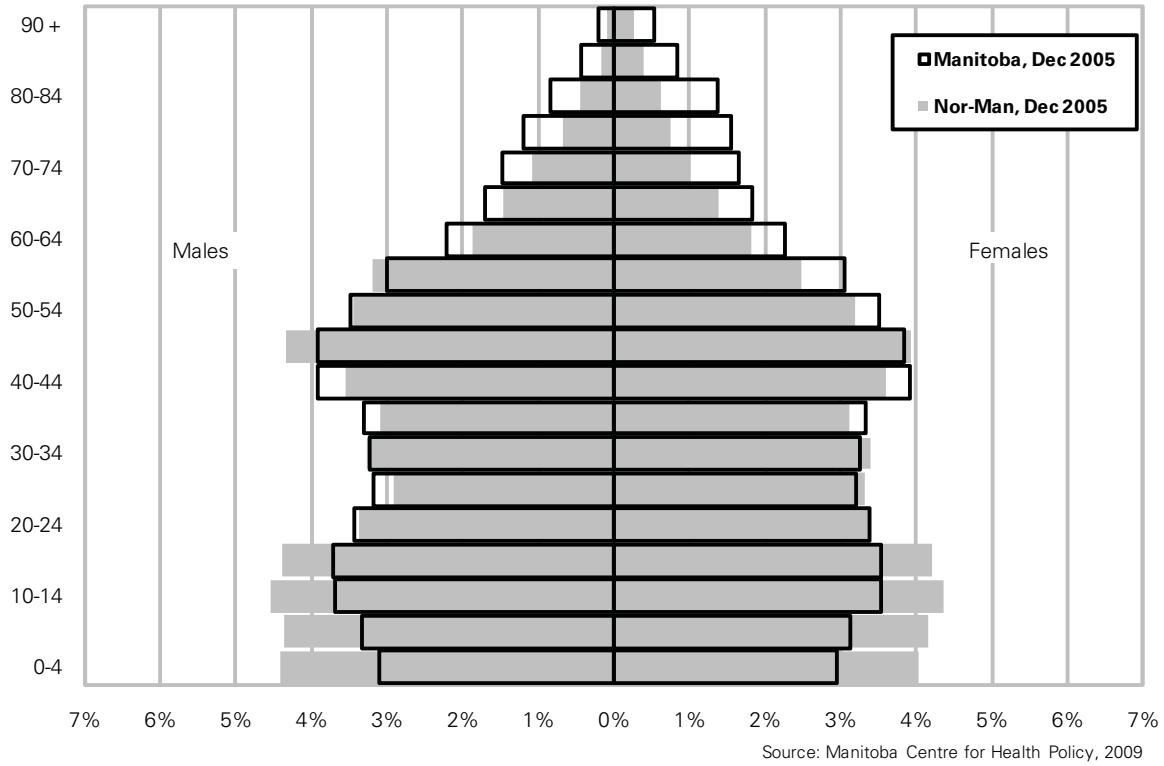
Population 2000: 1,008
Population 2005: 957




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.11a: Age Profile of Nor-Man, 2005**

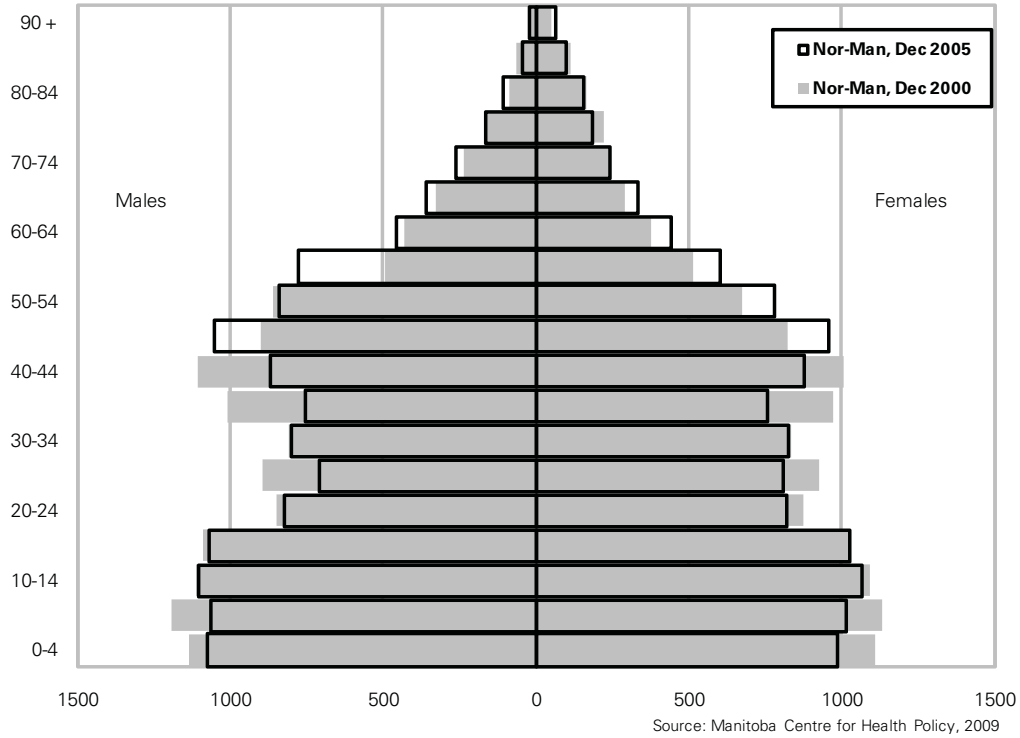
Nor-Man Population: 24,381
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.11b: Age Profile of Nor-Man**

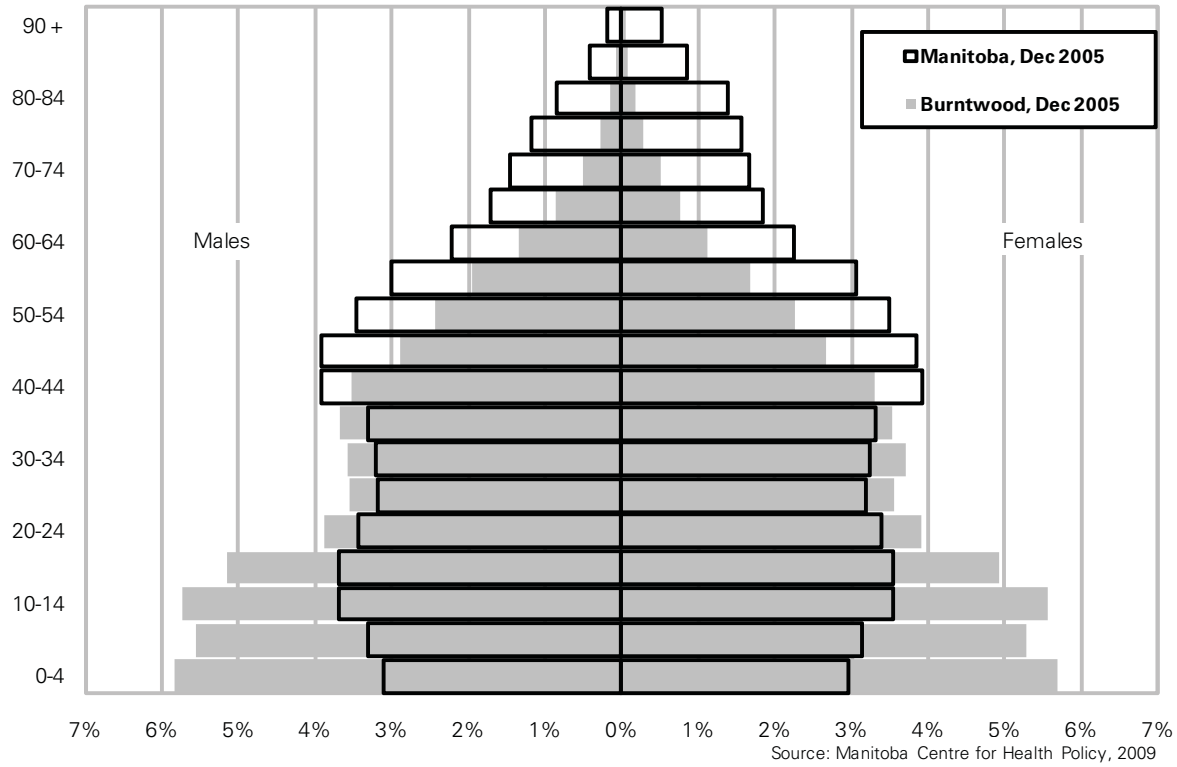
Population 2000: 25,233
Population 2005: 24,381




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.12a: Age Profile of Burntwood, 2005**

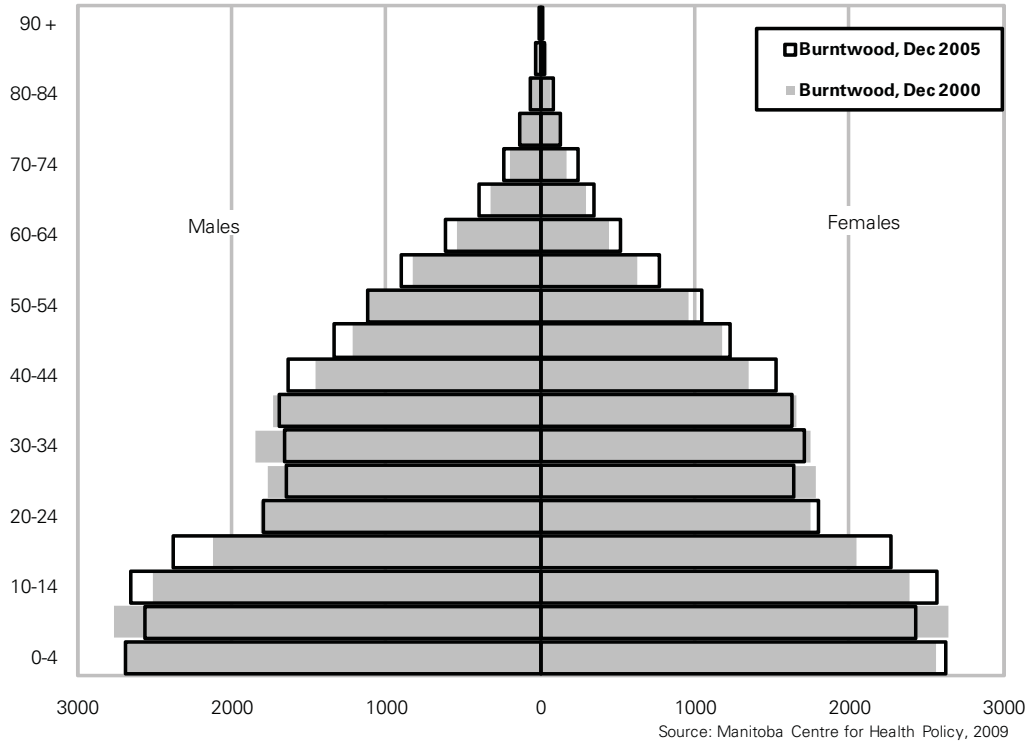
Burtwood Population: 46,167
Manitoba Population: 1,175,235




Source: Manitoba Centre for Health Policy, 2009

**Figure 2.1.12b: Age Profile of Burntwood**

Population 2000: 45,051
Population 2005: 46,167




Source: Manitoba Centre for Health Policy, 2009

# Chapter 3: Population Health Status and Mortality

## Key Findings for Chapter 3

Mortality rates and population health status

- In most areas of Manitoba, total and premature mortality rates decreased and life expectancy values increased over time. This suggests that the population's health status continues to improve, extending results from the 2003 RHA Indicators Atlas.
- The exception is among residents of Northern RHAs and in some of the least healthy areas within Winnipeg where health status is not improving—and may even be deteriorating. This finding is consistent with and extends the trends found in previous MCHP reports (Martens et al., 2008; Brownell et al., 2003). All three reports show that the gap in health status is widening over time, due to improvement in health status among residents in healthy areas and lack of improvement among residents of the least healthy areas.

Causes of death

- Circulatory diseases (including both heart disease and stroke), cancer, and respiratory diseases continue to be the leading causes of death for Manitobans. However, the results, along with those from the 2003 Atlas, show that the proportion of deaths attributed to circulatory diseases is decreasing over time, from 40% in 1990–94 to 34% in 2001–05. By contrast, the proportion of deaths attributed to cancer and to respiratory diseases have remained stable at approximately 27% and 9%, respectively.
- Examination of premature death rates (0–74 years) revealed that cancer was the leading cause of premature death, followed by circulatory diseases. This order is the reverse of that seen for 'all' deaths. This implies that a higher proportion of the deaths attributed to circulatory diseases are among older residents (age 75+).

## Introduction

This chapter includes a number of indicators of mortality and population health status. Life expectancy is perhaps the most widely used indicator of a population's health status, especially for international comparisons. The total mortality rate is another common indicator of health status, tracking the annual death rate within a population. Like life expectancy, it is based on the mortality experience of the entire population. The premature mortality rate (PMR), by contrast, focuses on the population under 75 years of age. As explained in chapter 1, it is based on the concept that deaths occurring before age 75 are considered 'premature.' Potential Years of Life Lost (PYLL) also uses only those under age 75, but further excludes infants (0–1 yr) in its calculations. The PYLL is more sensitive to deaths among younger residents, because it is determined by the number of years below 75 at which each death occurs. For example, the death of a 50 year old contributes '25' to the PYLL measure, but only '1' to the premature (and total) mortality rate. So while the PMR is a good indicator of overall health status and need for care, PYLL rates give an indication of whether the premature deaths are occurring among relatively younger or older 'under 75' residents. Mortality indicators are routinely calculated for calendar years (not fiscal years like most other indicators) because Vital Statistics data are collected and organized by calendar year.

As of April 1, 2004, data for hospital records were coded using the ICD–10–CA system, whereas before that, the ICD–9–CM system was used. Physician claims continue to be coded using ICD–9–CM. For indicators where groupings were required (e.g., causes of mortality), the ICD–10–CA codes were converted back to ICD–9–CM codes, using the conversion file created by the Canadian Institute for Health Information (CIHI).

### Differences in Calculations from 2003 RHA Indicators Atlas

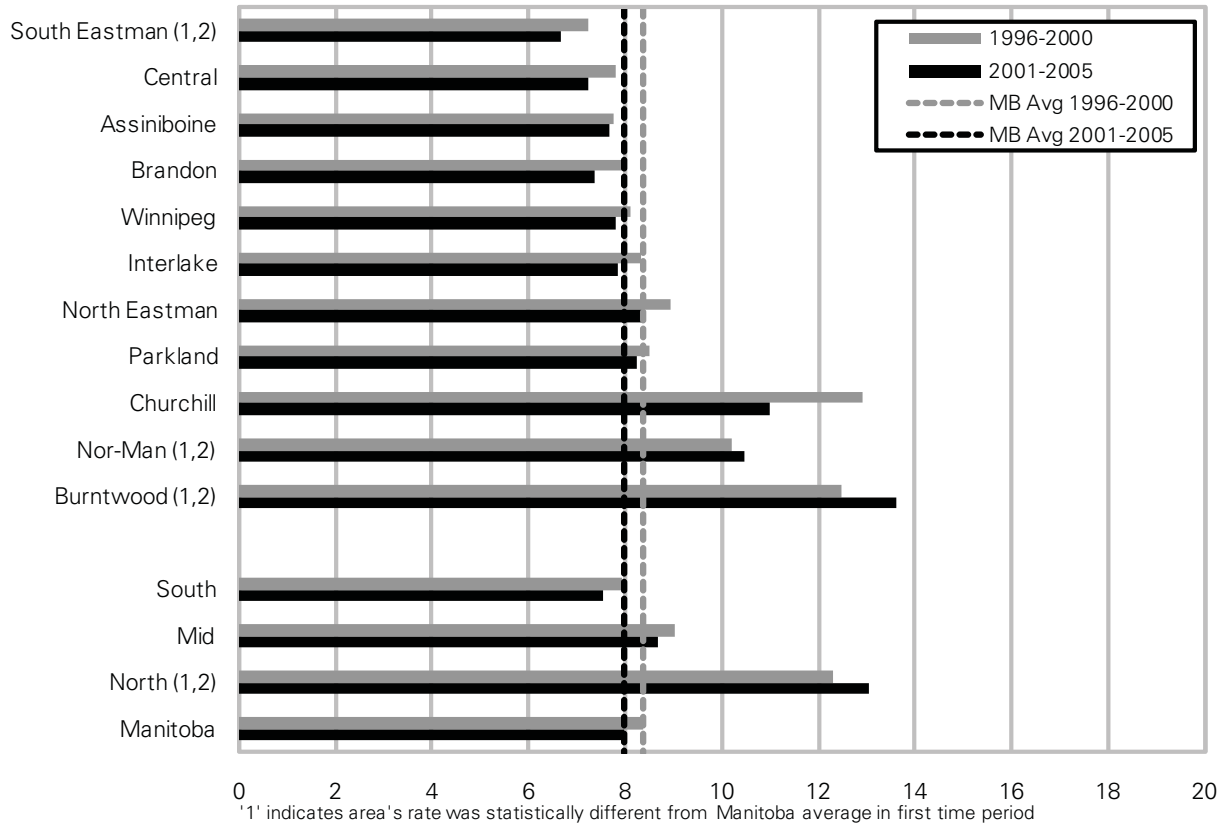
Several changes were made to the calculation of mortality rates for this report which make the numbers and rates for several indicators slightly higher than those in the 2003 Atlas. The most important change is that this report uses all deaths recorded in the Manitoba Health and Healthy Living Registry files, whereas the 2003 Atlas used only the deaths which also linked to Vital Statistics files (approximately 95%). Linkage is required to determine the cause of death, but not for death rates. Therefore, the Registry files provide a more accurate record of death rates. Smaller changes were that stillbirths were excluded from this report, but included in the 2003 Atlas; and residents assigned to the Office of the Public Trustee were excluded from the 2003 Atlas, but included (as a separate group) for this report to provide complete 'population–based' rates.

## 3.1 Total Mortality Rates

Definition: The number of deaths per 1,000 area residents, per year. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 3.1.1: Total Mortality Rates by RHA**

Age- & sex-adjusted annual rate of deaths per 1,000 residents per year

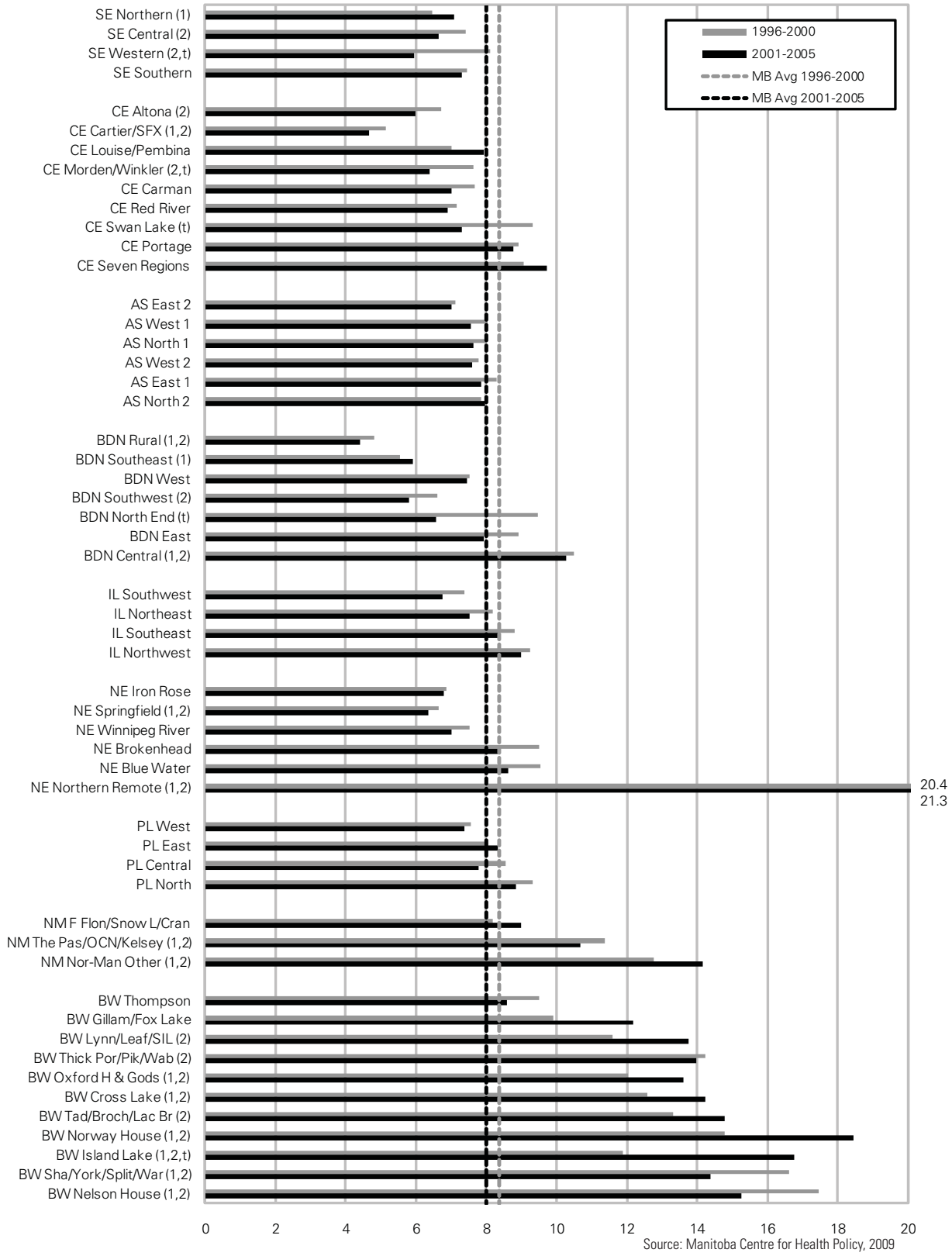



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

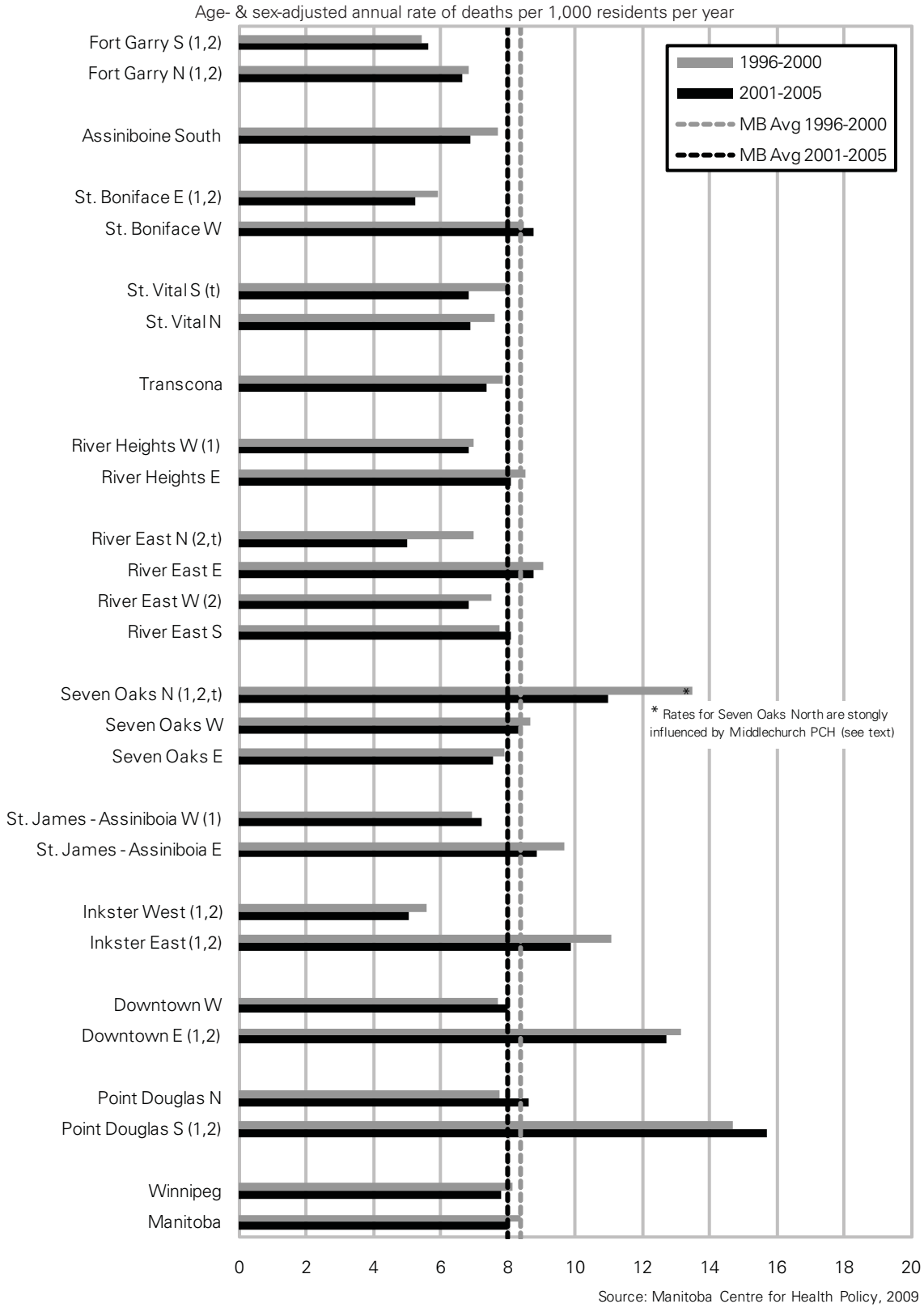
## Figure 3.1.2: Total Mortality Rates by District

Age- & sex-adjusted annual rate of deaths per 1,000 residents per year




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.1.3: Total Mortality Rates by Winnipeg Neighbourhood Clusters**




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The total mortality rate for Manitoba decreased slightly from 8.37 to 7.99 deaths per 1,000 residents per year. This difference did not reach statistical significance.
- There appears to be a strong relationship between total mortality rates and premature mortality rates at the RHA and aggregate levels, as would be expected. In most areas, about 40% of all deaths are premature (see Chapter 1).
- Total mortality rates were higher in Northern RHAs than all other areas in both time periods. Furthermore, the changes over time suggest a trend toward increasing mortality rates in the North, whereas most other areas had decreasing rates (though again, none of these changes over time were large enough to reach statistical significance, so must be interpreted with caution).
- Mortality rates in the Northern Remote district of North Eastman RHA were particularly high, and there was no significant change over time.
- Mortality rates for the small Winnipeg NC of Seven Oaks North were higher than expected, but are strongly influenced by the Middlechurch Personal Care Home (PCH) located in that area. A re–analysis excluding PCH residents produced much lower mortality rates for the area: 6.70 in the first time period (versus 14.6 shown) and 6.15 in the second time period (versus 11.9 shown). These values suggest that Seven Oaks North is among the healthiest areas in Winnipeg (and Manitoba), which is a finding confirmed by the area's low premature mortality rate (Section 3.3).
- There were strong relationships between income and total mortality rates in rural and urban areas in both time periods: mortality rates were higher among residents of lower income areas (particularly the lowest group; see Appendix 2).

### Comparison to other findings:

- The small decrease in mortality rates over time and the distribution across RHAs are consistent with results from the 2003 Atlas, which showed that provincial rates were stable; rates for Northern residents were higher than those in all other areas.
- According to Statistics Canada, mortality rates in Manitoba were higher than the Canadian average in 2001: 8.52 vs. 7.08 deaths per 1,000. However, this difference is much smaller when age–adjusted rates are compared: 6.49 vs. 6.05 per 1,000 (adjusted to 1991 population). (Statistics Canada, 2005b)

## 3.2 Causes of Death

Definition: The distribution of causes of death based on Vital Statistics files, using the 17 chapters of the International Classification of Diseases (ICD–9–CM) system. Data were analyzed for two 5–year periods: 1996–2000 and 2001–2005. From January 1, 2000, Vital Statistics data were coded using ICD–10–CA, so these codes were converted to ICD–9–CM codes using the conversion file created by the Canadian Institute for Health Information. Results are shown for Manitoba and the aggregate areas, but not by RHA due to the relatively small number of deaths by cause in smaller areas.

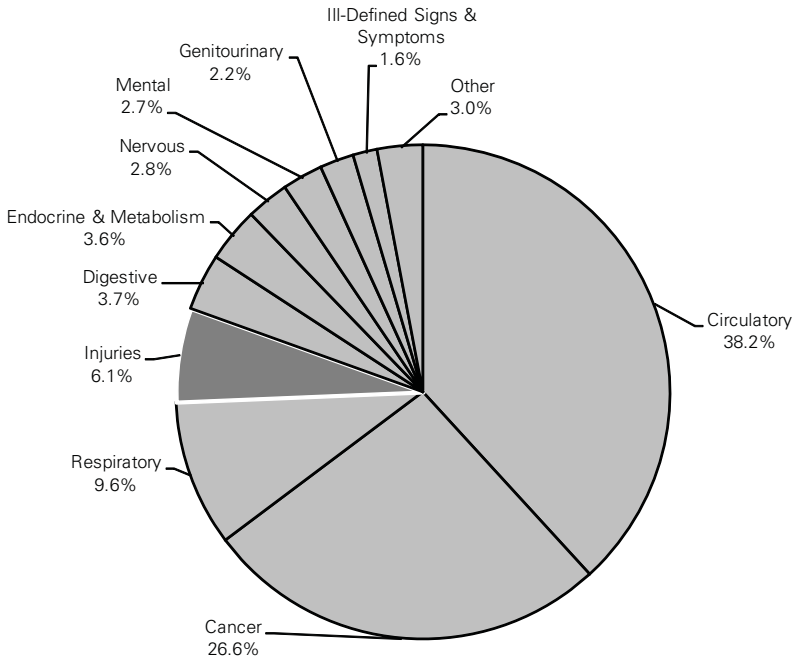
### Key findings:

- Circulatory diseases (including heart disease and stroke) and cancer were the leading causes of death, followed by respiratory diseases. Together, these three causes accounted for almost 70% of all deaths.
- Injury was the fourth leading cause of death in most areas, accounting for about 6–7% of deaths, except in the North, where it was the third leading cause and accounted for almost 17% of all deaths.

### Comparison to other findings:

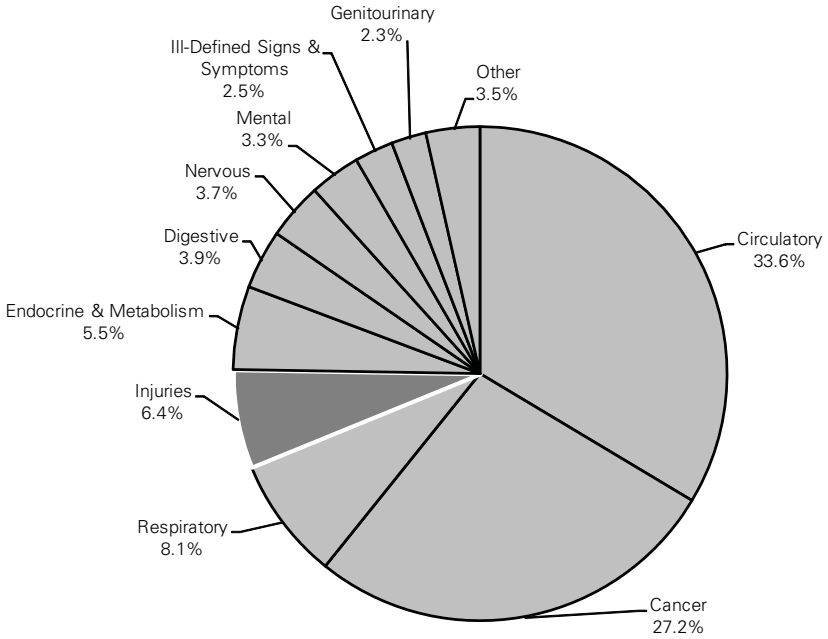
- These results, along with those from the 2003 Atlas show that the proportion of deaths attributed to circulatory diseases is decreasing over time from 40% in 1990–94 to 38% in 1996–2000, to 34% in 2001–05. This is consistent with recently documented decreases in deaths due to cardiovascular diseases in Canada (Statistics Canada, 2005a)
- By contrast, the proportion of deaths attributed to cancer and to respiratory diseases have remained stable at approximately 27% and 9%, respectively.
- The leading causes of death in Canada are similar to those shown here. In national data cancer overtook cardiovascular diseases as the leading cause of death in 2004 and 2005. (Statistics Canada, 2005c).
- See also related findings in Section 3.4: Causes of Premature Death.

**Figure 3.2.1: Causes of Death**
**Manitoba, 1996-2000**



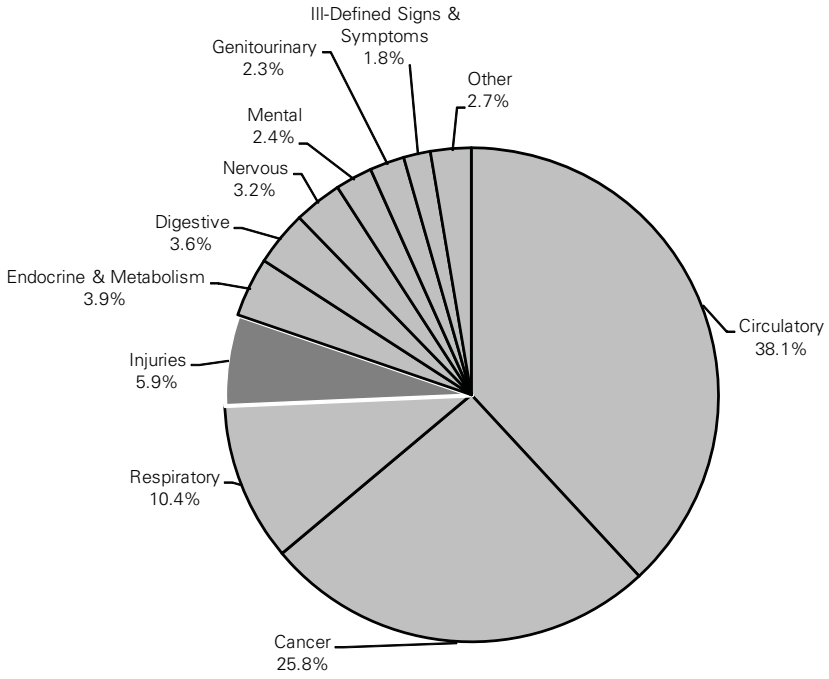

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.2: Causes of Death**
**Manitoba, 2001-2005**



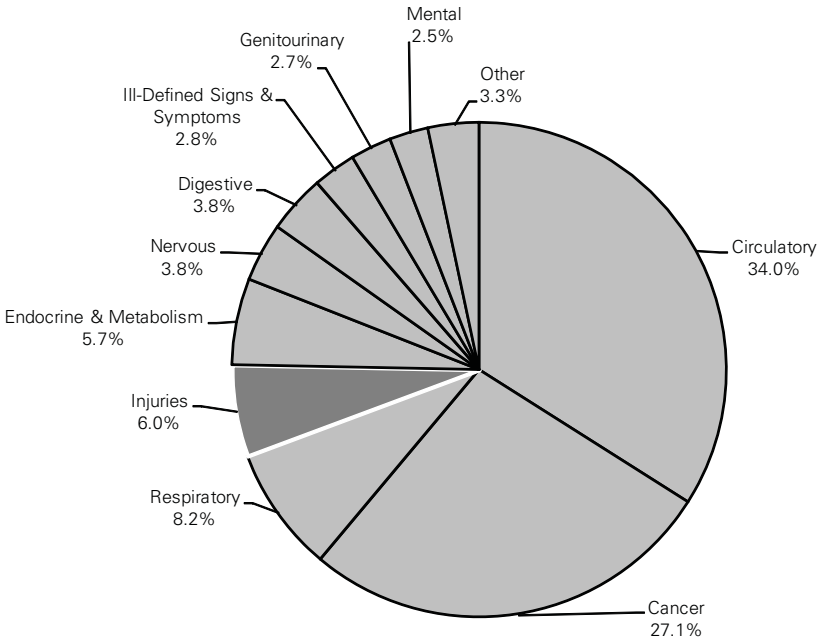

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.3: Causes of Death**
**Rural South & Brandon, 1996-2000**



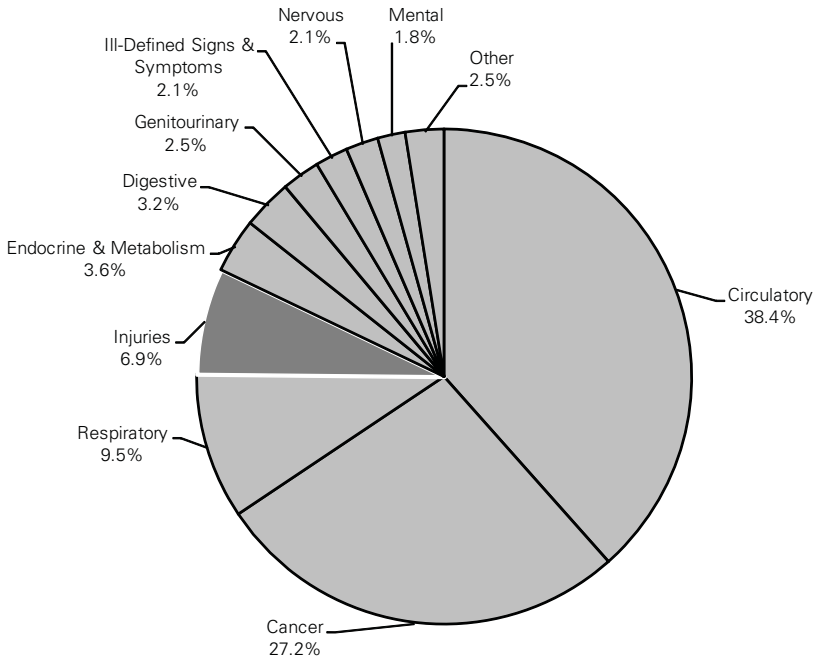

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.4: Causes of Death**
**Rural South & Brandon, 2001-2005**



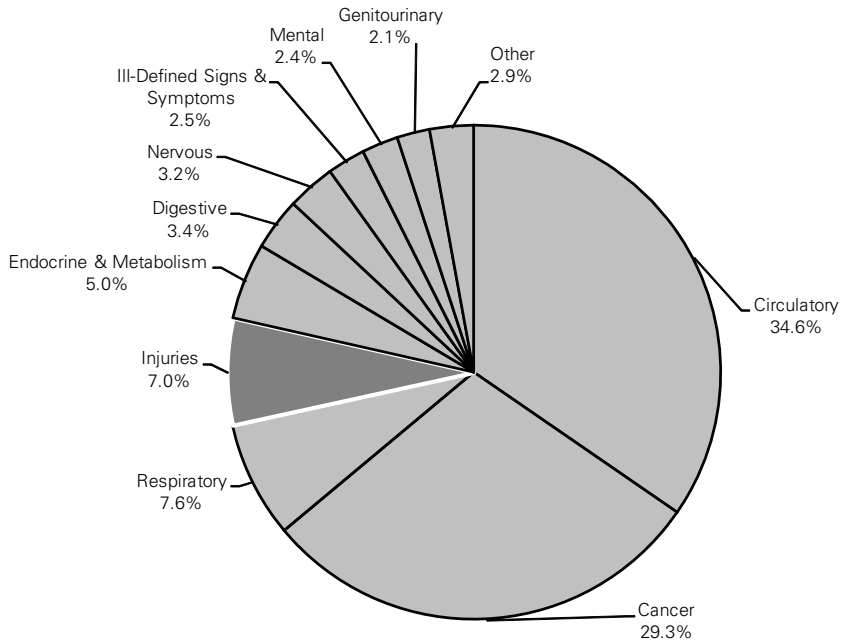

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.5: Causes of Death**
**Mid, 1996-2000**



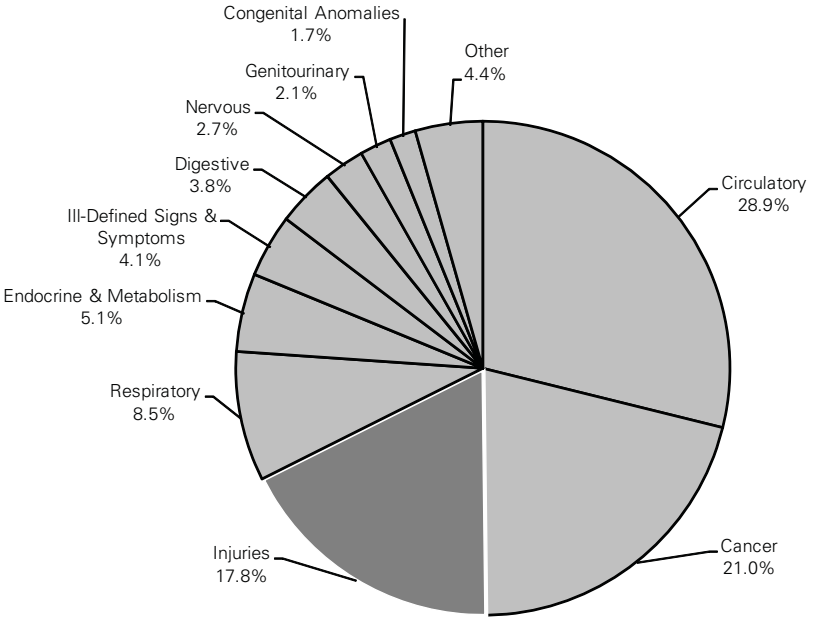

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.6: Causes of Death**
**Mid, 2001-2005**



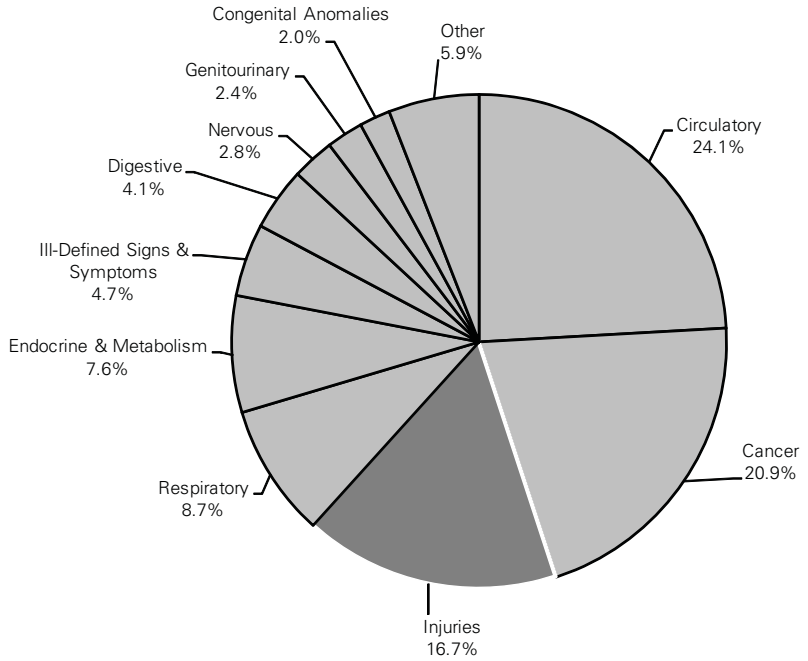

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.7: Causes of Death**
**North, 1996-2000**



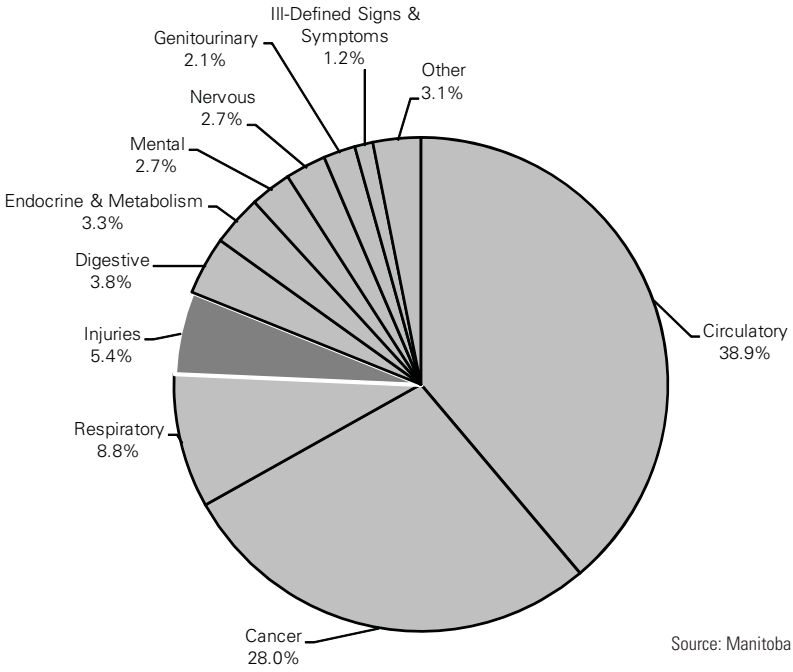

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.8: Causes of Death**
**North, 2001-2005**



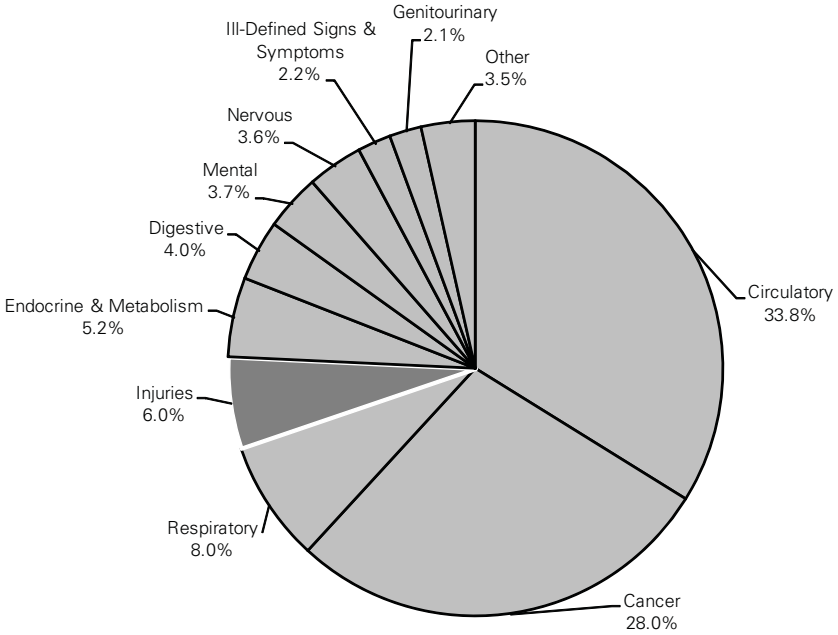

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.9: Causes of Death**
**Winnipeg, 1996-2000**




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.2.10: Causes of Death**
**Winnipeg, 2001-2005**



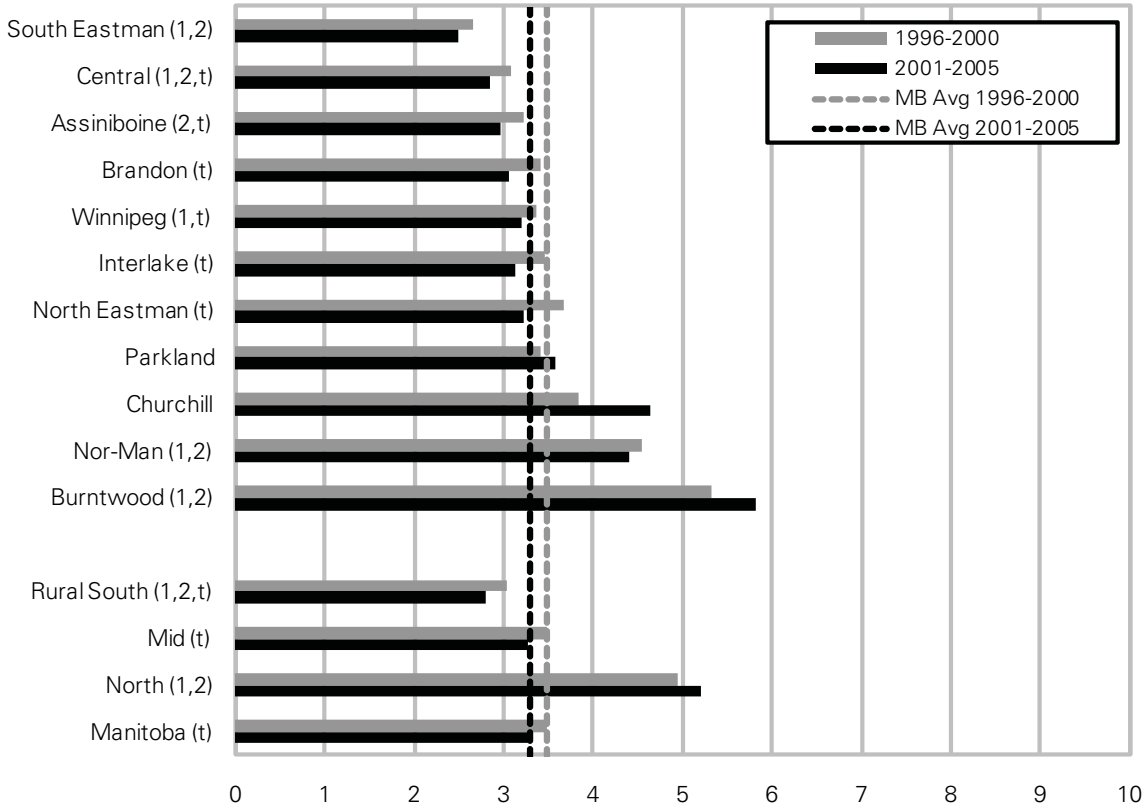

Source: Manitoba Centre for Health Policy, 2009

## 3.3 Premature Mortality Rates

Definition: The number of deaths among area residents under 75 years old, per 1,000 residents under 75, per year. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period. (See Chapter 1 for a more thorough discussion of the meaning and interpretation of premature mortality rates.)

**Figure 3.3.1: Premature Mortality Rates by RHA**

Age- & sex-adjusted annual rate of deaths per 1,000 residents aged 0-74

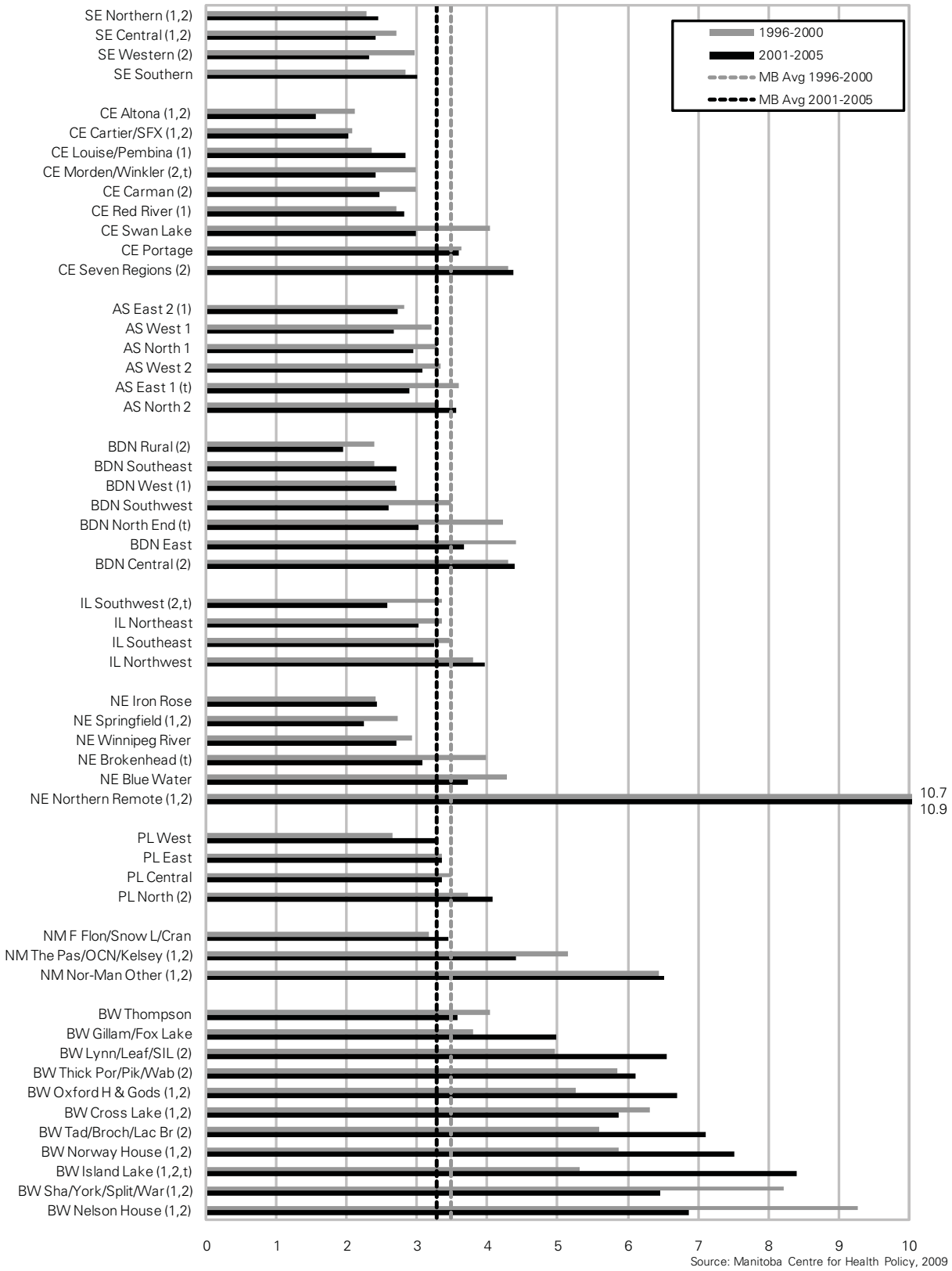



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 3.3.2: Premature Mortality Rates by District

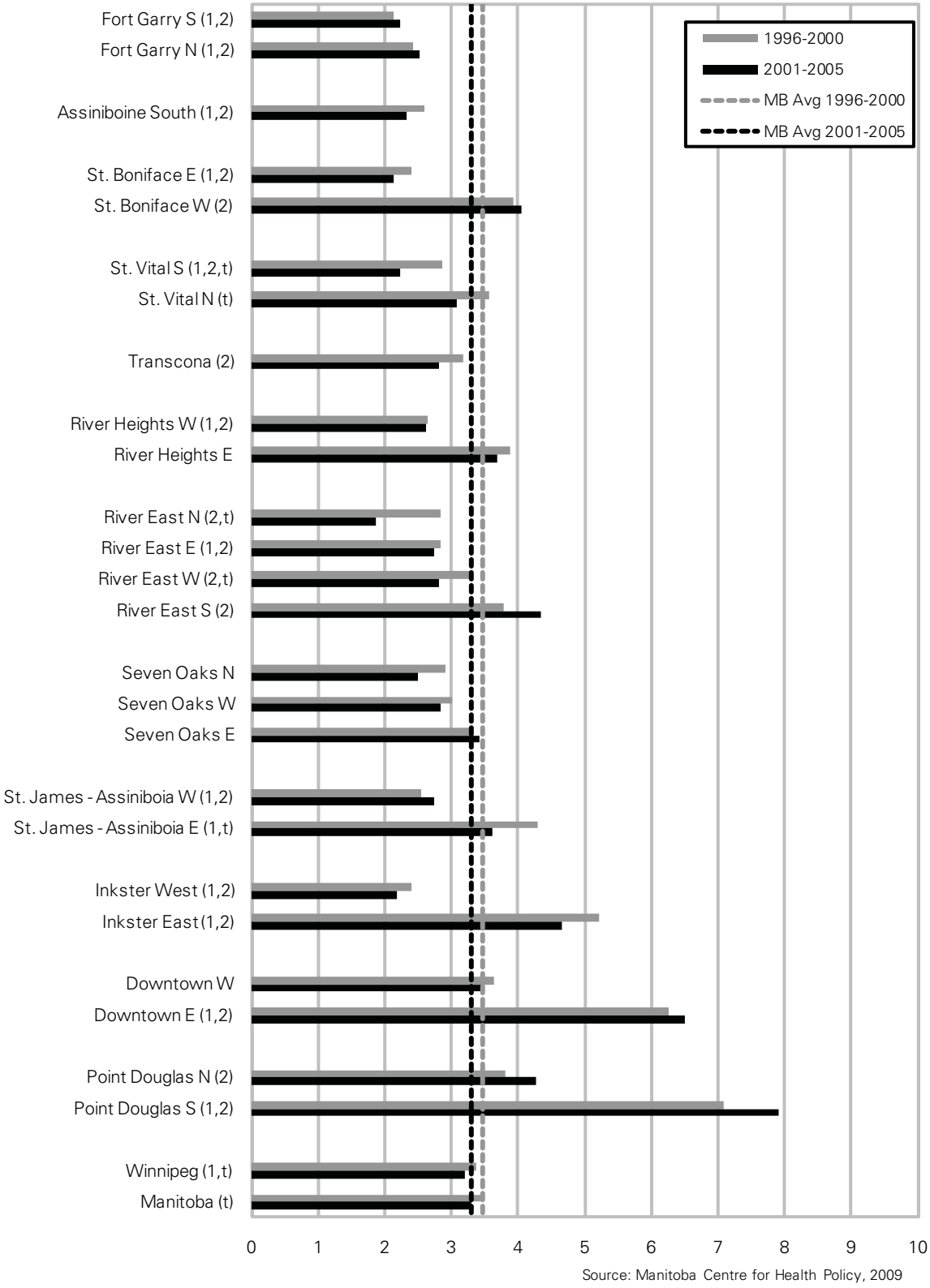
Age- & sex-adjusted annual rate of deaths per 1,000 residents aged 0-74




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.3.3: Premature Mortality Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rate of deaths per 1,000 residents aged 0-74




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Premature mortality rates in Manitoba decreased over time, from 3.48 to 3.29 deaths per 1,000 residents age 0–74, per year. Rates for Winnipeg, the Rural South, and Mid areas all decreased significantly.
- Most RHAs had decreasing rates, though the decreases in NOR–MAN and South Eastman did not reach statistical significance.
- In contrast, rates in Parkland, Churchill and Burntwood increased, but not significantly (though the increase in Burntwood was very close to reaching statistical significance).
- The Northern Remote district of North Eastman RHA had particularly high premature mortality rates, consistent with high total mortality rates in that area.
- There were strong relationships between income and premature mortality rates in urban and rural areas in both time periods: premature mortality rates were higher among residents of lower income areas (Appendix 2). There was greater disparity within urban areas than within rural areas, though the disparity in rural areas widened over time.

### Comparison to other findings:

- These results are consistent with and extend the trend of decreasing PMR shown in the 2003 Atlas, suggesting that the health status of Manitobans continues to improve gradually.
- MCHP's What Works report revealed that premature mortality rates were higher for males than females, but that male rates have decreased more than those for females. That report also showed that the PMR for the North was on a gradual decline from 1984/85 through 2002/03, consistent with findings in Time 1 of this report. However, results shown here for Time 2 suggest that the rate for Burntwood may be increasing in the most recent years.
- The 2003 Atlas reported a rate of 3.3 for 1996–2000; this report shows a rate of 3.5 for the same years. The discrepancy is due to changes in how PMR was calculated (See Introduction for this chapter).

## 3.4 Causes of Premature Death

Definition: The distribution of causes of premature death (before age 75), based on Vital Statistics files, using the 17 chapters of the International Classification of Diseases (ICD–9–CM) system. Data were analyzed for two 5–year periods: 1996–2000 and 2001–2005. From January 1, 2000, Vital Statistics data were coded using ICD–10–CA, so these codes were converted to ICD–9–CM codes using the conversion file created by the Canadian Institute for Health Information. Results are shown for Manitoba and the aggregate areas, but not by RHA due to the relatively small number of deaths by cause in smaller areas.

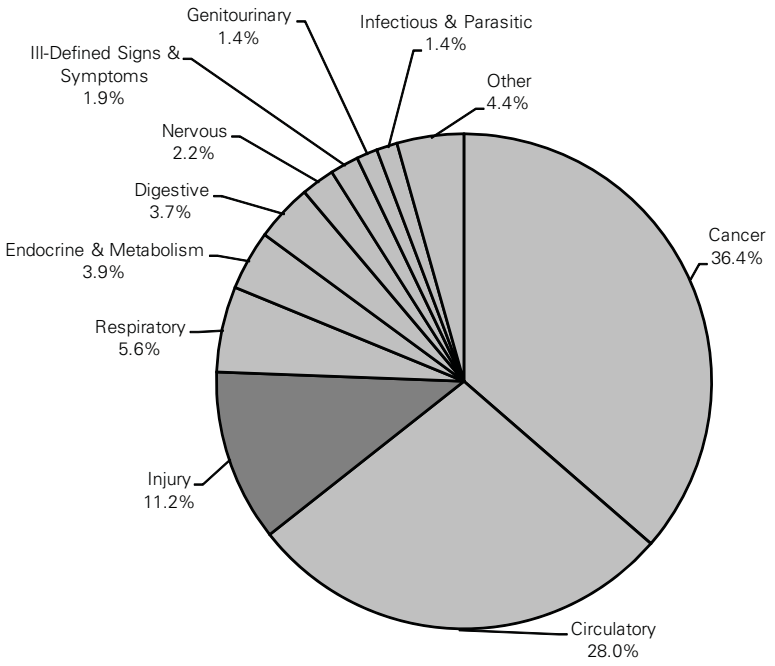
### Key findings:

- In both time periods, cancer was the leading cause of premature death in Manitoba, followed by circulatory diseases and injuries.
- Injury is a much more prominent cause of premature death than 'all–age' death: it was the fourth leading cause of all deaths (6.4%), but the third leading cause of premature deaths, accounting for 12% of premature deaths in 2001–2005.
- In the North, injury was the leading cause of premature death, followed by cancer, then circulatory diseases.

### Comparison to other findings:

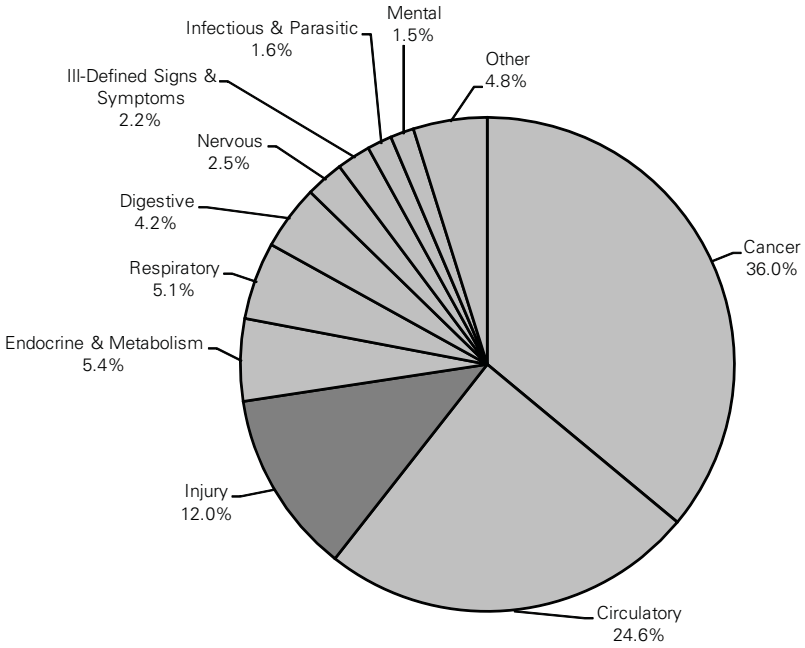
- This indicator has not been previously reported by MCHP.
- Statistics Canada data for leading causes of PYLL (see also 3.7 below) among 0–74 year olds was similar to that reported here: cancer, circulatory, respiratory, and injury (CANSIM Table 102–0311).

**Figure 3.4.1: Causes of Premature Death**
**Manitoba, 1996-2000**



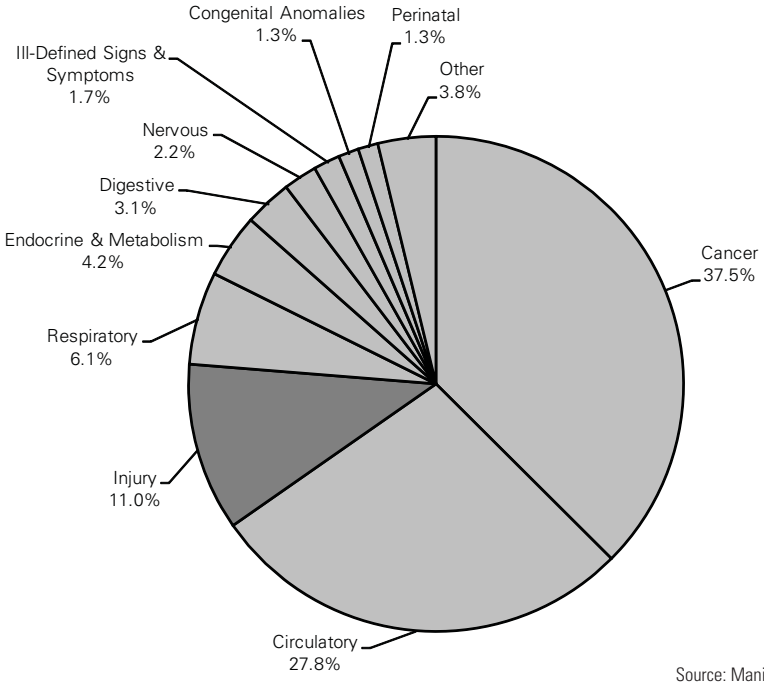

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.2: Causes of Premature Death**
**Manitoba, 2001-2005**



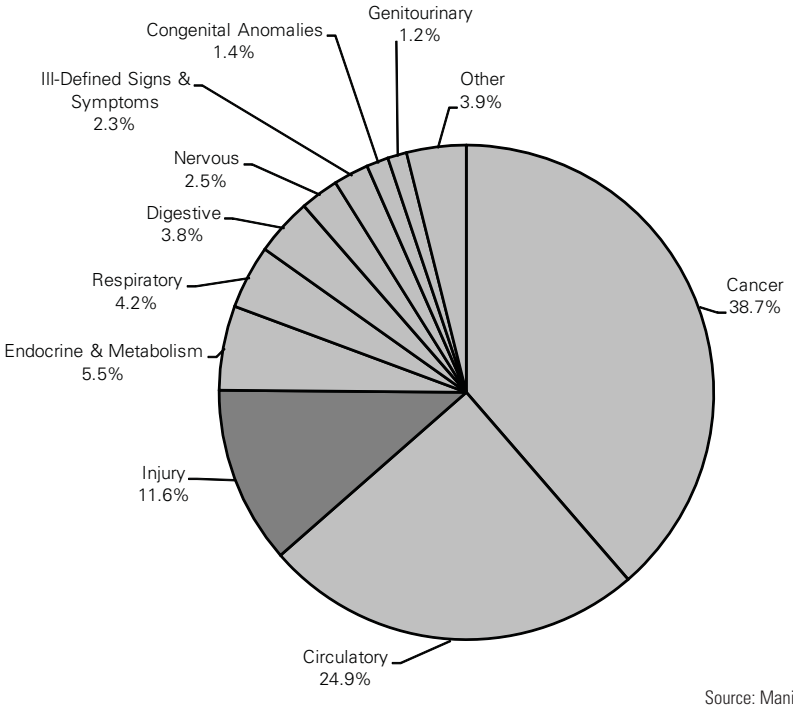

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.3: Causes of Premature Death**
**Rural South & Brandon, 1996-2000**



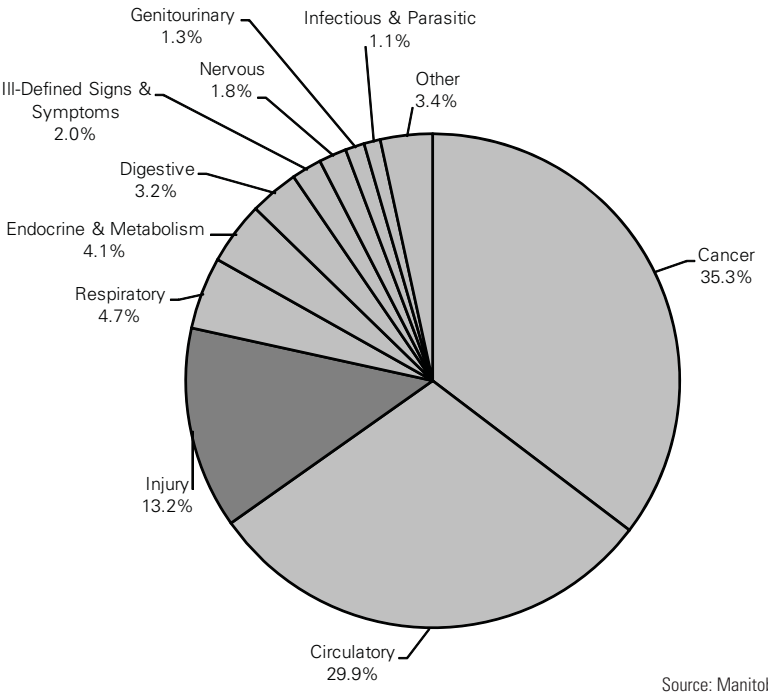

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.4: Causes of Premature Death**
**Rural South & Brandon, 2001-2005**



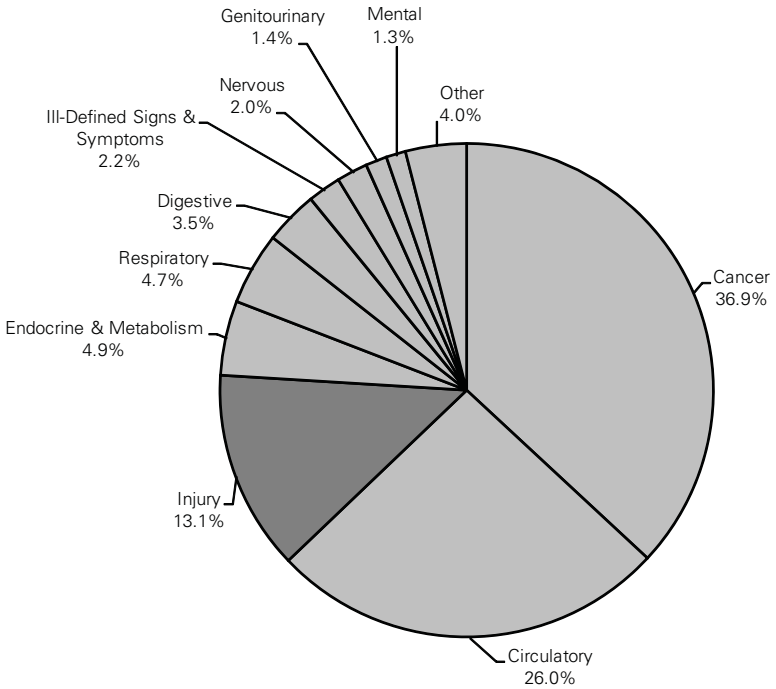

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.5: Causes of Premature Death**
**Mid, 1996-2000**



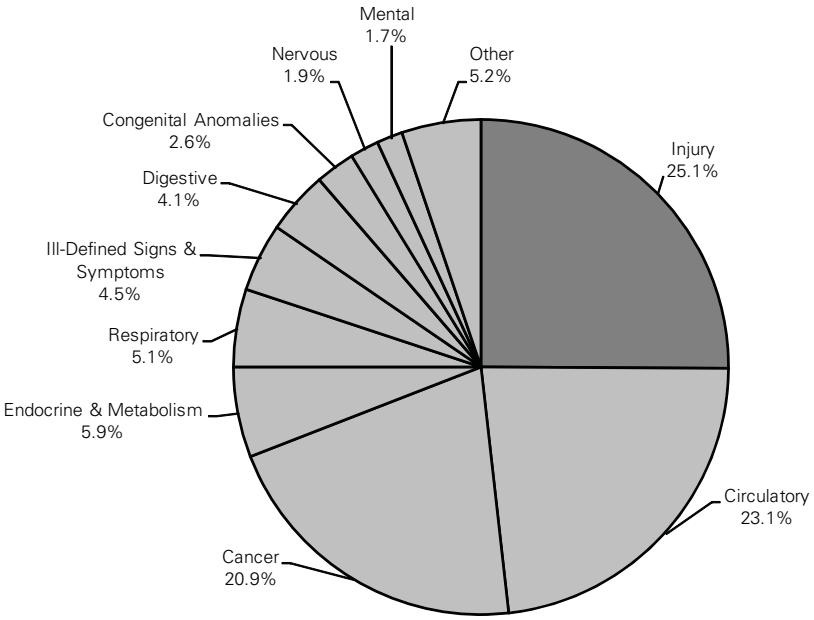

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.6: Causes of Premature Death**
**Mid, 2001-2005**



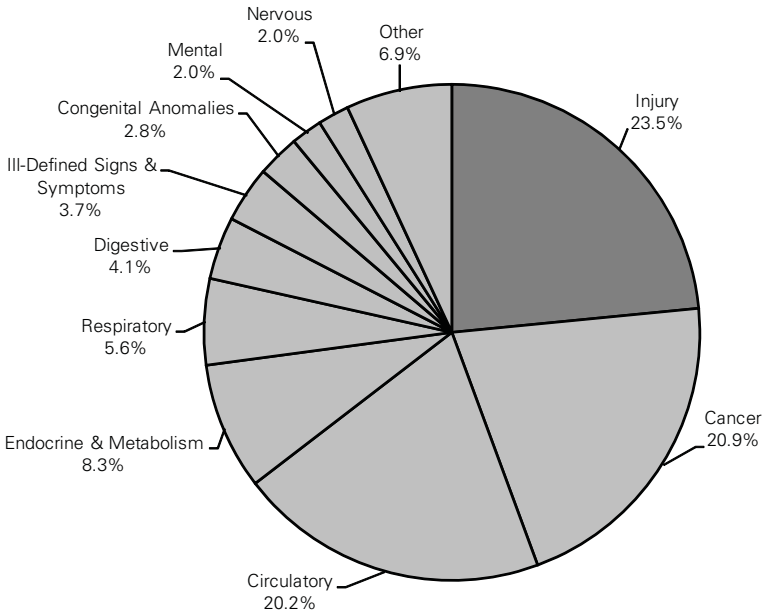

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.7: Causes of Premature Death North, 1996-2000**



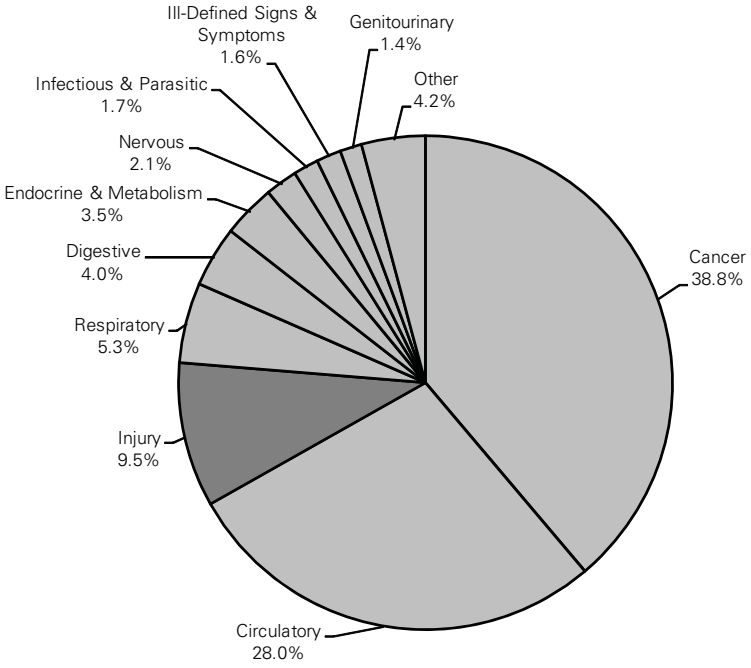

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.8: Causes of Premature Death North, 2001-2005**



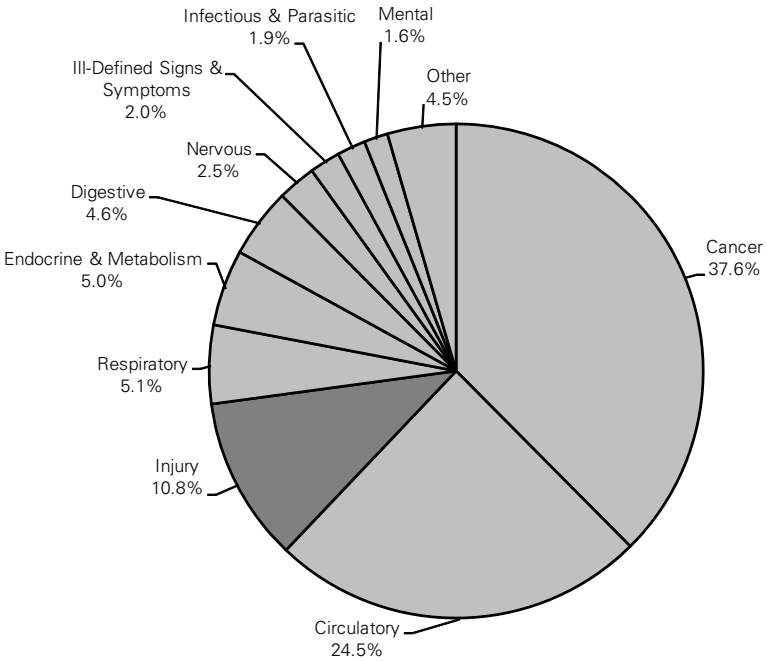

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.9: Causes of Premature Death**
**Winnipeg, 1996-2000**




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.4.10: Causes of Premature Death**
**Winnipeg, 2001-2005**

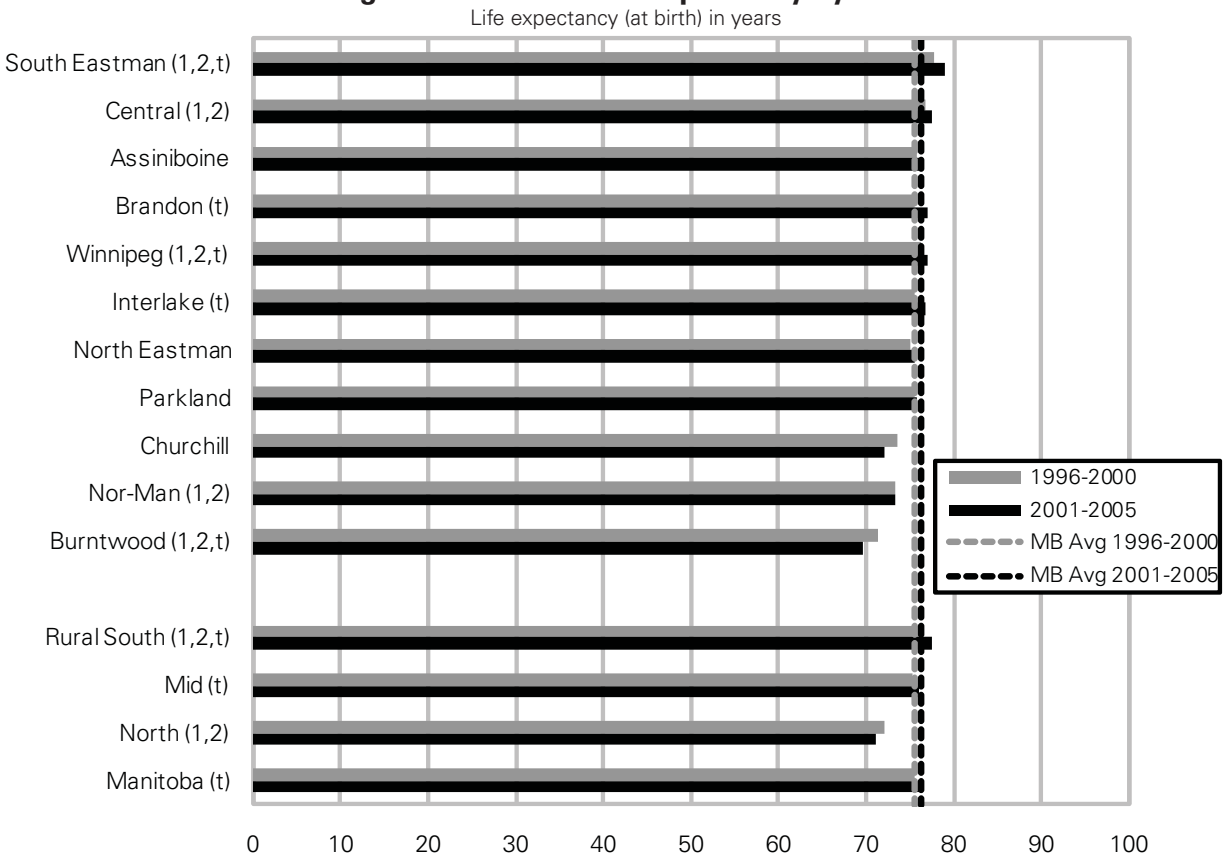



Source: Manitoba Centre for Health Policy, 2009

## 3.5 Male Life Expectancy

Definition: The expected length of life from birth, based on the patterns of mortality in the population for the preceding five years. Data were analyzed for two 5–year periods: 1996–2000 and 2001–2005. Values are not age–adjusted; they are calculated directly from the mortality experience of local residents using the 'life table' approach. Note: even small differences in life expectancy values imply important differences in health status. It has been estimated that if all cancers could be eradicated, life expectancy for males would increase by approximately 3.8 years. (Mackenbach, Kunst, Lautenbach, Oei, Bijlsma, 1999)

**Figure 3.5.1: Male Life Expectancy by RHA**

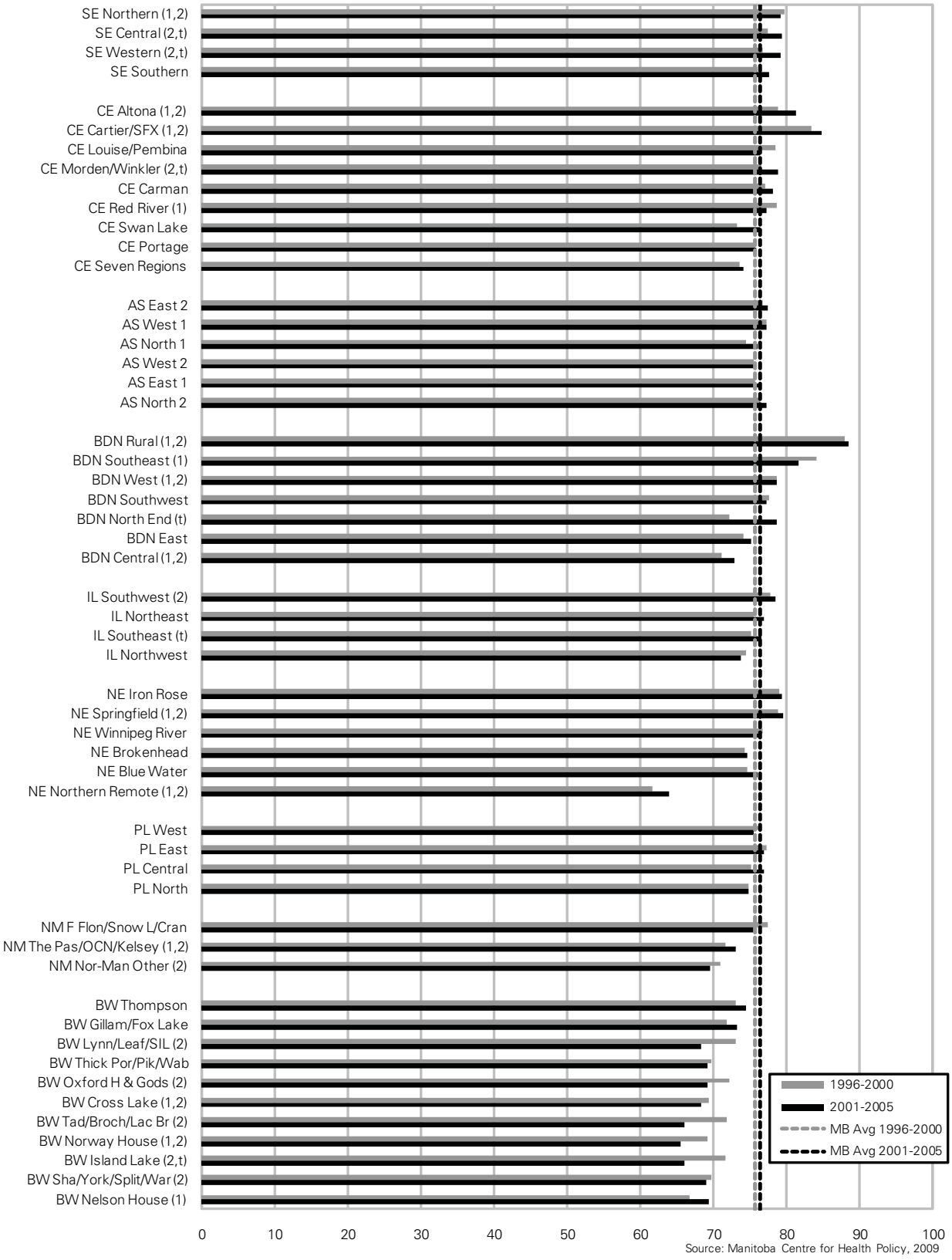



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

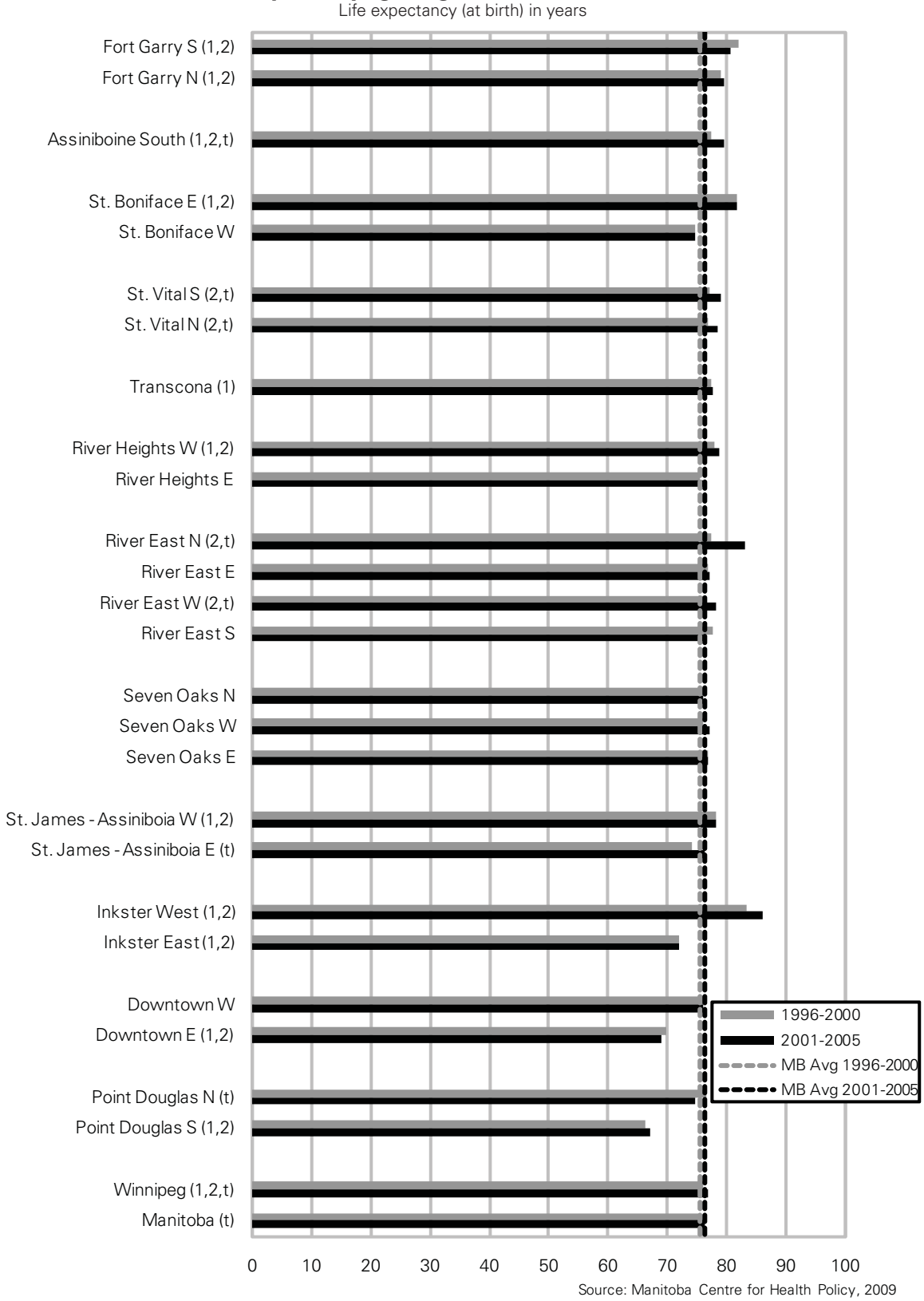
## Figure 3.5.2: Male Life Expectancy by District

Life expectancy (at birth) in years




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.5.3: Male Life Expectancy by Winnipeg Neighbourhood Clusters**




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Life expectancy for males in Manitoba increased from 75.6 to 76.3 years.
- However, this gain was not consistent across all areas:
  - Aggregate areas: Rural South males, who already had the longest life expectancy, had increasing values while males in the North did not (their average decreased slightly, but not significantly).
  - RHAs: values in South Eastman, Brandon, Winnipeg and Interlake increased while values in Burntwood RHA decreased.
  - Districts: values in the Northern Remote district of North Eastman RHA were the lowest (consistent with their high mortality rates), whereas values for the Brandon Rural district were particularly high.
- Life expectancy values in both time periods were related to premature mortality rates at RHA and aggregate levels. As expected, areas with less healthy populations had lower life expectancy.
- There were strong relationships between income and male life expectancy values in urban and rural areas in both time periods: life expectancy was shorter for residents of lower income areas (Appendix 2). Because of the method by which life expectancy values are calculated, these trends could not be statistically tested; however, the trends in the data are clear and strong.

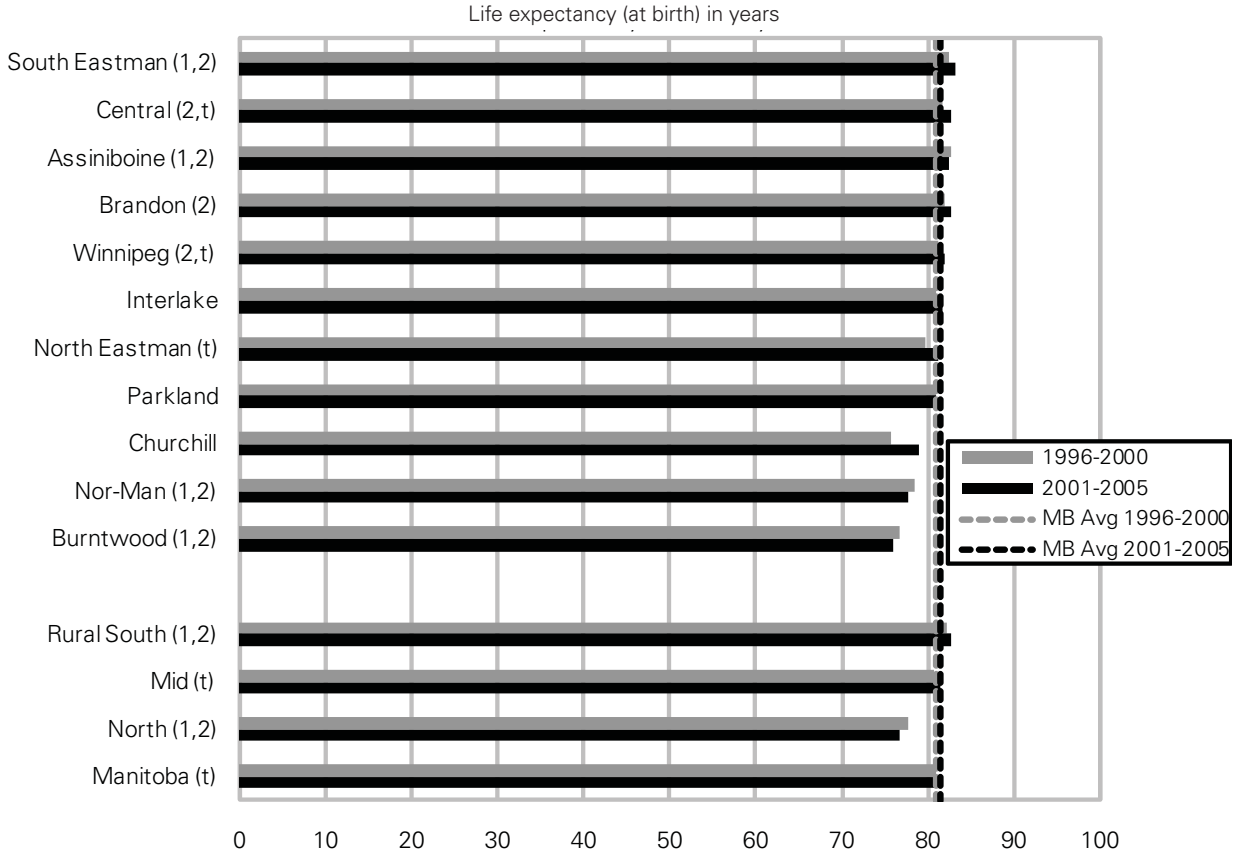
### Comparison to other findings:

- These values are consistent with decreasing mortality rates and decreasing rates of potential years of life lost (Section 3.7).
- The 2003 Atlas reported a 0.5 year gain in life expectancy for males, similar to the 0.7 year gain found in this report—suggesting that the overall health of males in Manitoba continues to improve slowly over time.
- Life Expectancy values from Statistics Canada (CANSIM Table 102–0511) were very similar and revealed that Manitoba values were slightly below Canadian averages:
  - Manitoba: 75.3 and 76.2 (Time 1 and Time 2)
  - Canada: 76.0 and 77.5

## 3.6 Female Life Expectancy

Definition: The expected length of life from birth, based on the patterns of mortality in the population for the preceding five years. Data were analyzed for two 5–year periods: 1996–2000 and 2001–2005. Values are not age–adjusted; they are calculated directly from the mortality experience of local residents using the 'life table' approach. Note: even small differences in life expectancy values imply important differences in health status. It has been estimated that if all cancers could be eradicated, life expectancy for females would increase by approximately 3.4 years (Mackenbach, Kunst, Lauterbach, Oei, & Bijlsma, 1999).

**Figure 3.6.1: Female Life Expectancy by RHA**

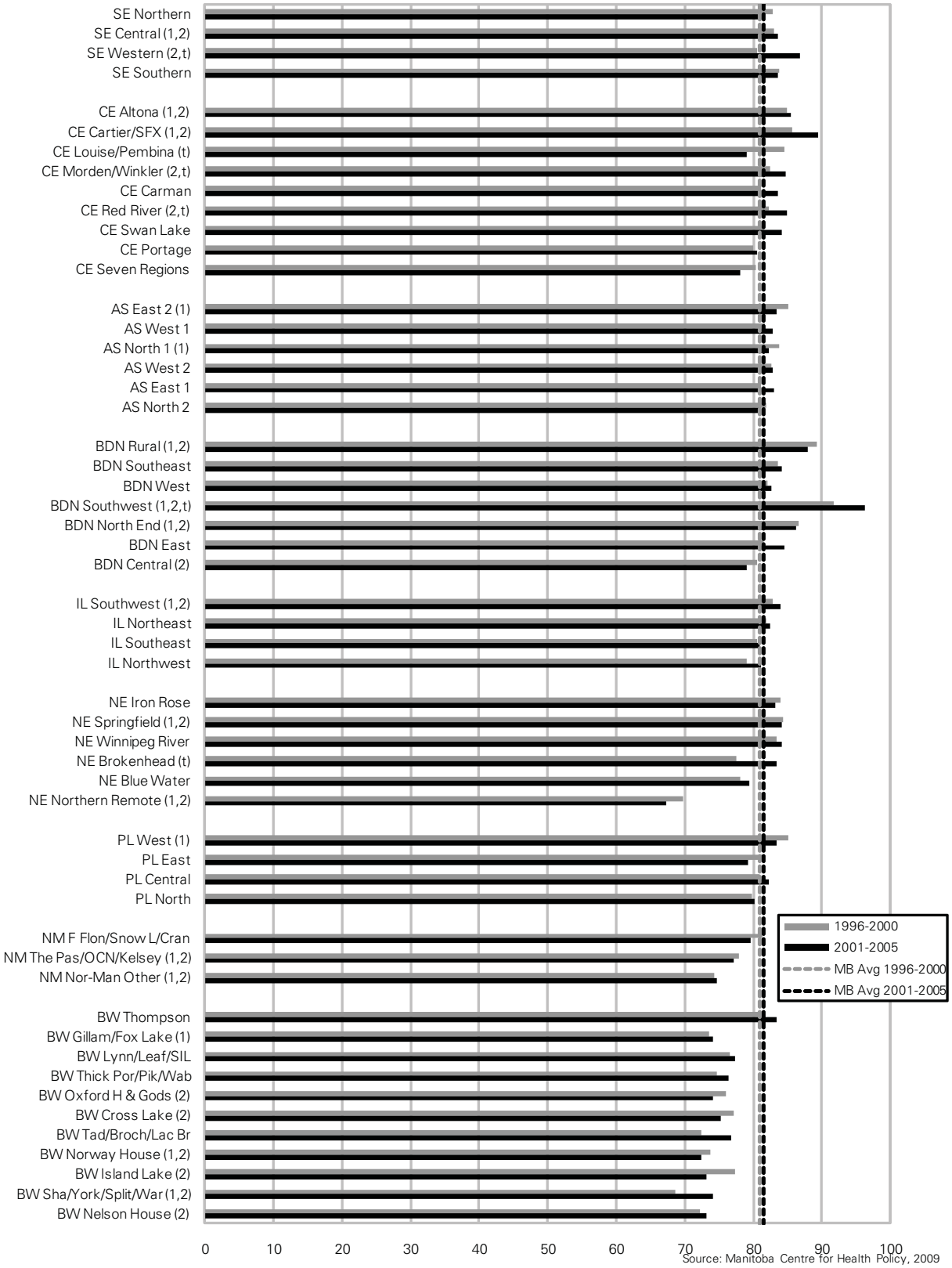



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

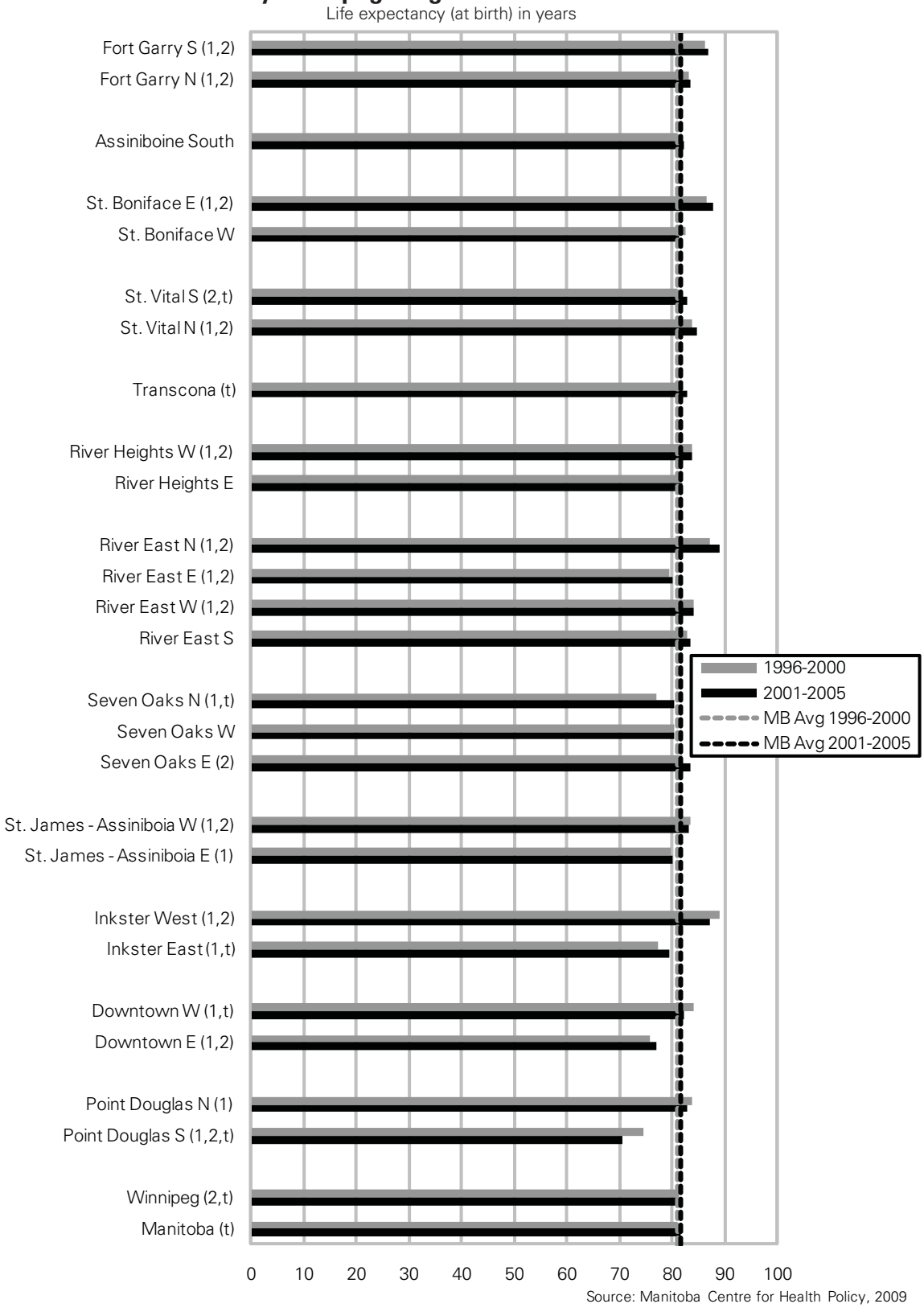
## Figure 3.6.2: Female Life Expectancy by District

Life expectancy (at birth) in years




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.6.3: Female Life Expectancy by Winnipeg Neighbourhood Clusters**




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Life expectancy for females in Manitoba increased from 80.9 to 81.5 years.
- In most areas the increase was small, but reached significance in Central, Winnipeg, and North Eastman RHAs and the Mid aggregate area.
- Values for the North decreased slightly, but not significantly.
- Female life expectancy was particularly high in the Brandon Southwest district.
- Life expectancy values in both time periods were related to premature mortality rates at RHA and aggregate levels. As expected, areas with less healthy populations had lower life expectancy.
- There were strong relationships between income and female life expectancy in urban and rural areas both time periods: life expectancy was shorter for residents of lower income areas (Appendix 2). Because of the method by which life expectancy values are calculated, these trends could not be statistically tested; however, the trends in the data are clear and strong.

### Comparison to other findings:

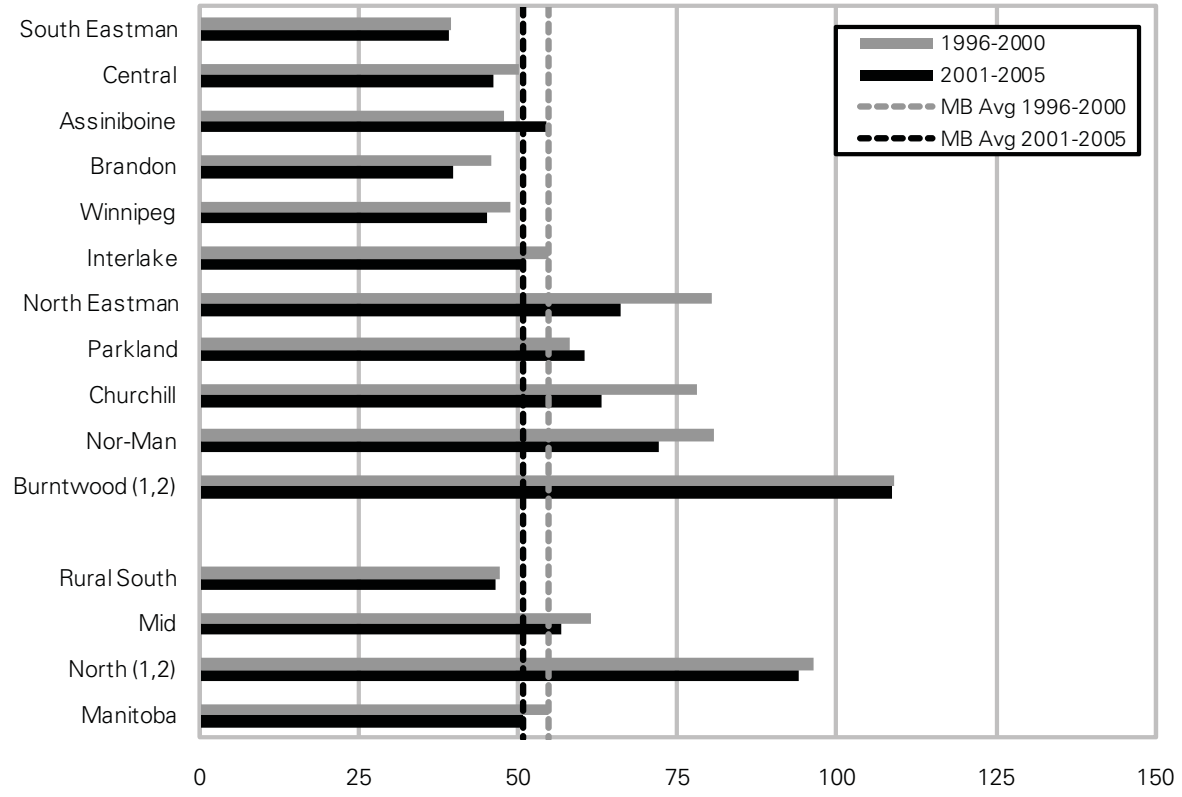
- These values are consistent with decreasing mortality rates and decreasing potential years of life lost (Section 3.7).
- The 0.6 year increase in life expectancy for females found in this report suggests a slight improvement over the stable values shown in the 2003 Atlas.
- Life Expectancy values from Statistics Canada (CANSIM Table 102–0511) were very similar, and revealed that Manitoba values were slightly below Canadian averages:
    - Manitoba: 80.7 and 81.4 (Time 1 and Time 2)
    - Canada: 81.5 and 82.4

## 3.7 Potential Years of Life Lost (PYLL)

Definition: The number of potential years of life lost among area residents dying between the ages of 1 and 74, per 1,000 residents age 1–74. For each death, the PYLL value is calculated as: PYLL = 75–age at death. PYLL is more sensitive than other mortality indicators to deaths at young ages; see glossary for more details. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 3.7.1: Potential Years of Life Lost by RHA**

Age- and sex-adjusted annual rate of PYLL per 1,000 residents aged 1-74

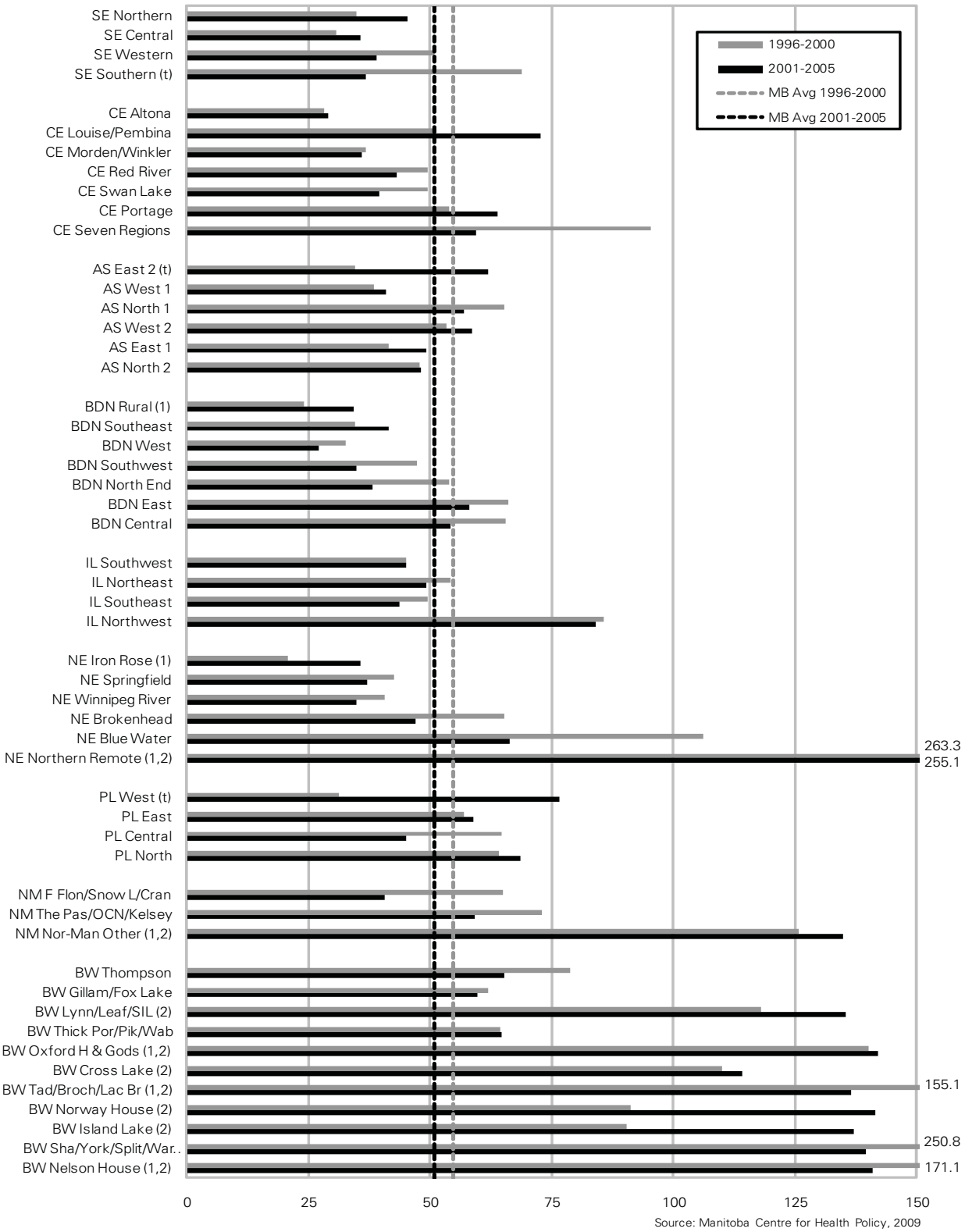



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 3.7.2: Potential Years of Life Lost by District

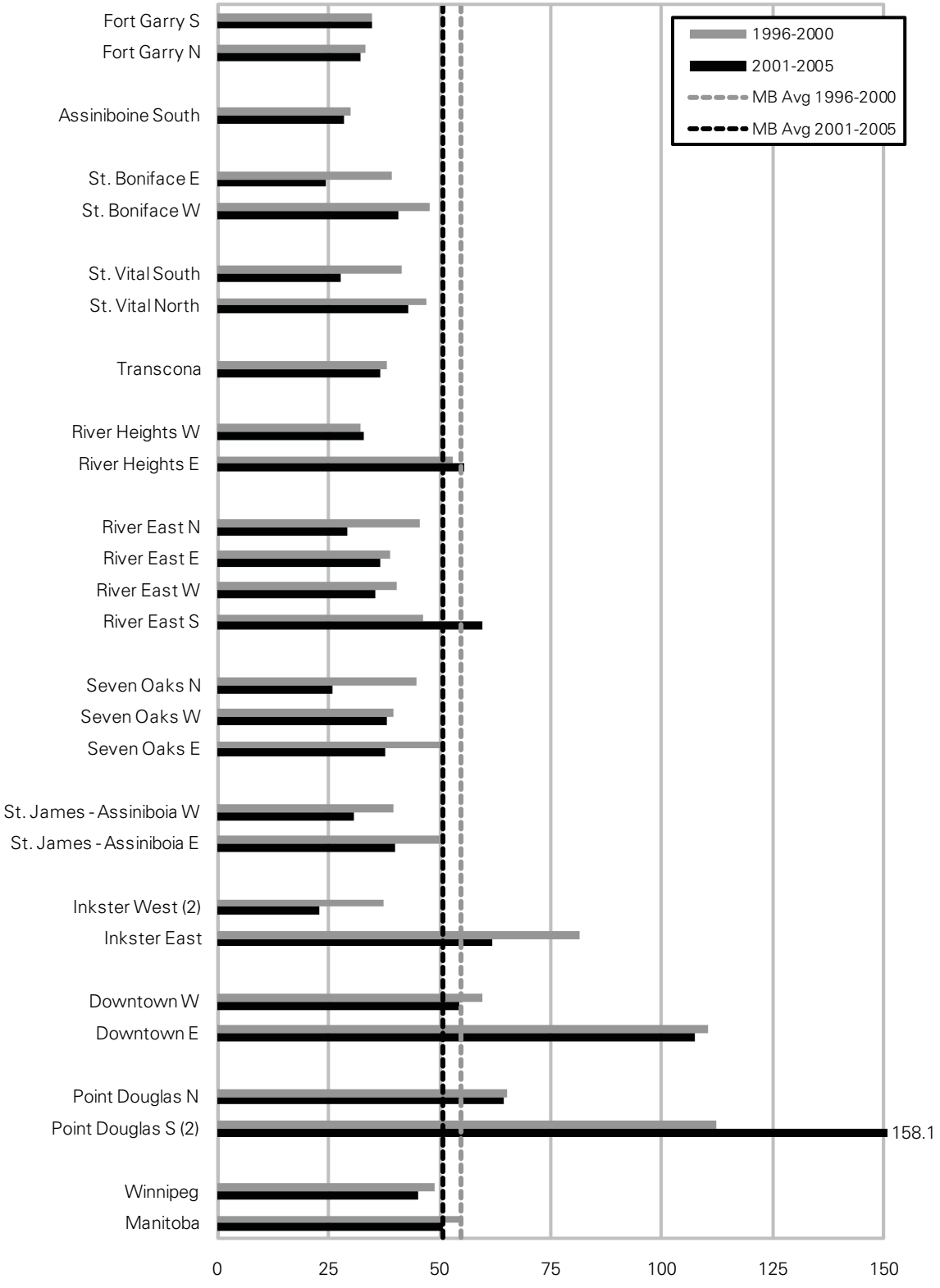
Age- and sex-adjusted annual rate of PYLL per 1,000 residents aged 1-74




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.7.3: Potential Years of Life Lost by Winnipeg Neighbourhood Clusters**

Age- and sex-adjusted annual rate of PYLL per 1,000 residents aged 1-74




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of potential years of life lost decreased slightly but not significantly from 54.8 to 50.9 years per 1,000 residents age 1–74.
- PYLL values in both time periods were related to premature mortality rates at the RHA and aggregate levels. As expected, areas with less healthy populations had higher PYLL values.
- Rates were higher than average in the North and slightly (but not significantly) lower than average in the Rural South.
- Rates were particularly high in the Northern Remote district of North Eastman, several districts of Burntwood, and the Point Douglas South area of Winnipeg.
- There were strong relationships between income and PYLL rates in urban and rural areas in both time periods: PYLL rates were higher for residents of lower income areas (Appendix 2). Rates for the lowest income quintile areas (rural and urban) were particularly high.

## Comparison to other findings:

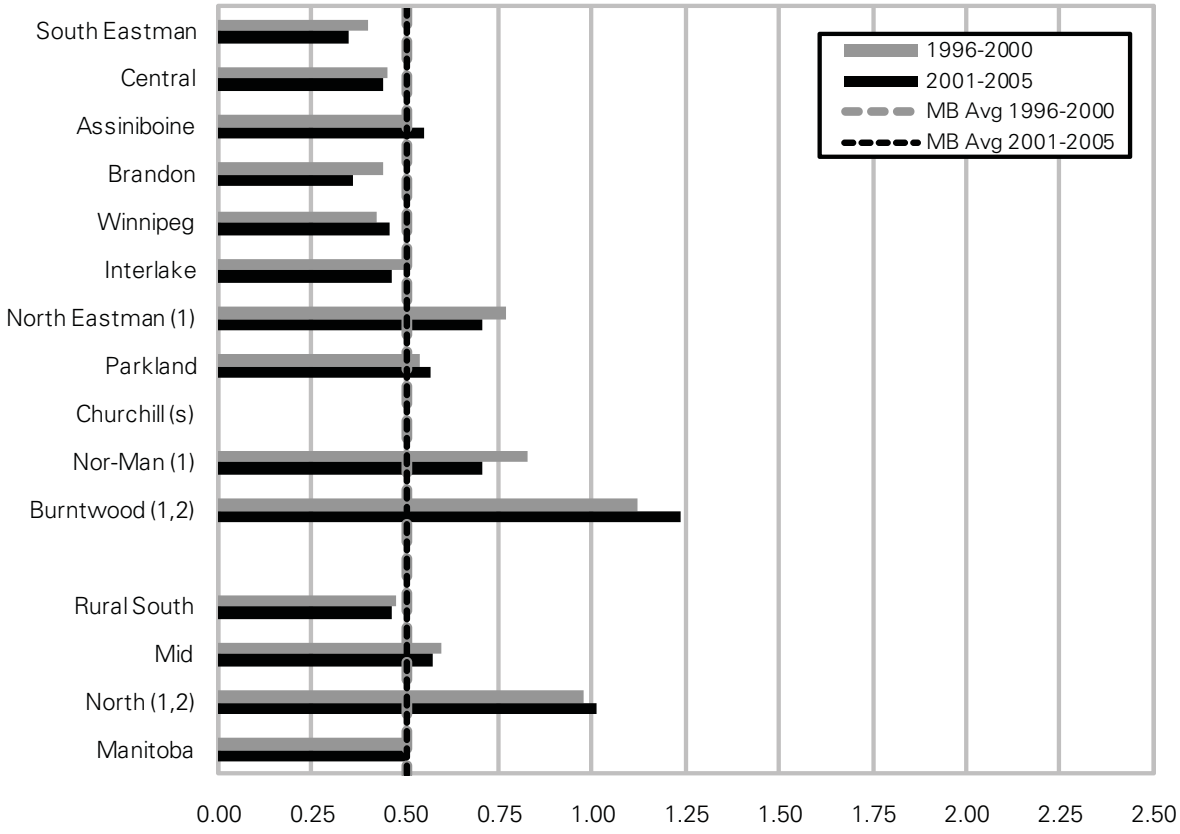
- The small decrease in rates of potential years of life lost found in this report are a slight improvement over the stable values shown in the 2003 Atlas.
- Statistics Canada data for 2001 show the PYLL rate for Manitoba was 61.1, higher than the national average of 51.0. The values in this report (54.8 and 50.9) are lower than those reported by Statistics Canada because different age cutoffs were used: this report used residents age 1–74, whereas Statcan used 0–74. Manitoba values for 0–74 would have been 61.1 in Time 1, and 59.2 in Time 2 (CANSIM Table 102–0311).

## 3.8 Injury Mortality Rates

Definition: The number of deaths due to injury, per 1,000 area residents per year, based on Vital Statistics death codes. This included all 'E–codes' in the ICD–9–CM system (1996–1999) and the corresponding codes in ICD–10–CA (2000–2005), except those codes for misadventures, reactions, complications, or adverse effects of medical, surgical or pharmaceutical treatments (see Glossary for list of codes). Suicides were included in injury mortality rates and are also shown separately in Section 3.10. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 3.8.1: Injury Mortality Rates by RHA**

Age- & sex-adjusted annual rates of deaths from all injuries per 1,000 residents

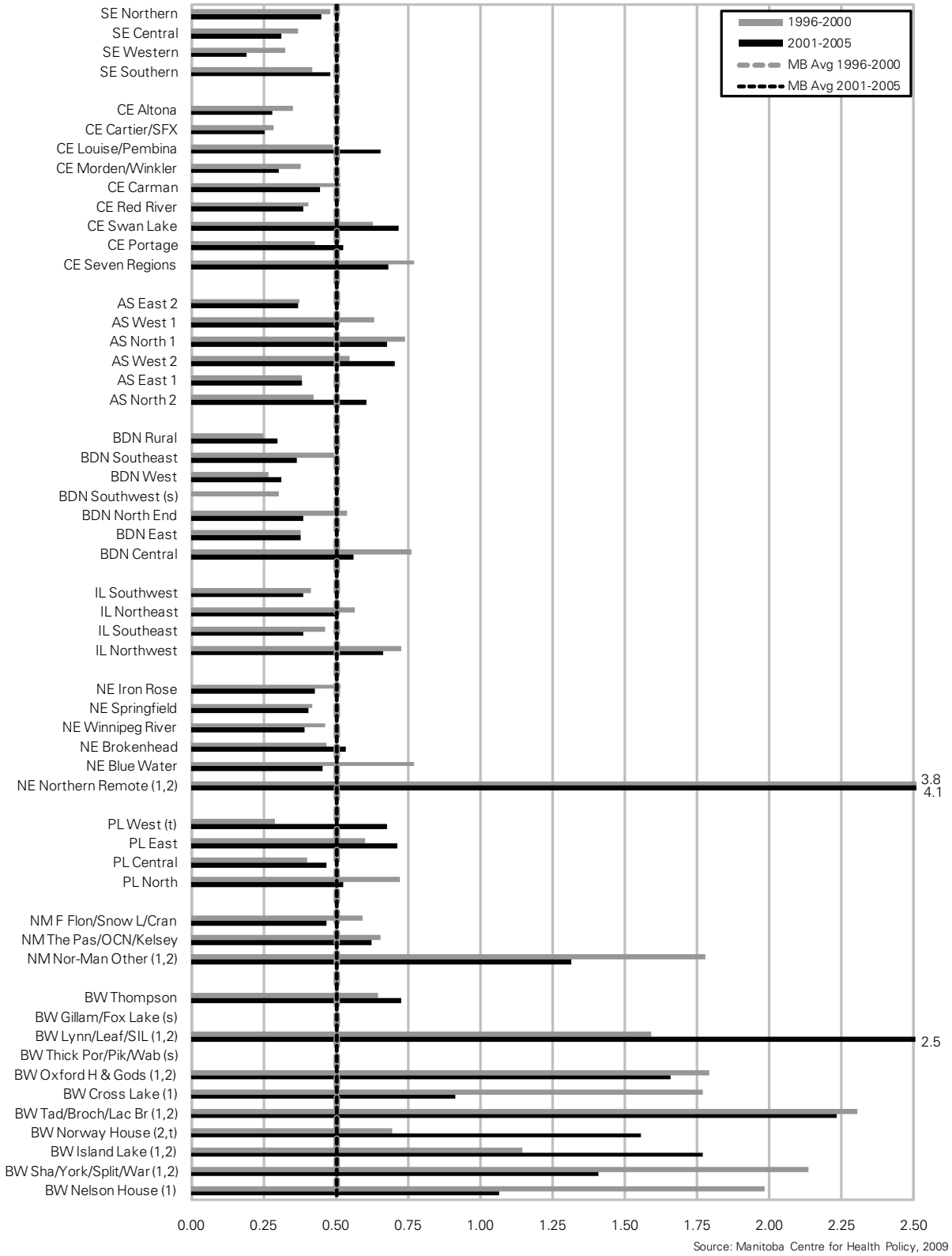



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 3.8.2: Injury Mortality Rates by District

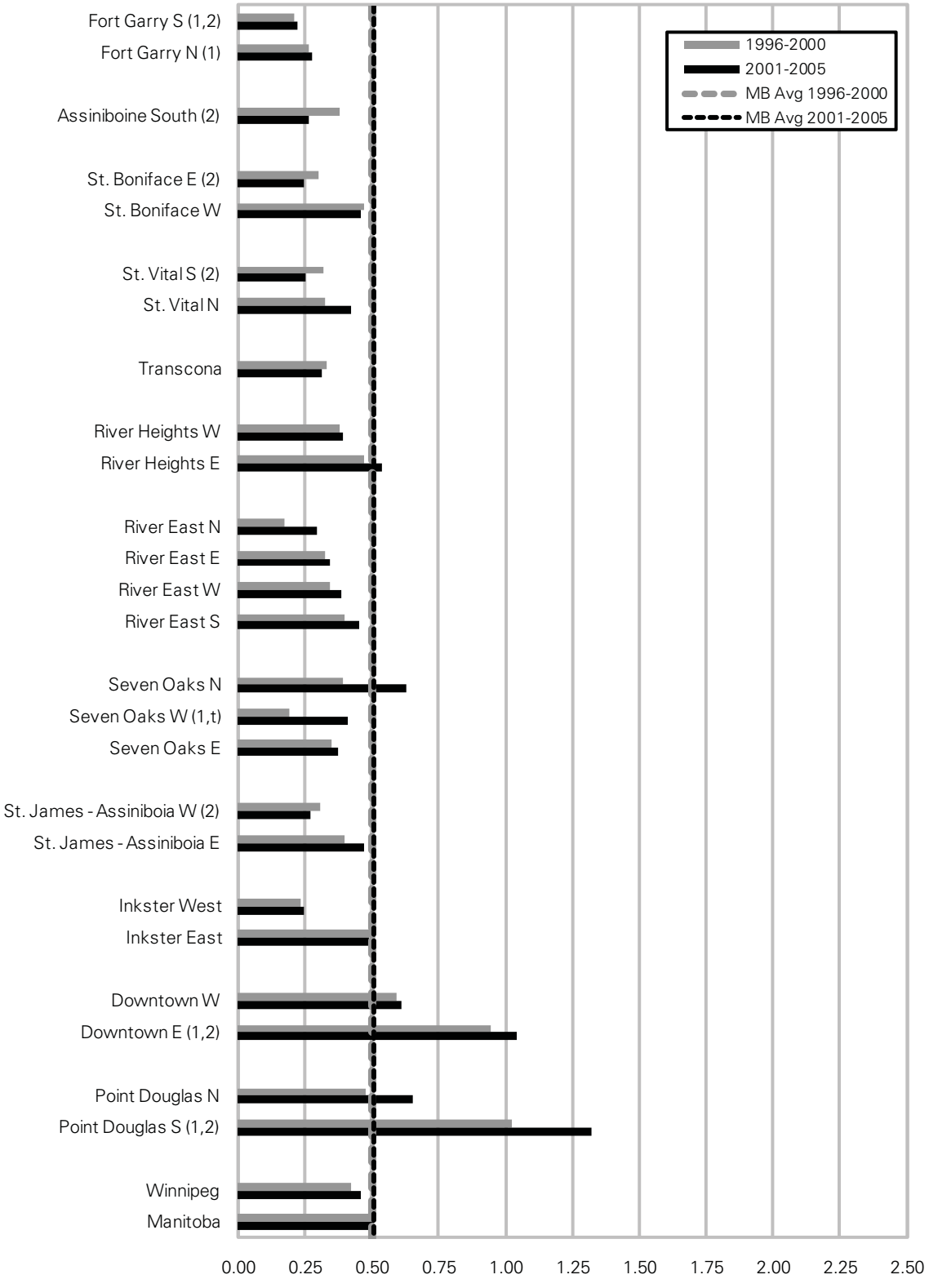
Age- & sex-adjusted annual rates of deaths from all injuries per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.8.3: Injury Mortality Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates of deaths from all injuries per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Injury mortality rates were stable at 0.50 deaths per 1,000 population. Virtually all sub–areas also had stable rates.
- Rates for the North were higher than the provincial average in both periods.
- Rates in the Northern Remote district of North Eastman RHA were particularly high, as were rates in several districts of Burntwood RHA. A portion of these deaths were suicides, shown separately in Section 3.10.
- There were strong relationships between income and injury mortality rates in urban and rural areas in both time periods: injury mortality rates were significantly higher for residents of lower income areas (Appendix 2).

## Comparison to other findings:

- Injury mortality rates were stable over time, which suggests an improvement over the previous trend of increasing rates shown in the 2003 Atlas.
- National data for 2004 show that the Canadian average rate was 0.43 deaths per 1,000 residents, slightly lower than the Manitoba averages shown in this report (Public Health Agency of Canada, 2004).

## 3.9 Causes of Injury Mortality

Definition: The distribution of causes of injury deaths, by major ICD–9–CM sub–groups of injury causes, based on Vital Statistics files. This included all 'E–codes' in the ICD–9–CM system, excluding those for misadventures, reactions, complications, or adverse effects of medical, surgical or pharmaceutical treatments (see Glossary for list of codes). From January 1, 2000, Vital Statistics data were coded using ICD–10–CA, so these codes were converted to ICD–9–CM codes using the conversion file created by the Canadian Institute for Health Information. Results are shown for Manitoba and the aggregate areas, but not by RHA due to the relatively small number of injury deaths by cause in smaller areas.

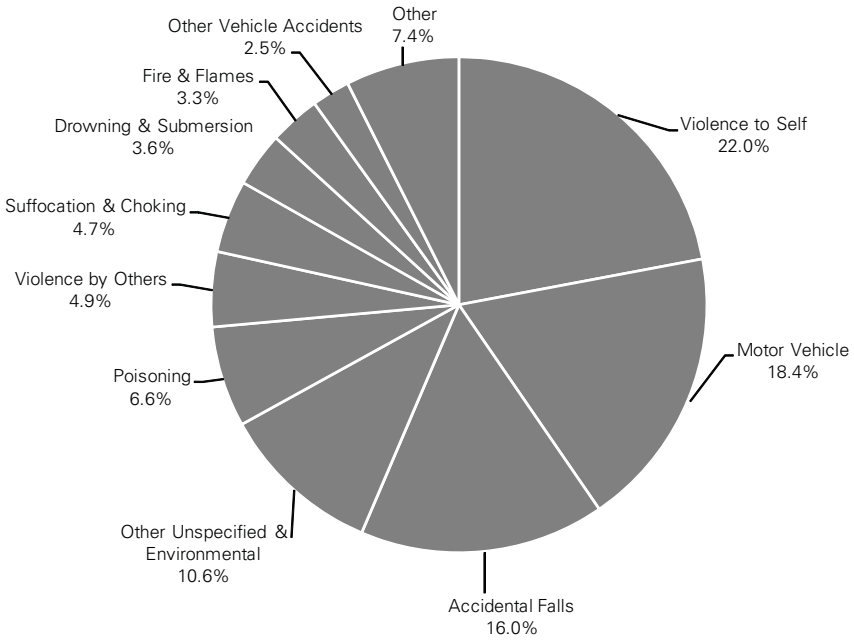
### Key findings:

- In 2001–2005, the leading causes of injury mortality for Manitoba were: violence to self (suicide), accidental falls, motor vehicle related, and poisoning. These were also in the top five in 1996–2000, though the exact ordering was slightly different.
- The leading causes also varied by area, though the rankings need to be interpreted with caution, as they can be affected by relatively small numbers of incidents:
    - For the Rural South and Brandon: motor vehicle, accidental falls, and violence to self.
    - For the Mid areas: motor vehicle, violence to self, and accidental falls.
    - In the North, injury mortality causes were distributed among a larger number of sub–groups (Figures 3.8.4 and 3.8.5). The distribution reflects a distinctly different pattern of injury mortality in the North than other areas of the province.
    - In Winnipeg, accidental falls were the leading cause, associated with 25% of all deaths, followed by violence to self and motor vehicle.

### Comparison to other findings:

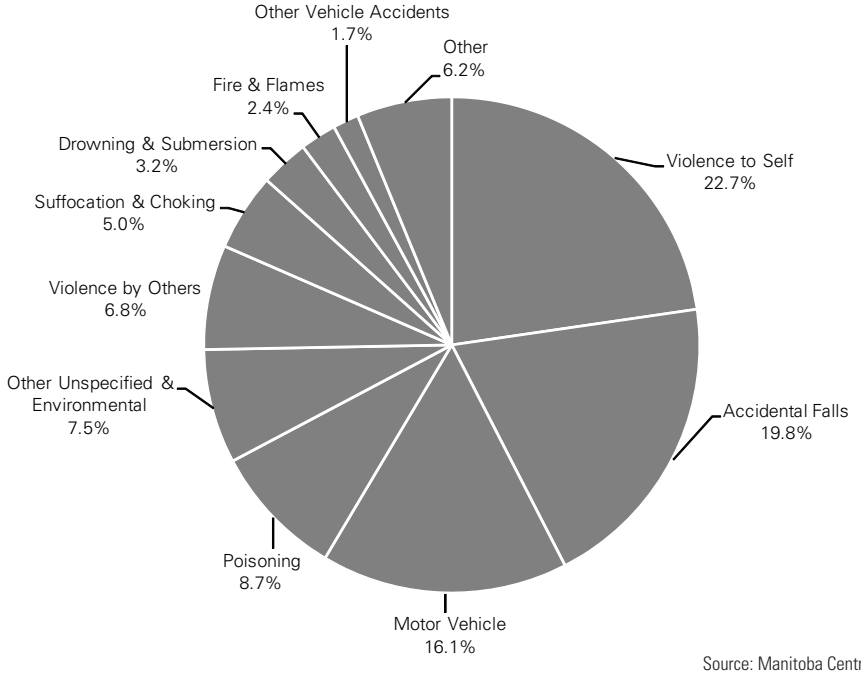
- Although somewhat different groupings were used, results from the Public Health Agency of Canada for 2004 suggest a similar ranking for Canada: suicide, motor vehicle crashes, falls, other unintentional injuries, and poisoning were the leading causes (Public Health Agency of Canada, 2004).

**Figure 3.9.1: Causes of Injury Deaths**
**Manitoba, 1996-2000**



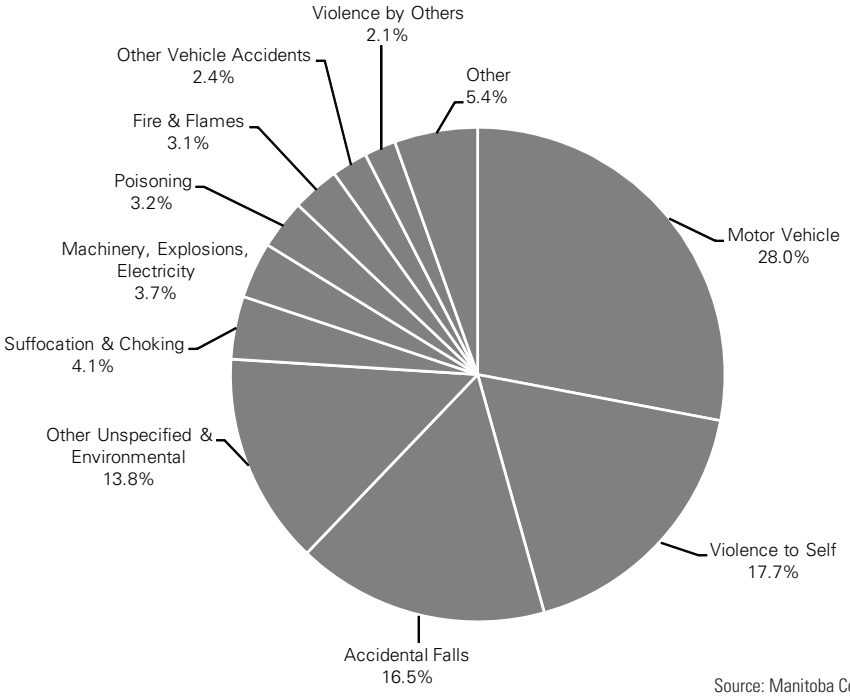

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.2: Causes of Injury Deaths**
**Manitoba, 2001-2005**



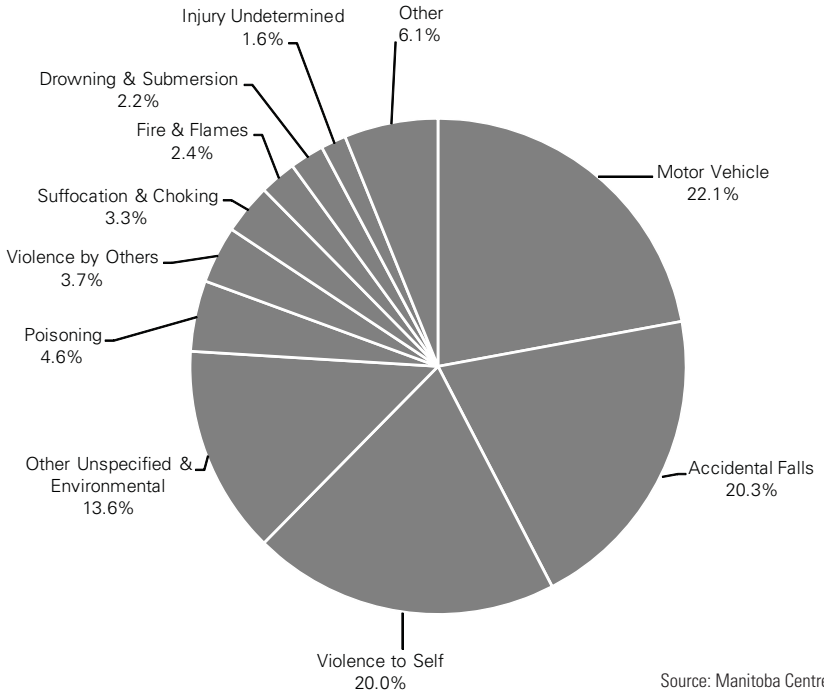

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.3: Causes of Injury Deaths**
**Rural South & Brandon, 1996-2000**



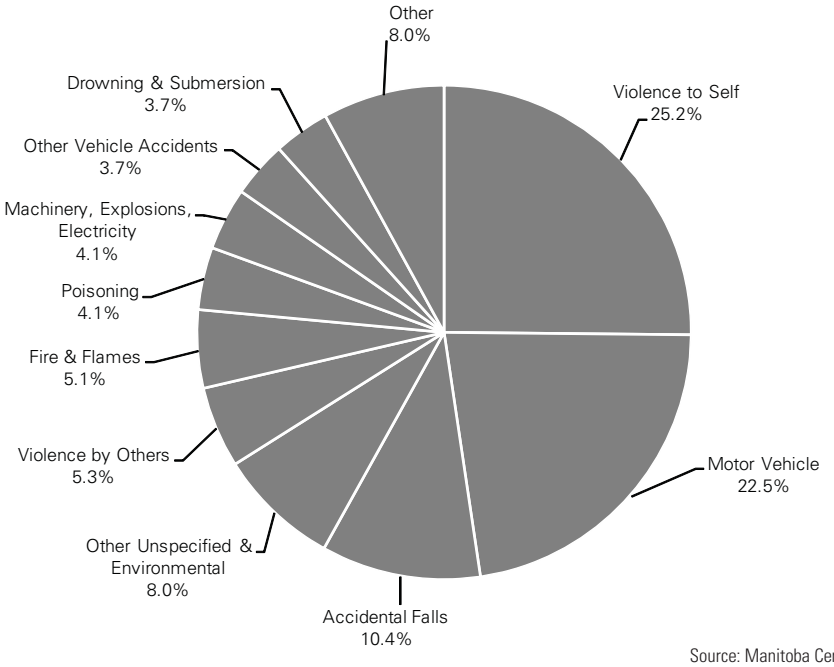

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.4: Causes of Injury Deaths**
**Rural South & Brandon, 2001-2005**



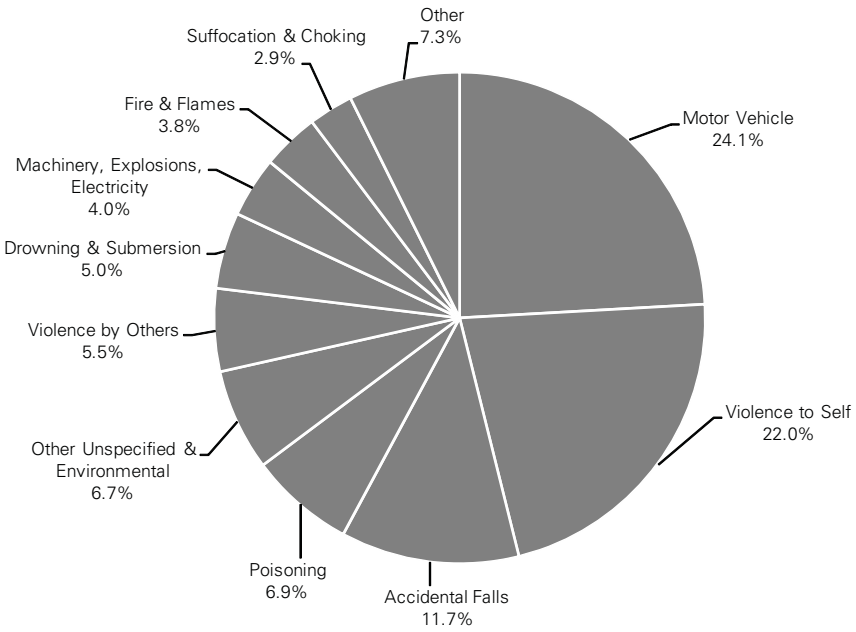

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.5: Causes of Injury Deaths**
**Mid, 1996-2000**



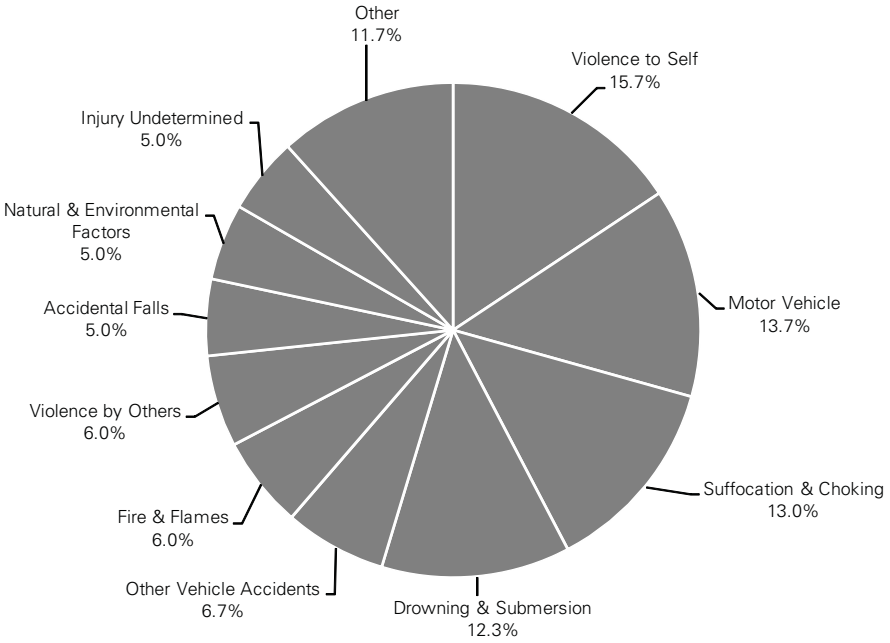

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.6: Causes of Injury Deaths**
**Mid, 2001-2005**



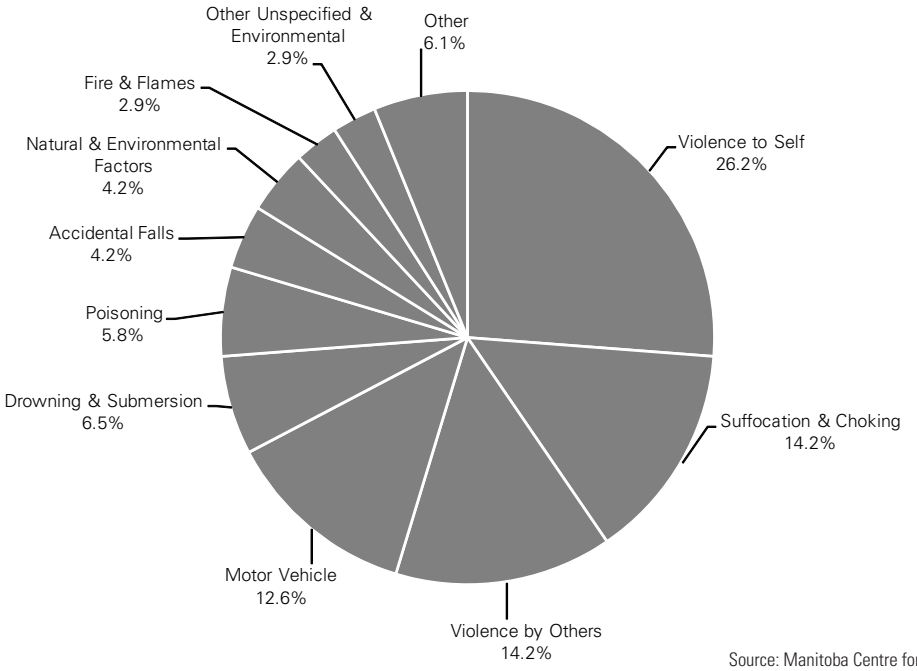

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.7: Causes of Injury Deaths**
**North, 1996-2000**



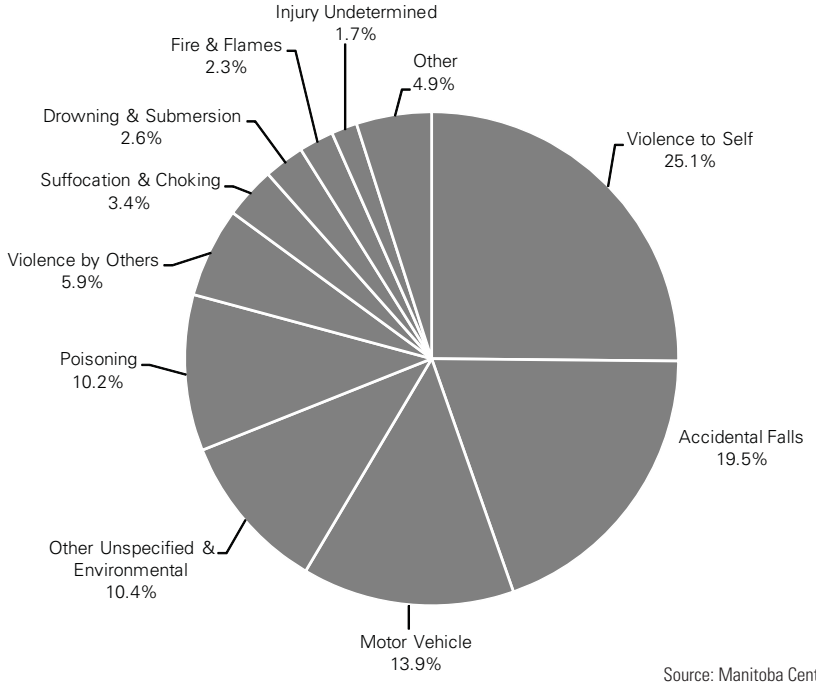

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.8: Causes of Injury Deaths**
**North, 2001-2005**



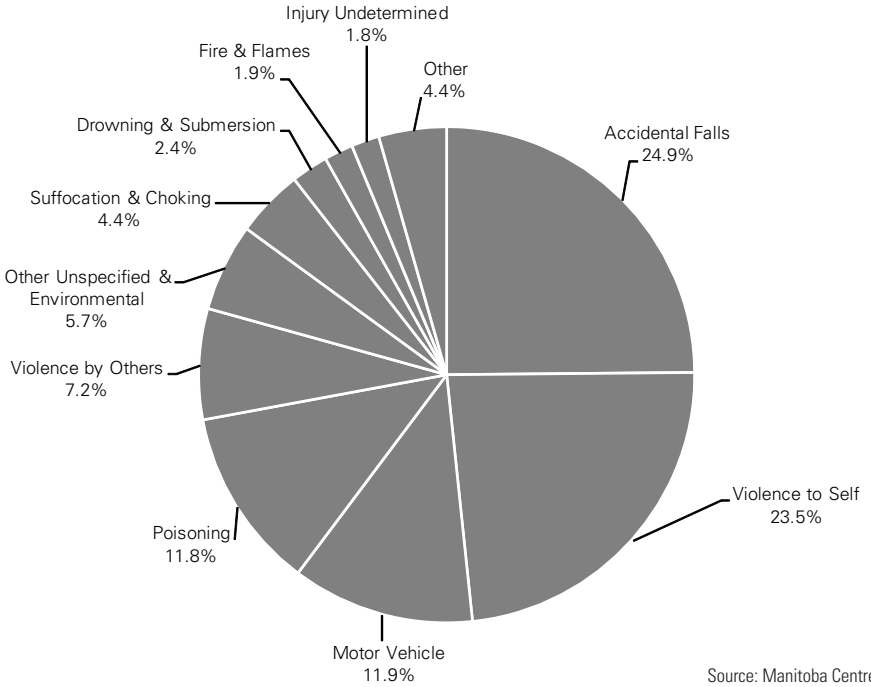

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.9: Causes of Injury Deaths**
**Winnipeg, 1996-2000**




Source: Manitoba Centre for Health Policy, 2009

**Figure 3.9.10: Causes of Injury Deaths**
**Winnipeg, 2001-2005**



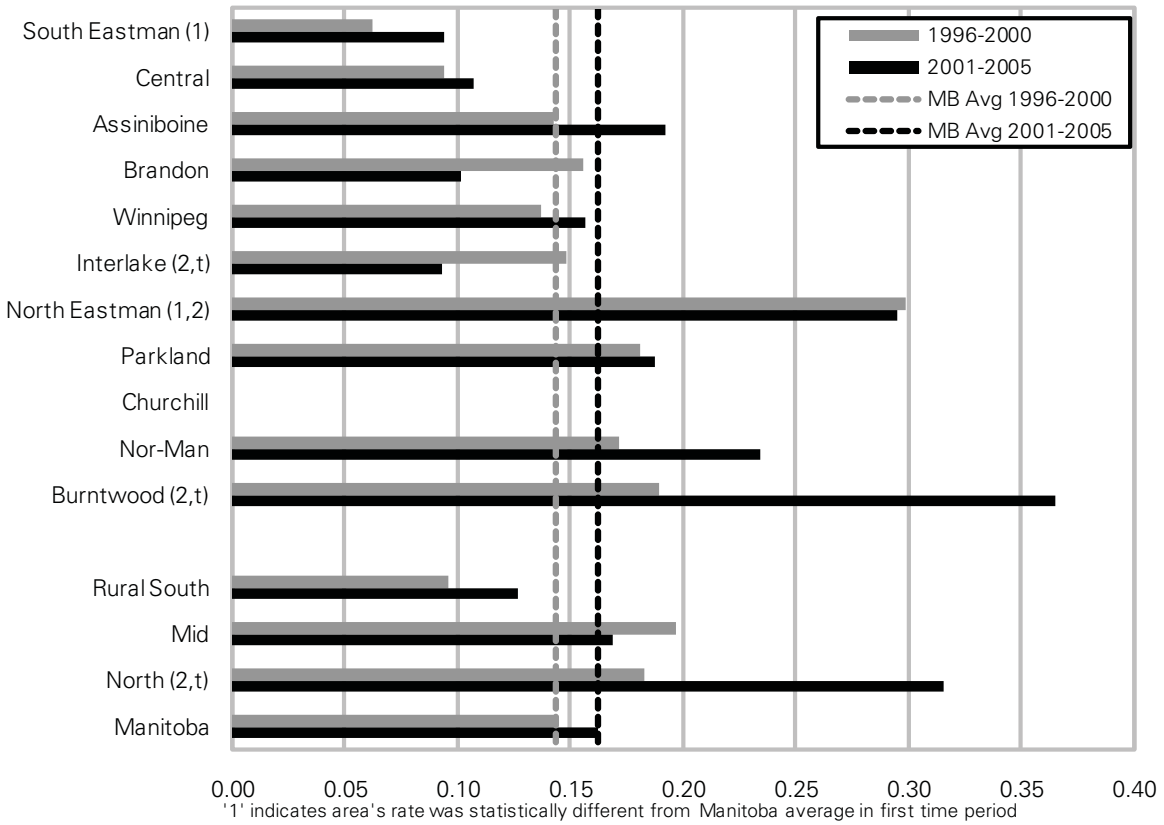

Source: Manitoba Centre for Health Policy, 2009

## 3.10 Suicide Rates

Definition: The number of deaths due to suicide among residents age 10+, per 1,000 area residents age 10+, per year. A relatively 'inclusive' definition was used in an attempt to overcome suspected under–counting of suicides in administrative data. See the Glossary for the list of ICD codes used to define suicide. Results are shown by RHA but not by District, due to the relatively small number of suicides in smaller areas. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 3.10.1: Suicide Rates by RHA**

Age- & sex-adjusted annual rate per 1,000 residents aged 10+

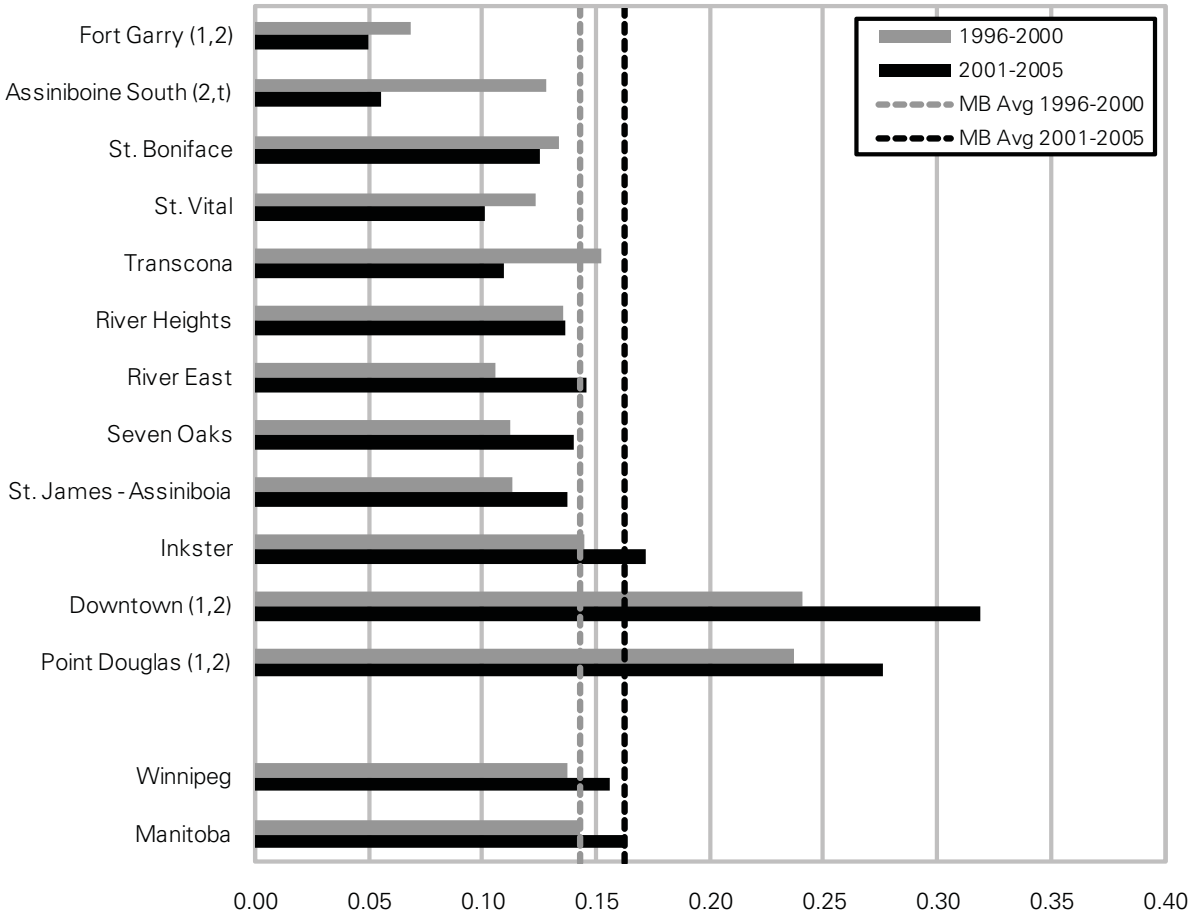



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 3.10.2: Suicide Rates by Winnipeg Community Area**

Age- & sex-adjusted annual rate per 1,000 residents aged 10+




'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The suicide rate in Manitoba increased slightly but not significantly from 0.14 to 0.16 per 1,000 residents age 10+ per year.
- Rates for Rural South residents appear to be lower than average, but this difference did not reach statistical significance (very close in Time 1).
- For residents of the North, rates were slightly (non–significantly) higher than average in the first time period, but increased significantly over time, resulting in a markedly higher than average rate in Time 2.
- Rates in North Eastman RHA were also higher than average in both time periods, and this contributed to their high rates of injury mortality (Section 3.8)
- Burntwood RHA had a significant increase over time, while Interlake had a significant decrease—making its rate significantly lower than average in Time 2.
- There were strong relationships between income and suicide rates in both time periods for urban and rural areas: suicide rates were higher for residents of lower income areas. In particular, residents of the lowest income quintile areas (urban and rural) had high suicide rates in both periods (Appendix 2).

### Comparison to other findings:

- These results are comparable to those in MCHP's 2004 report on Mental Illness, which showed a suicide rate of 0.13 per 1,000 residents age 10+ in 1997–2001.
- The 2008 What Works report provided a longer–term perspective on Suicides and Suicide Attempts combined: it showed that rates were largely stable from 1984 through 2004.
- Statistics Canada reports that in 2001, Manitoba's rate was 0.114 per 1,000, right at the national average of 0.113 (Statistics Canada, 2005b). As of 2005, the national rate was 0.116 (CANSIM Table 102–0551). Differences in data sources, years used, and exact methods likely explain why Statcan values are slightly lower than those shown in this report.

# Chapter 4: Prevalence and Mortality Burden of Physical Illness

## Key findings for Chapter 4

- Over the two time periods studied, the prevalence of hypertension, diabetes, and osteoporosis in Manitoba increased, while that of arthritis, respiratory disease, and ischemic heart disease decreased slightly. However, the changes varied considerably by disease and across geographic and socioeconomic groups within Manitoba.
- Five–year mortality rates were higher among those with each of the diseases than those without, and this pattern was reflected in virtually all areas of Manitoba for most diseases. Of the six diseases studied, diabetes showed the greatest difference: the five–year mortality rate for residents with diabetes (11.7%) was more than twice that for those without diabetes (5.3%).
- Rates of heart attacks, strokes and diabetes–related lower limb amputations decreased over time in Manitoba, and these decreases were consistently reflected in most areas of the province.
- All illnesses except osteoporosis were more prevalent among residents of lower income areas, and this pattern held in both urban and rural settings. However, for hypertension and arthritis (the most prevalent illnesses analyzed), the associations with income were relatively modest in comparison with other indicators.
- The slight decrease in the prevalence of respiratory diseases seems contrary to the often–cited increase in the prevalence of asthma, especially among children. However, supplementary analyses suggest that asthma prevalence may be confounded by 'diagnostic exchange' with bronchitis. Concerns about the increasing prevalence of asthma in young children may need to be tempered by the decreasing prevalence of other respiratory diseases. The combined prevalence of total respiratory morbidity may be a better indicator of respiratory disease burden in the population than prevalence of individual diseases.

## Introduction

This chapter is divided into three Sections:

- Part 1 contains prevalence estimates for key chronic diseases, expressed as the percentage of the population that 'has' the disease during each of two time periods. It should be noted that administrative data do not directly indicate who 'has' a given disease, but rather who uses health services for that disease (e.g., physician visits, hospitalization, or prescription drug use). These indicators have been validated against other data sources (e.g., survey data, clinical measures, etc). The diseases with the highest prevalence are presented first.
- Part 2 contains indicators of selected events, expressed as annual event rates because these events could happen to the same person more than once in a given period (e.g., heart attack).
- Part 3 contains a set of indicators which compare five–year mortality rates for those 'with' each of the chronic diseases in Part 1 to those 'without' that disease. These results provide information about the mortality burden associated with each disease.

Each indicator starts with a definition which describes the case definition used to identify residents as having the disease or event. Most definitions use a combination of data from physician visits, hospitalizations, and prescription drug use—all cover the entire population of Manitoba. As of April 1, 2004, hospital claims are coded using the ICD–10–CA system, whereas before that time and for physician claims during both time periods, the ICD–9–CM system was used. The codes used in each system are listed in the definition for each indicator; ICD–10 codes were not converted to ICD–9–CM codes for these indicators.

The disease prevalence indicators are based, in part, on data from physician claims (fee–for–service and 'shadow' billing claims for salaried physicians). The values likely under–estimate the true prevalence of disease in Northern and remote areas where a significant amount of care is delivered by nurses. Also, rates for Churchill can vary substantially over time, some of which is due to irregularity in reporting of physician services in combination with the small population.

Finally, there remains the possibility that a resident with a given chronic disease may not have that diagnosis attributed to them in the time period under study. For example, a resident with diabetes may visit physicians several times, but for reasons other than their diabetes, and so none of those visits would get the diagnosis code for diabetes. In this case, the person would be erroneously classified as not having diabetes in that period. All of the case definitions used in this report have been validated against other data sources (e.g., surveys) and were chosen to provide optimal estimates of population prevalence.

Regarding comparisons to other findings, this report will only refer to results of other MCHP reports. The 2006 report 'Defining and Validating Chronic Diseases' (Lix et al.) provides a more thorough review of literature and comparison of rates for each disease.

# Part 1: Prevalence of Chronic Diseases

## 4.1 Hypertension (High Blood Pressure)

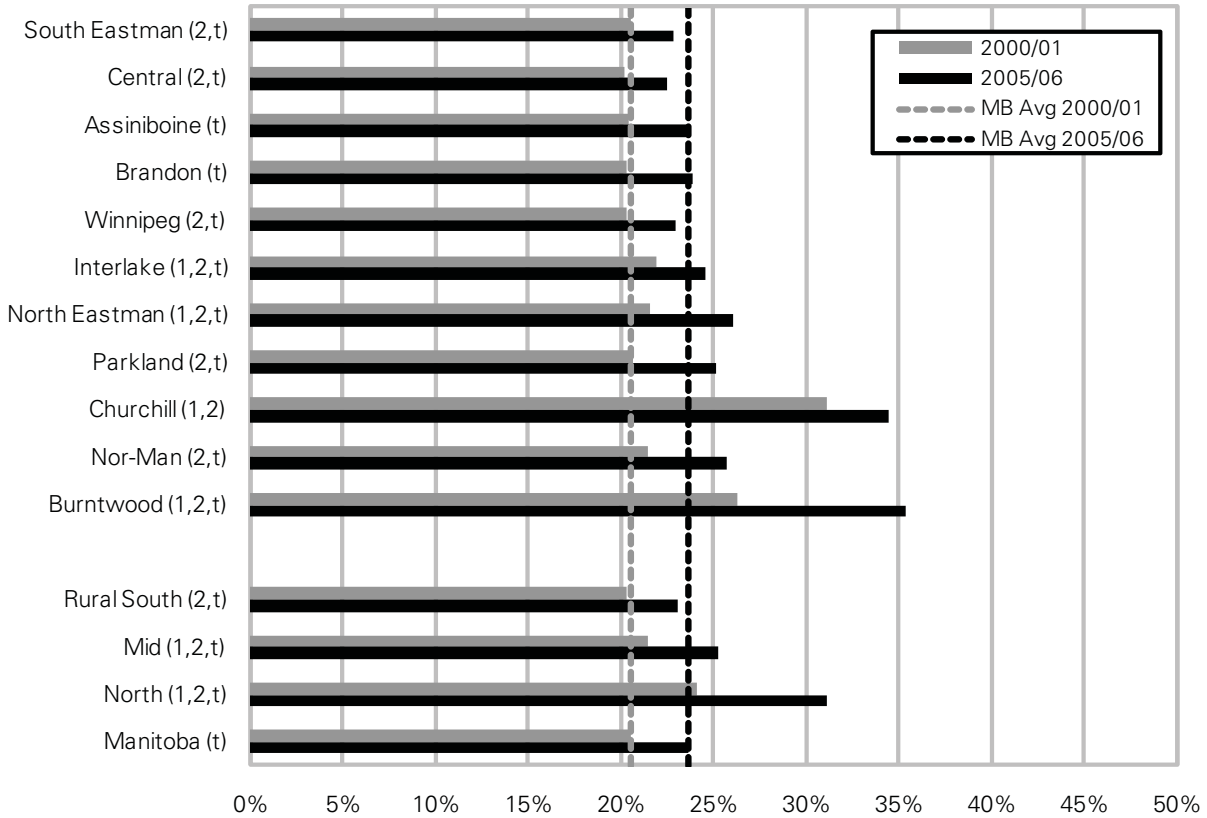
Definition: The proportion of residents age 19 or older diagnosed with hypertension in a one–year period by either:

- at least one physician visit or one hospitalization with an ICD–9–CM code of 401–405 (ICD–10–CA codes I10–I13, I15), or
- two or more prescriptions for hypertension drugs (listed in Glossary).

Values were calculated for two 1–year periods, 2000/01 and 2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period.

**Figure 4.1.1: Hypertension Prevalence by RHA**

Age- & sex-adjusted percent of residents aged 19+ treated for high blood pressure

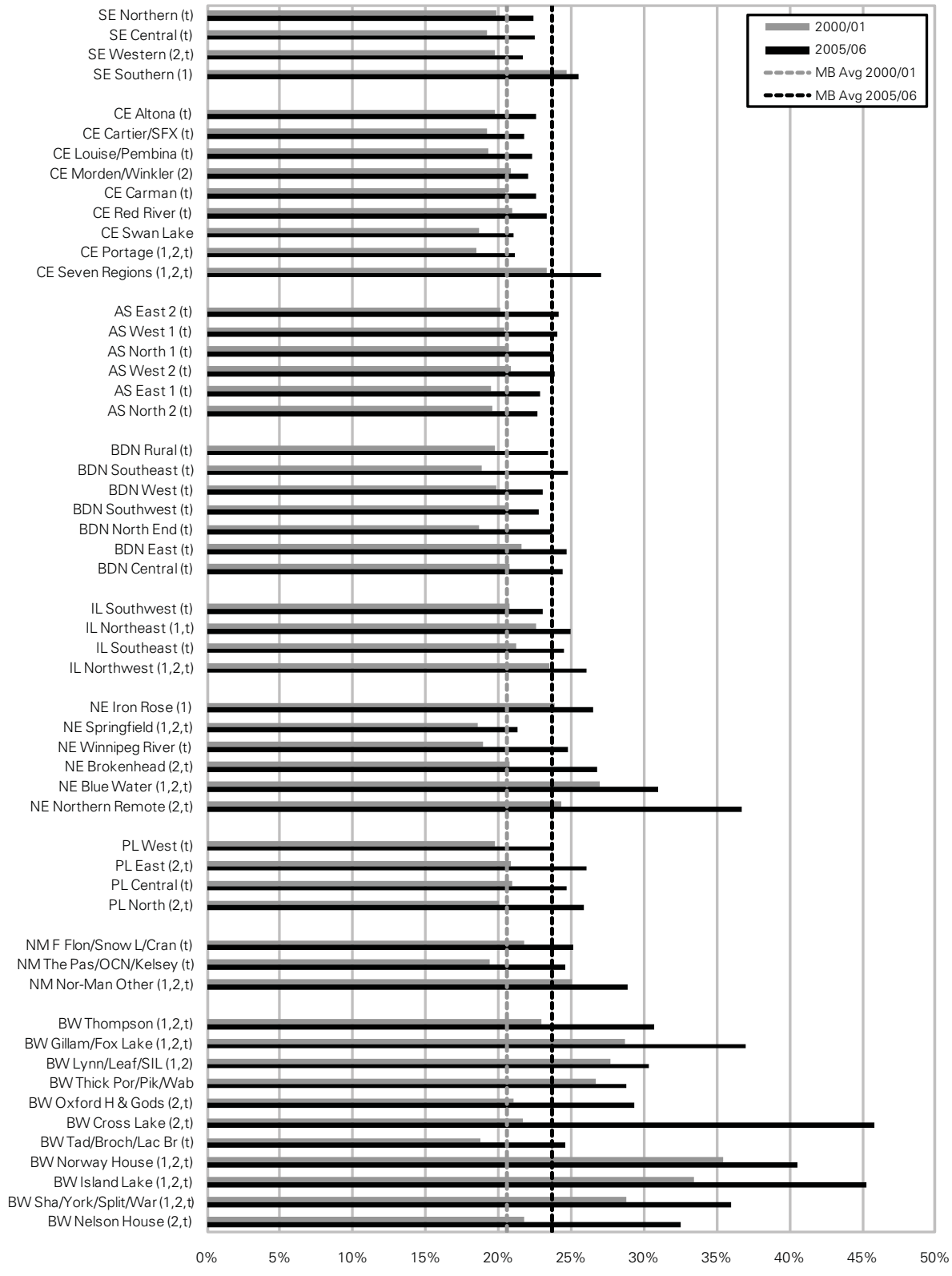



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.1.2: Hypertension Prevalence by District

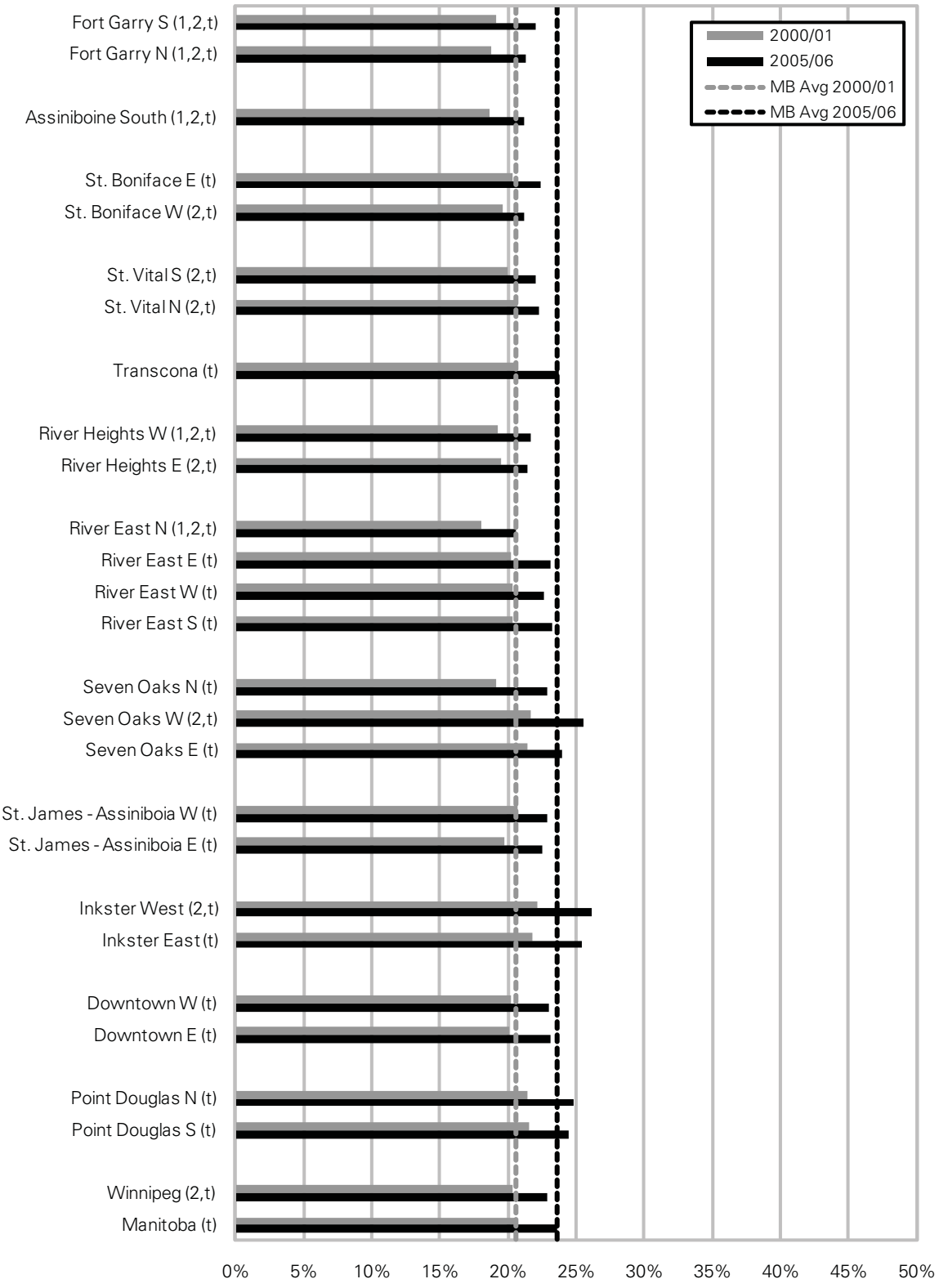
Age- & sex-adjusted percent of residents aged 19+ treated for high blood pressure




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.1.3: Hypertension Prevalence by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 19+ treated for high blood pressure




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Hypertension prevalence increased in Manitoba from 20.6% to 23.7% of the population age 19 or older. Prevalence increased in virtually all RHAs, Districts, and Winnipeg sub–areas.
- Hypertension prevalence was not strongly related to health status at the RHA level, though the highest prevalence values were in the North.
- There were statistically significant but substantively modest relationships between income and hypertension prevalence in urban and rural areas in both time periods: hypertension prevalence was higher among residents of lower income areas (Appendix 2).

### Comparison to other findings:

- The values reported here are consistent with, but slightly different from, those shown in the 2003 Atlas, the Sex Differences report, and the Chronic Disease report because the case definition has changed.
- Results from all reports suggest a continual increase in hypertension prevalence over time.
- See the 2006 Chronic Disease report for a more complete review of literature and comparison to other findings.

## 4.2 Arthritis

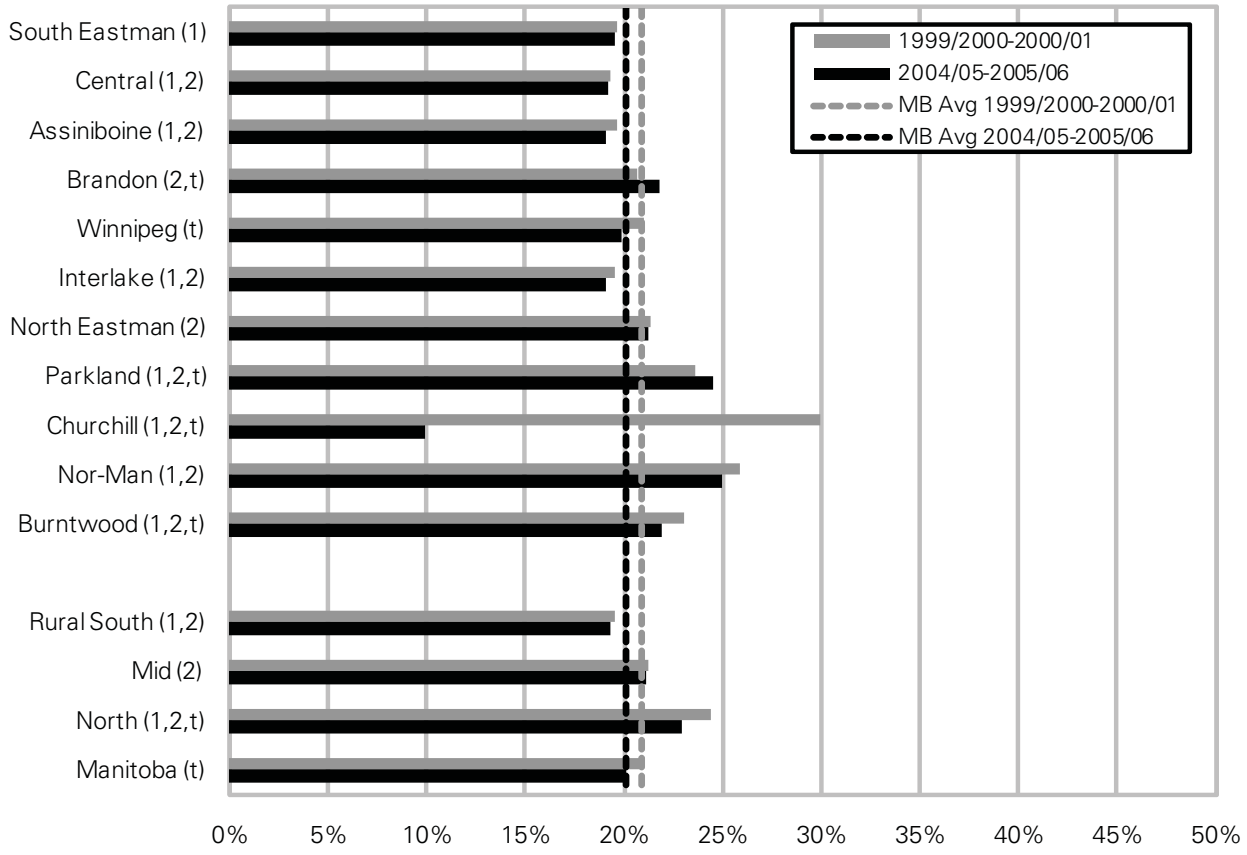
Definition: The proportion of residents age 19 or older diagnosed with arthritis (rheumatoid or osteo–arthritis) in a two–year period, by either:

- at least two physician visits or one hospitalization with an ICD–9–CM code of 274, 446, 710–721, 725–729 or 739 (ICD–10 codes M00–M03, M05–M07, M10–M25, M30–M36, M65–M79), or
- one physician visit with an ICD listed above, and two or more prescriptions for arthritis medications (listed in Glossary).

Values were calculated for two 2–year periods, 1999/00–2000/01 and 2004/05–2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period.

**Figure 4.2.1: Arthritis Prevalence by RHA**

Age- & sex-adjusted percent of residents aged 19+ treated for arthritis

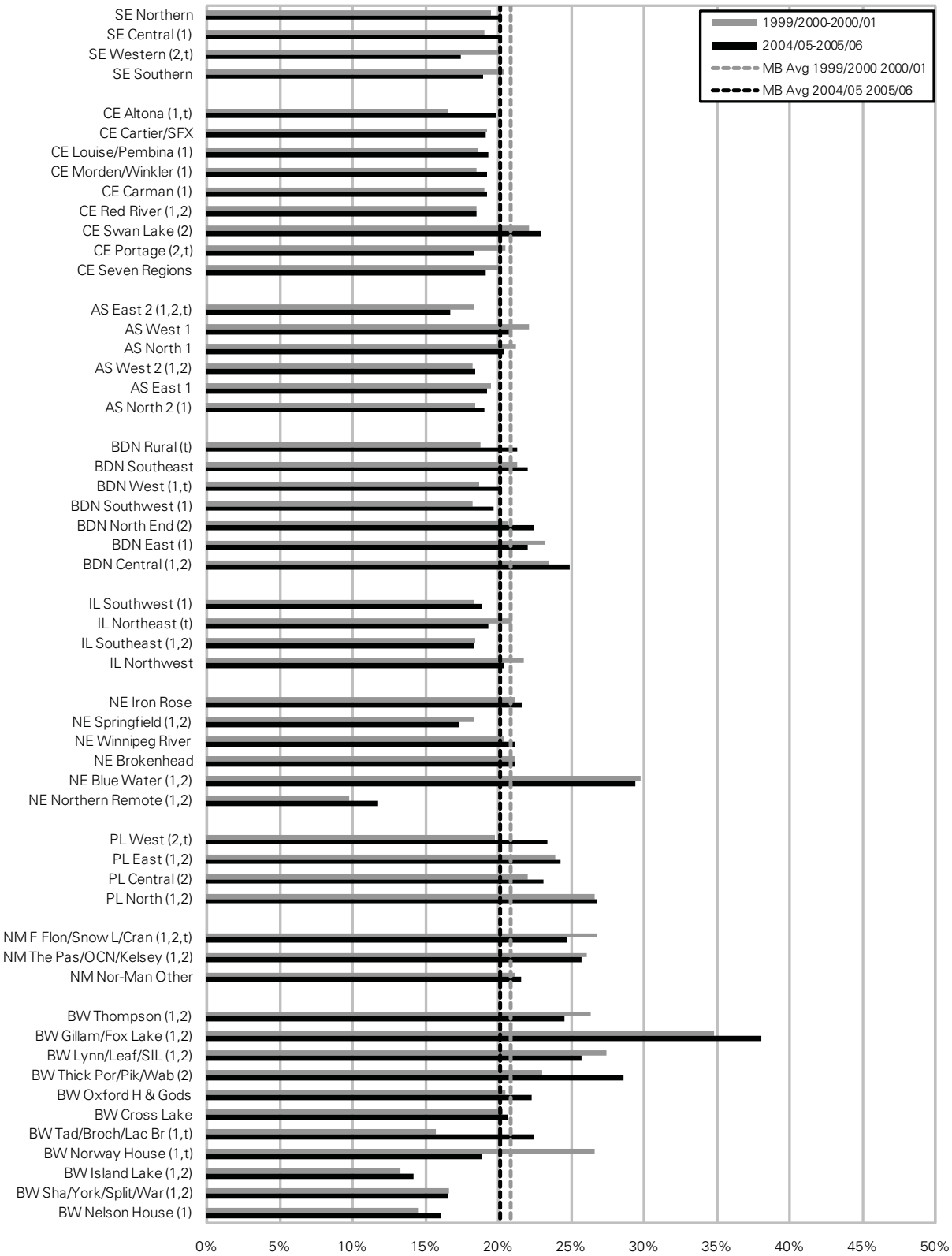



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.2.2: Arthritis Prevalence by District

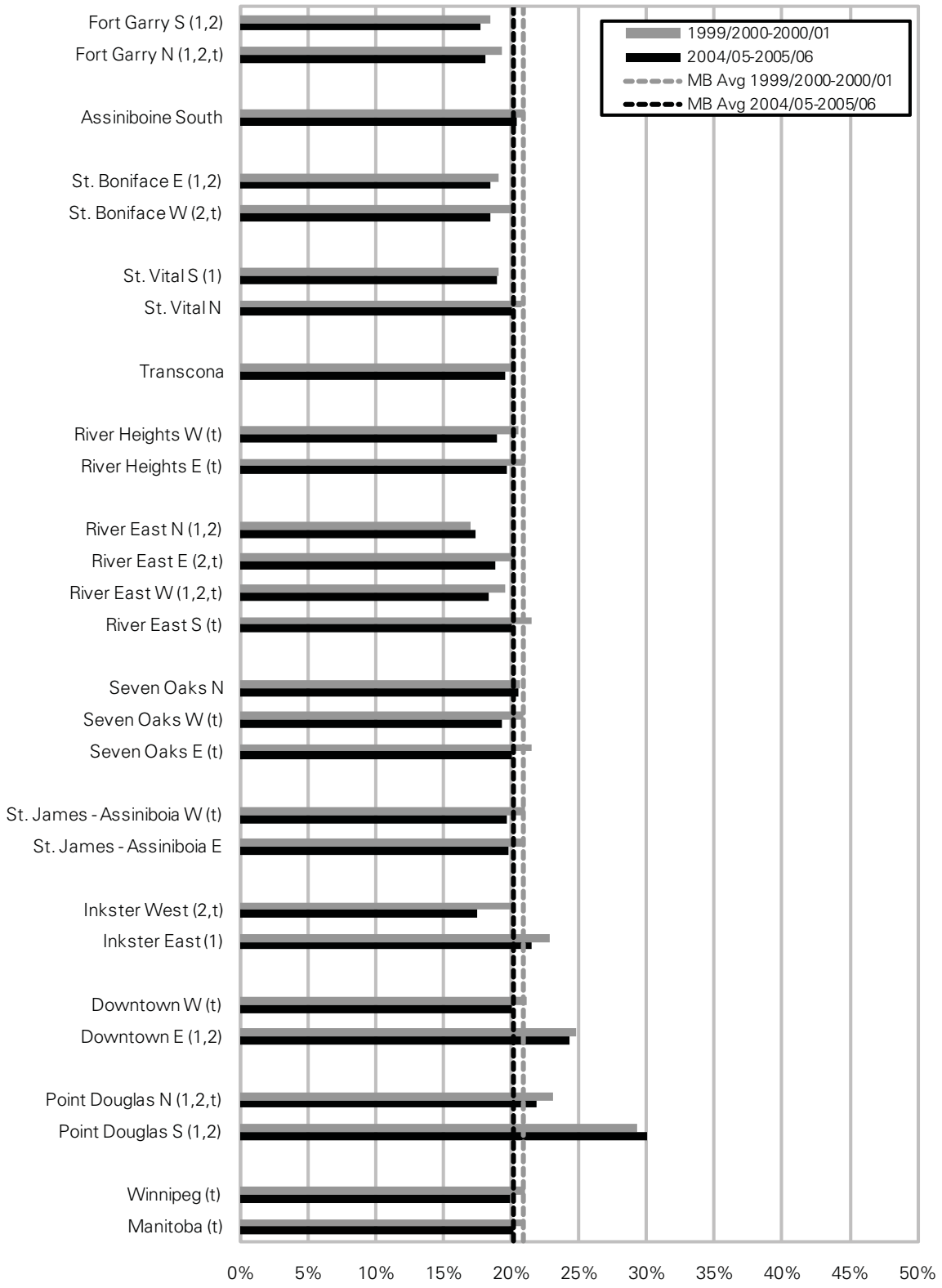
Age- & sex-adjusted percent of residents aged 19+ treated for arthritis




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.2.3: Arthritis Prevalence by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 19+ treated for arthritis




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Arthritis prevalence decreased slightly in Manitoba from 20.9% to 20.2% of the population age 19 or older. This relatively small decrease, while statistically significant, may not be important from a clinical or policy perspective.
- The results varied considerably by area: prevalence decreased in some areas but increased in others, though many of these changes did not reach statistical significance.
- Arthritis prevalence was not strongly related to health status at the RHA level, though the highest prevalence values were in the North.
- There were statistically significant but modest relationships between income and arthritis prevalence in urban and rural areas in both time periods: arthritis prevalence was slightly higher among residents of lower income areas (Appendix 2).

## Comparison to other findings:

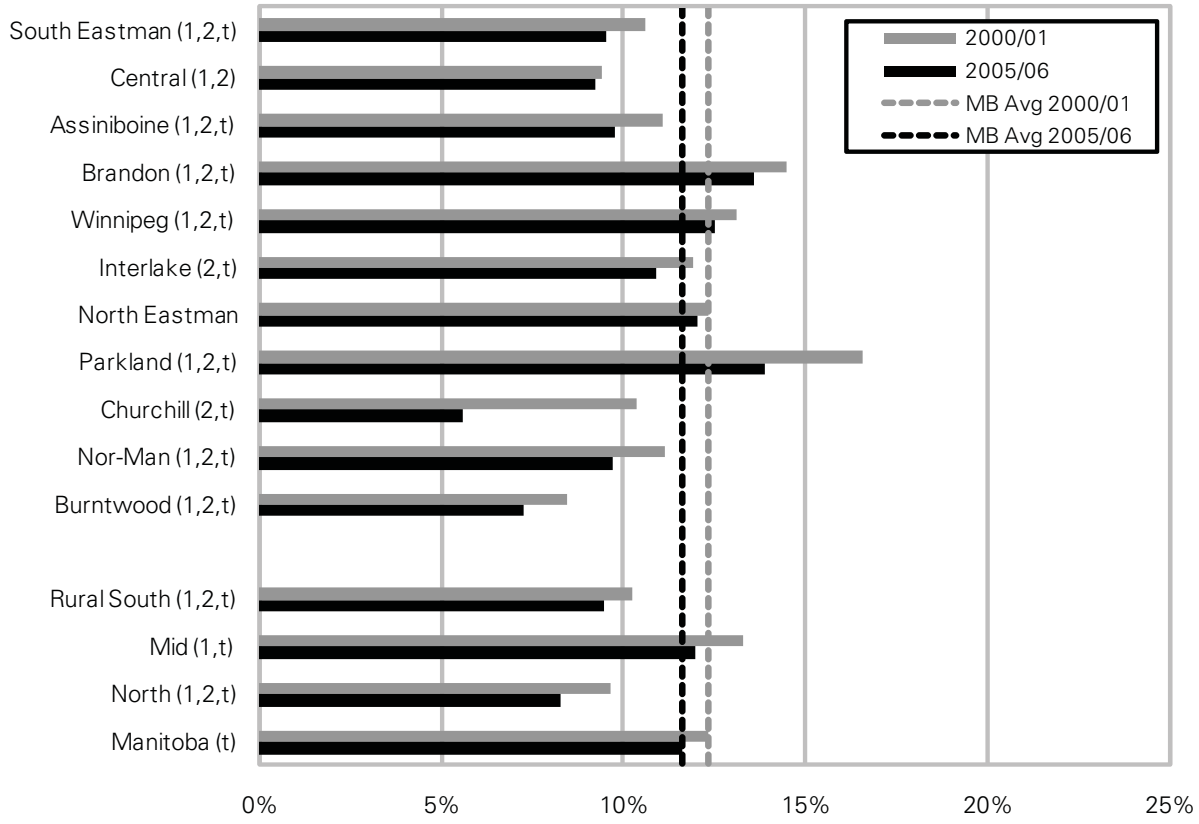
- The values reported here are virtually identical to those shown in the Sex Differences report and the Chronic Disease report. Prevalence was just over 20% in all reports.
- See the 2006 Chronic Disease report for a more complete review of literature and comparison to other findings.

## 4.3 Total Respiratory Morbidity (TRM)

Definition: The proportion of residents (all ages) diagnosed with any of the following respiratory diseases in at least one physician visit or hospitalization in one year: asthma, acute bronchitis, chronic bronchitis, bronchitis not specified as acute or chronic, emphysema, or chronic airway obstruction (ICD–9–CM codes 466, 490, 491, 492, 493, 496; ICD–10 codes J20, J21, J40–J45). This combination of diagnoses is used to overcome problems resulting from different diagnoses being used to describe the same underlying illness (e.g., asthma versus chronic bronchitis). Values were calculated for two 1–year periods, 2000/01 and 2005/06, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 4.3.1: Total Respiratory Morbidity Rates by RHA**

Age- & sex-adjusted percent of residents (all ages) treated for respiratory diseases

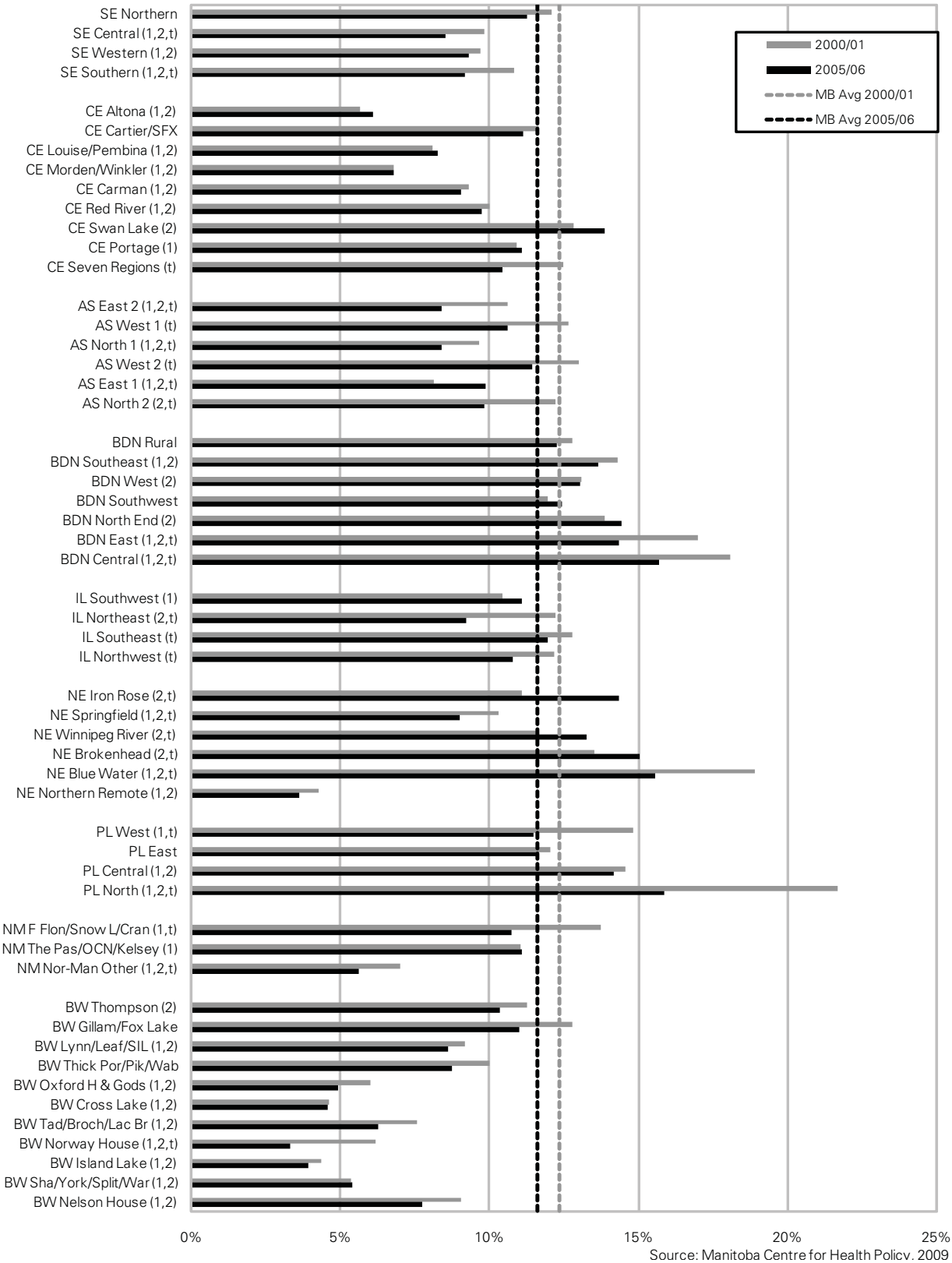



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.3.2: Total Respiratory Morbidity Rates by District

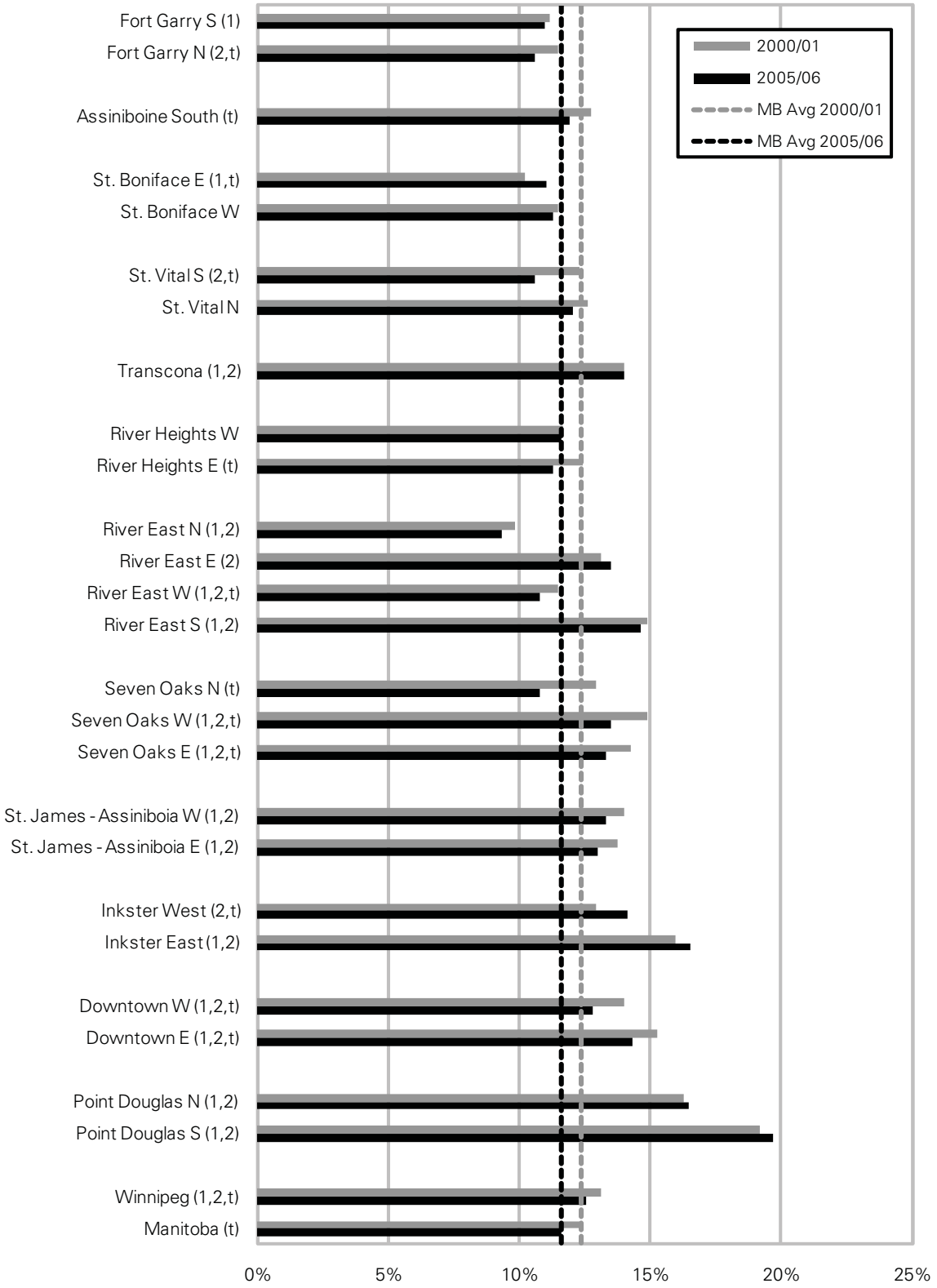
Age- & sex-adjusted percent of residents (all ages) treated for respiratory diseases




Source: Manitoba Centre for Health Policv. 2009

**Figure 4.3.3: Total Respiratory Morbidity Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents (all ages) treated for respiratory diseases




Source: Manitoba Centre for Health Policy, 2009

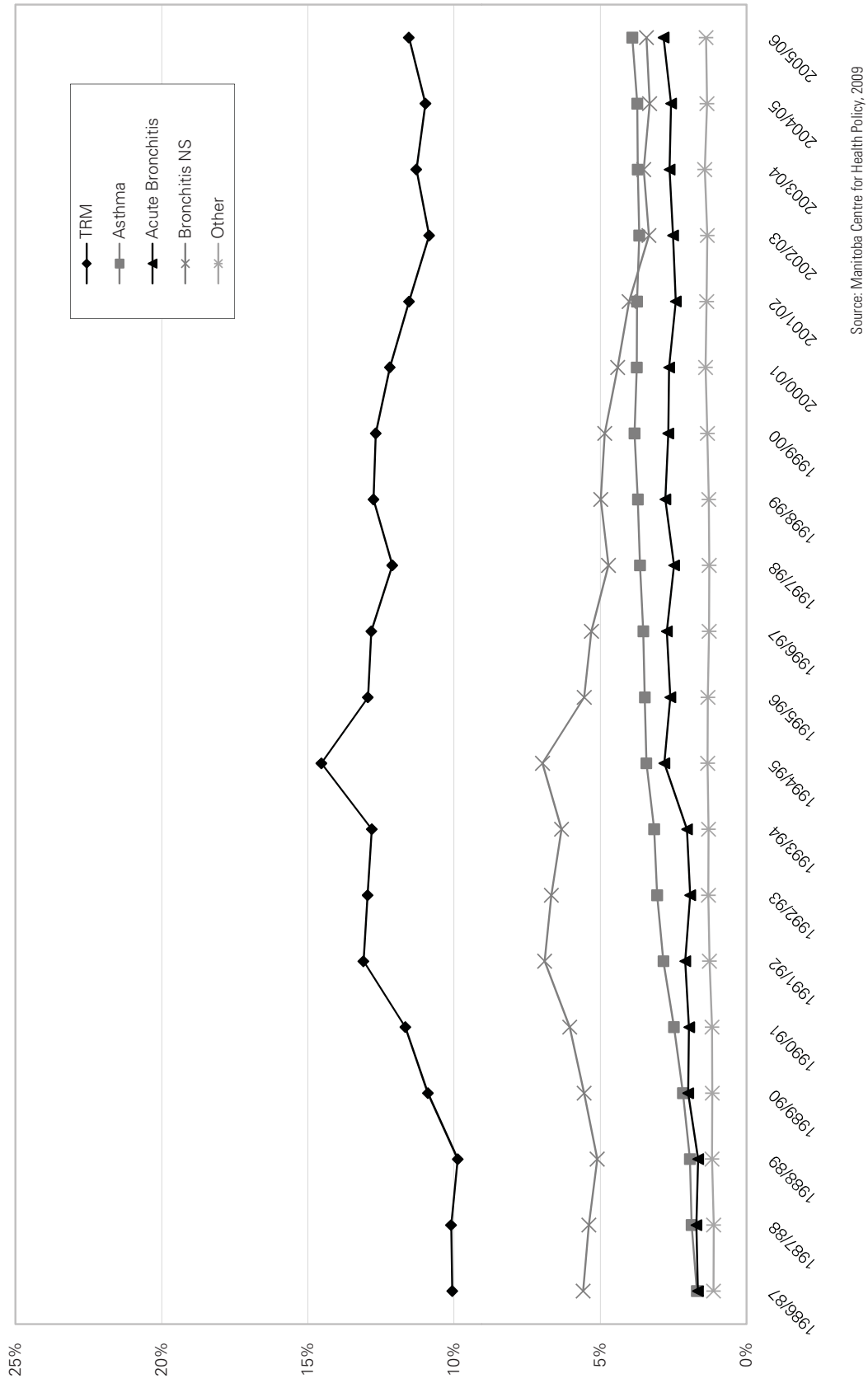
## Key findings:

- Respiratory morbidity prevalence decreased in Manitoba from 12.4% to 11.6% of the population (all ages). The decrease was relatively consistent across all RHAs and sub–areas, with some exceptions.
- There was an unusual relationship between respiratory morbidity prevalence and health status: values were highest in the 'average' health status areas and lower in both the healthier than average areas (Rural South) and the least healthy areas (North). Prevalence was particularly low in the least healthy Districts of Burntwood RHA.
- Relationships with income were different among urban and rural residents. In urban areas, there was a strong relationship, with higher prevalence among residents of lower income areas in both time periods. Among rural residents, there was a much weaker (though still significant) relationship in the first time period; and in the second time period, there was no association at all—the prevalence values were almost equal across all income groups (Appendix 2).

## Comparison to other findings:

- The values reported here are very similar to those shown in the 2003 Atlas and the Sex Differences report.
- These results are different from those in the Chronic Disease report, as expected: it focused on asthma specifically, and the case definition included prescription drug use in addition to medical and hospital claims data. This report used only medical and hospital claims, not drug use, and grouped diagnoses for the six related respiratory diseases together, as explained above.
- The 2003 Atlas showed an increasing prevalence from mid 1990s to late 1990s. This report shows a decreasing prevalence from 2000/01 to 2005/06. Therefore, the prevalence increased and then decreased over time.
- This recent decrease seems to contradict the commonly–reported finding that asthma prevalence continues to increase over time (asthma is one of the diagnoses included in this group).
- In order to examine this issue in more detail, a supplementary analysis was conducted to analyze the prevalence values for each individual disease within this group, over a longer time period. The summary results of this analysis are shown in Figure 4.3.4.

**Figure 4.3.4: Crude Annual Prevalence of TRM (and Separate Diagnoses) 1986/87-2006/07, All Ages**




Source: Manitoba Centre for Health Policy, 2009

- The top line in Figure 4.3.4 shows that the combined prevalence of this group of respiratory diseases increased from 10% in 1986/87 to 14.5% in 1994/95, then decreased through 2002/03 before stabilizing around 11%.
- For asthma specifically, prevalence rose from 1.7% in 1986/87 to 3.8% in the late 1990s, at which time it reached a plateau.
- The prevalence of bronchitis NS (Not Specified as acute or chronic) increased from 5.6% in 1986/87 to 7.0% in 1994/95, and then decreased to its current plateau of 3.4%.
- The opposing trends in these values raises the question about whether illness that used to be labeled as bronchitis NS in previous years is being labeled as asthma in more recent years. This trend was even more marked in children (see Appendix 4 for age–specific results). This may be an example of 'diagnostic exchange', whereby the exact diagnoses given can change, even though the actual burden of illness in the population may not have changed. Thus, the prevalence of asthma increased, but with a corresponding decrease in bronchitis NS. This is part of why the combined group called Total Respiratory Morbidity was initially created (Erzen et al., 1997).
- The results for children (Appendix 4) reveal that asthma prevalence rose gradually, while bronchitis NS fell sharply, and the other diseases were relatively stable. Therefore, the 'total respiratory morbidity' among children actually decreased from 20.3% in 1986/87 to 16.2% in 2005/06.
- Conclusion: concerns about the increasing diagnostic prevalence of asthma in young children may need to be tempered by the decreasing diagnostic prevalence of bronchitis NS. The combined prevalence of total respiratory morbidity may be a better indicator of respiratory disease burden in the population than diagnoses of individual diseases.

## 4.4 Diabetes

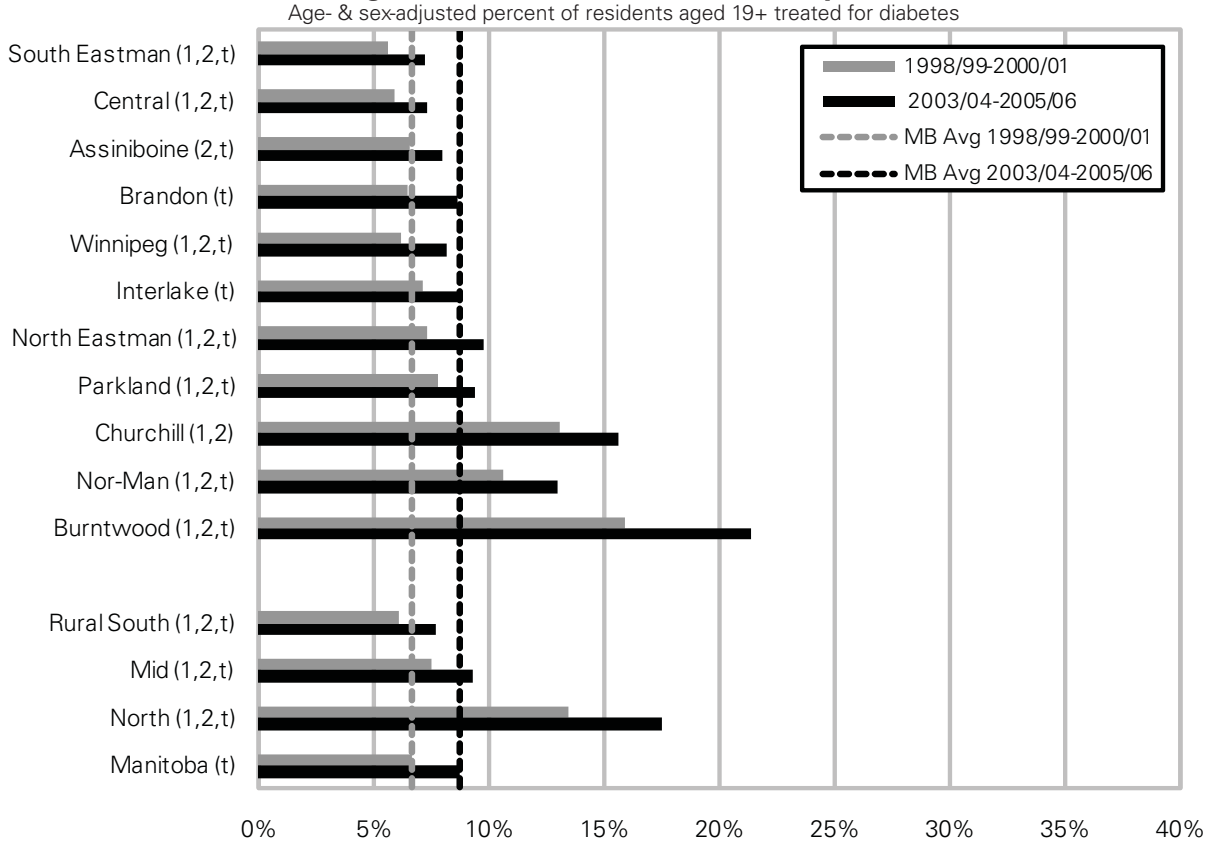
Definition: the proportion of residents age 19 or older diagnosed with diabetes in a three–year period, by either:

- at least two physician visits or one hospitalization with a diagnosis of diabetes (ICD–9–CM code 250; ICD–10–CA codes E10–E14), or
- one or more prescriptions for medications to treat diabetes (listed in Glossary).

Values were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period. The values combine Type I and Type II diabetes, as physician claims data do not provide for separate coding.

**Figure 4.4.1: Diabetes Prevalence by RHA**

Age- & sex-adjusted percent of residents aged 19+ treated for diabetes

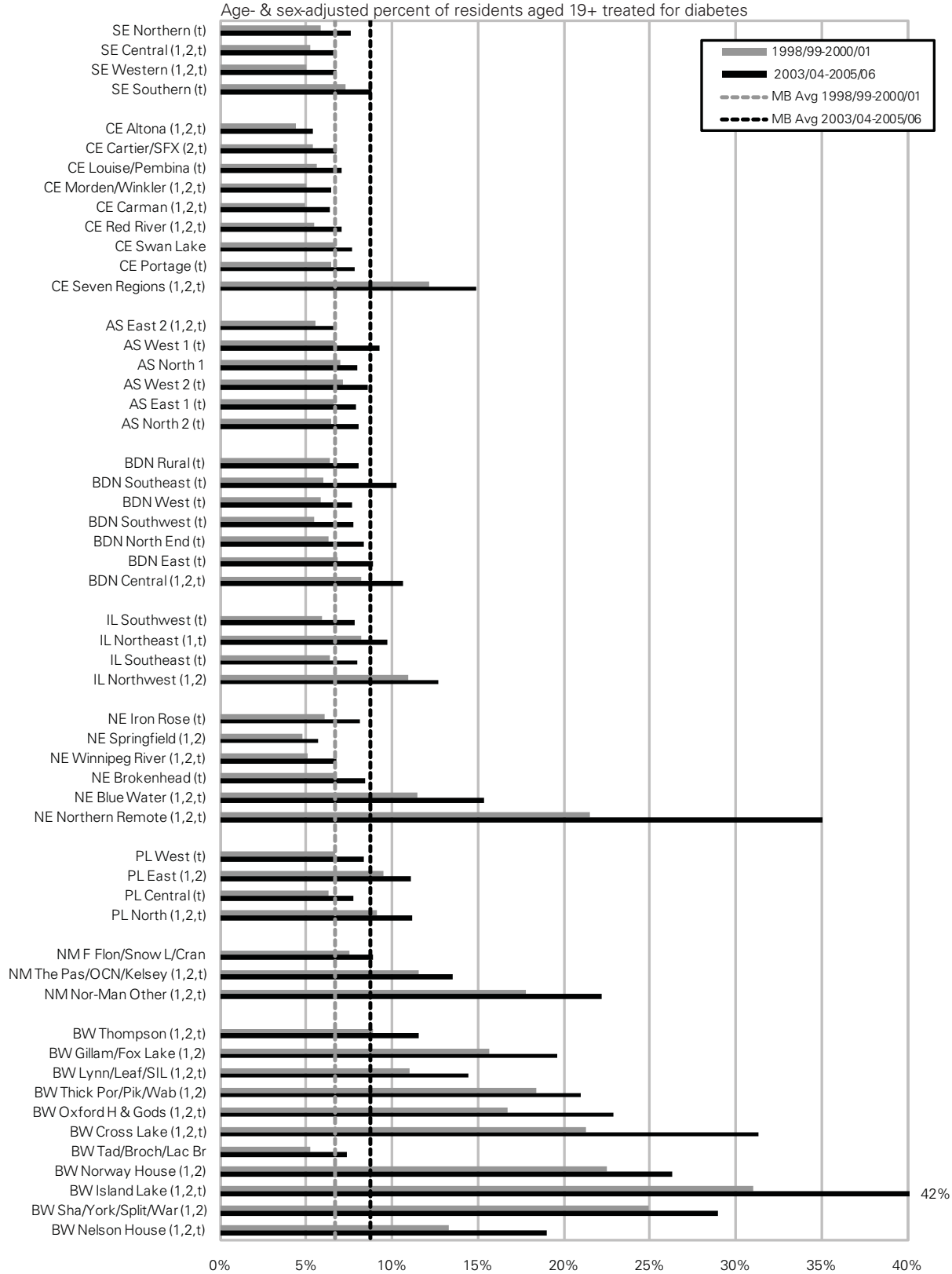



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.4.2: Diabetes Prevalence by District

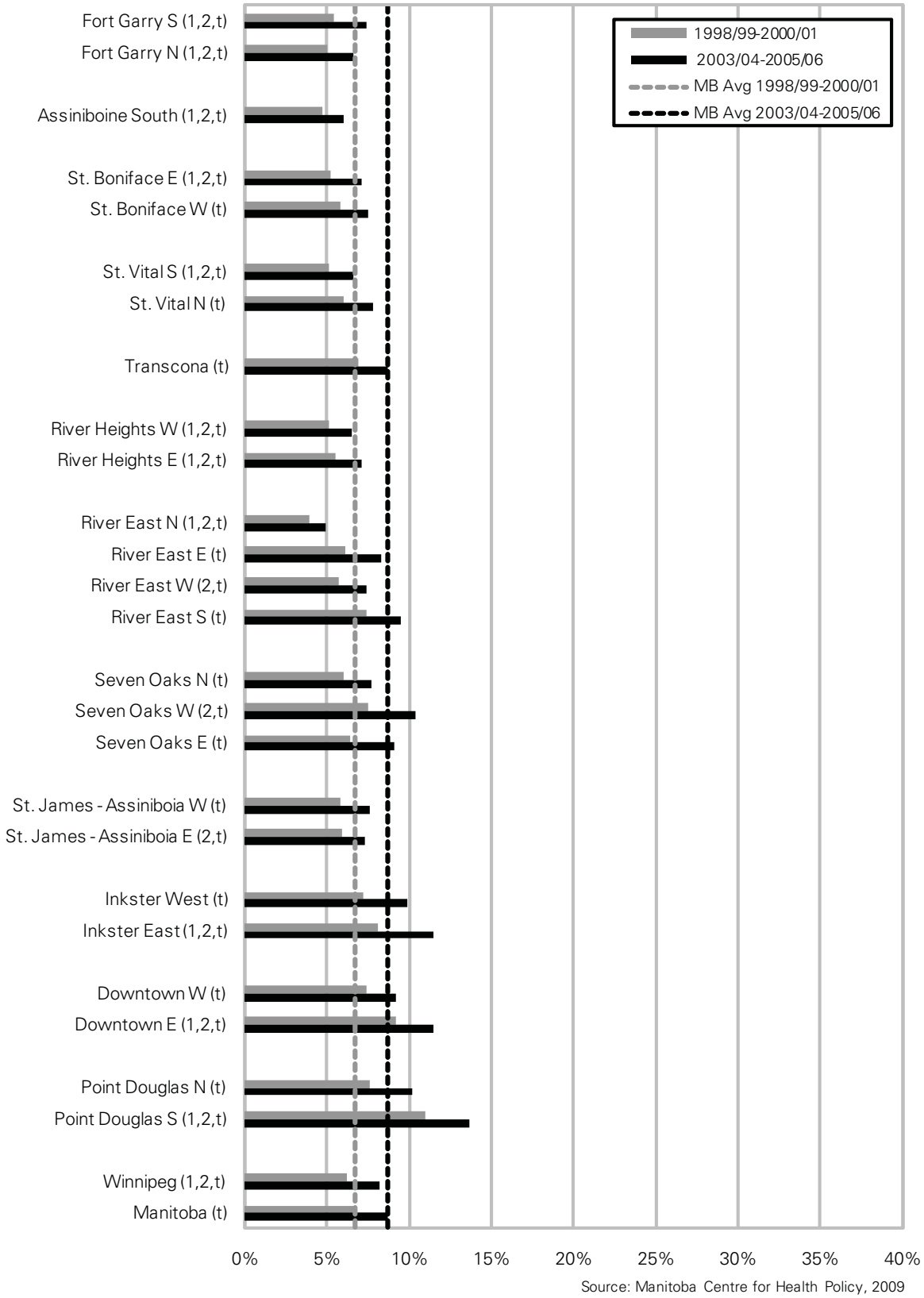
Age- & sex-adjusted percent of residents aged 19+ treated for diabetes




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.4.3: Diabetes Prevalence by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 19+ treated for diabetes




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Diabetes prevalence increased over time in Manitoba, from 6.7% to 8.7% of the population age 19 or older. An increase was seen in all RHAs, Districts, and Winnipeg sub–areas.
- Diabetes prevalence values were related to health status. Lower prevalence values in healthier areas and higher prevalence values in less healthy areas.
- Prevalence is particularly high in the North: all three northern RHAs had significantly higher than average diabetes prevalence. This is due, in part, to the higher proportion of Aboriginal residents in these areas, as diabetes prevalence is higher among First Nations residents.
- There were strong relationships between income and diabetes prevalence in urban and rural areas in both time periods: diabetes prevalence was higher among residents of lower income areas (Appendix 2).

## Comparison to other findings:

- These results are consistent with those from previous MCHP reports (the 2003 Atlas, Sex Differences, Chronic Disease, and What Works), although the actual values are somewhat higher because a different definition was used.
- The 2003 Atlas and What Works also showed changes over time. Both reports, like this one, showed increasing diabetes prevalence over time.
- The values shown here are also higher than those provided by reports using the National Diabetes Surveillance System (NDSS) definition—such as the 'Diabetes in Canada: Highlights from the National Diabetes Surveillance System, 2004–2005' report from 2008. NDSS uses physician visits and hospitalizations to define cases, over a two–year period. Our definition similarly used physician visits and hospitalizations, but covers a three–year period, and also includes residents receiving prescription drugs for diabetes (to take advantage of data available in Manitoba; see Glossary for listing). There are also differences regarding standard population used for adjustment and accumulation of cases over time.
    - For comparison purposes, rates calculated using the NDSS definition are shown for all areas in Appendix 5.

## 4.5 Ischemic Heart Disease (IHD)

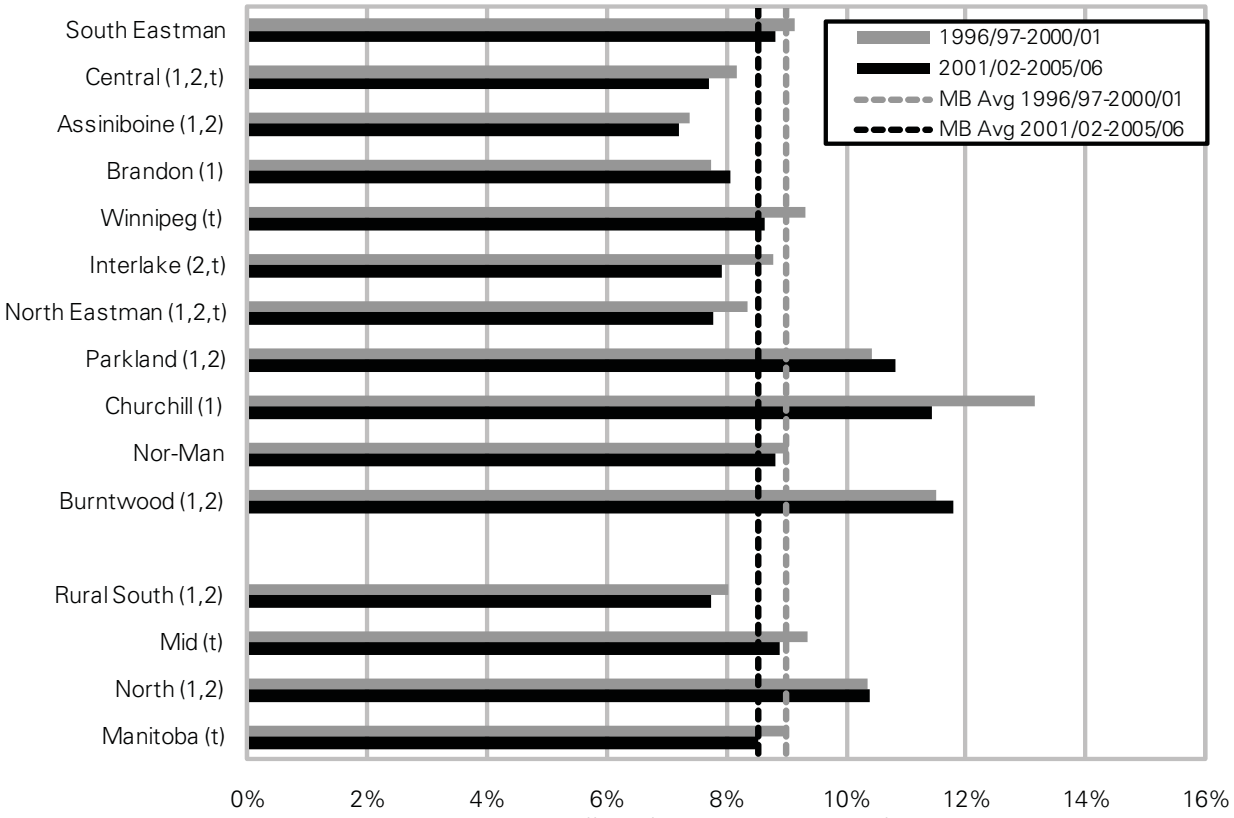
Definition: the proportion of residents age 19 or older diagnosed with ischemic heart disease in a five–year period through either:

- at least two physician visits or one hospitalization for IHD (ICD–9–CM codes 410–414, ICD–10 codes I20–I22, I24, I25), or
- at least one physician visit with a code listed above and two or more prescriptions for IHD medications (listed in Glossary).

Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period.

**Figure 4.5.1: Ischemic Heart Disease Prevalence by RHA**

Age- & sex-adjusted percent of residents aged 19+ treated for ischemic heart disease

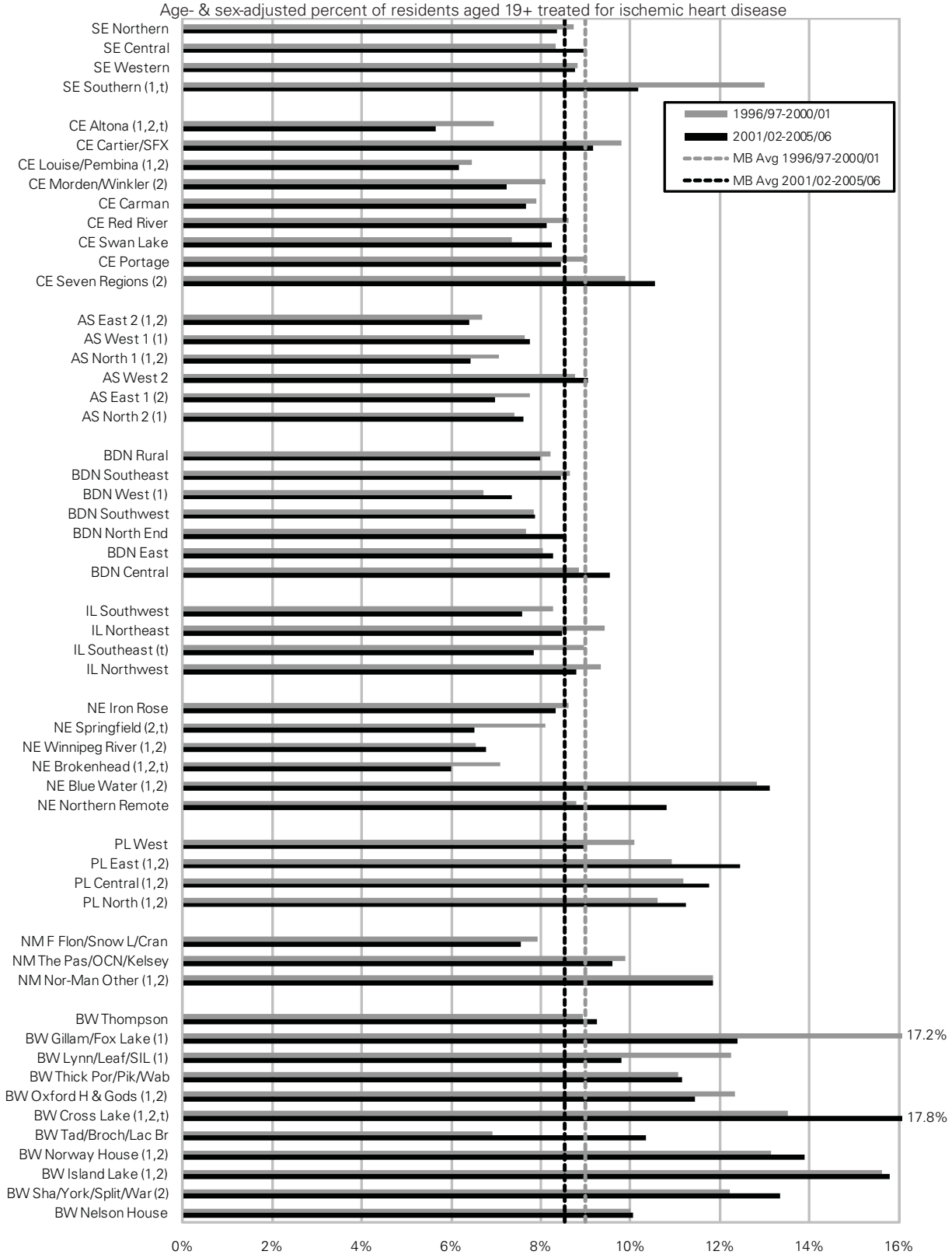



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.5.2: Ischemic Heart Disease Prevalence by District

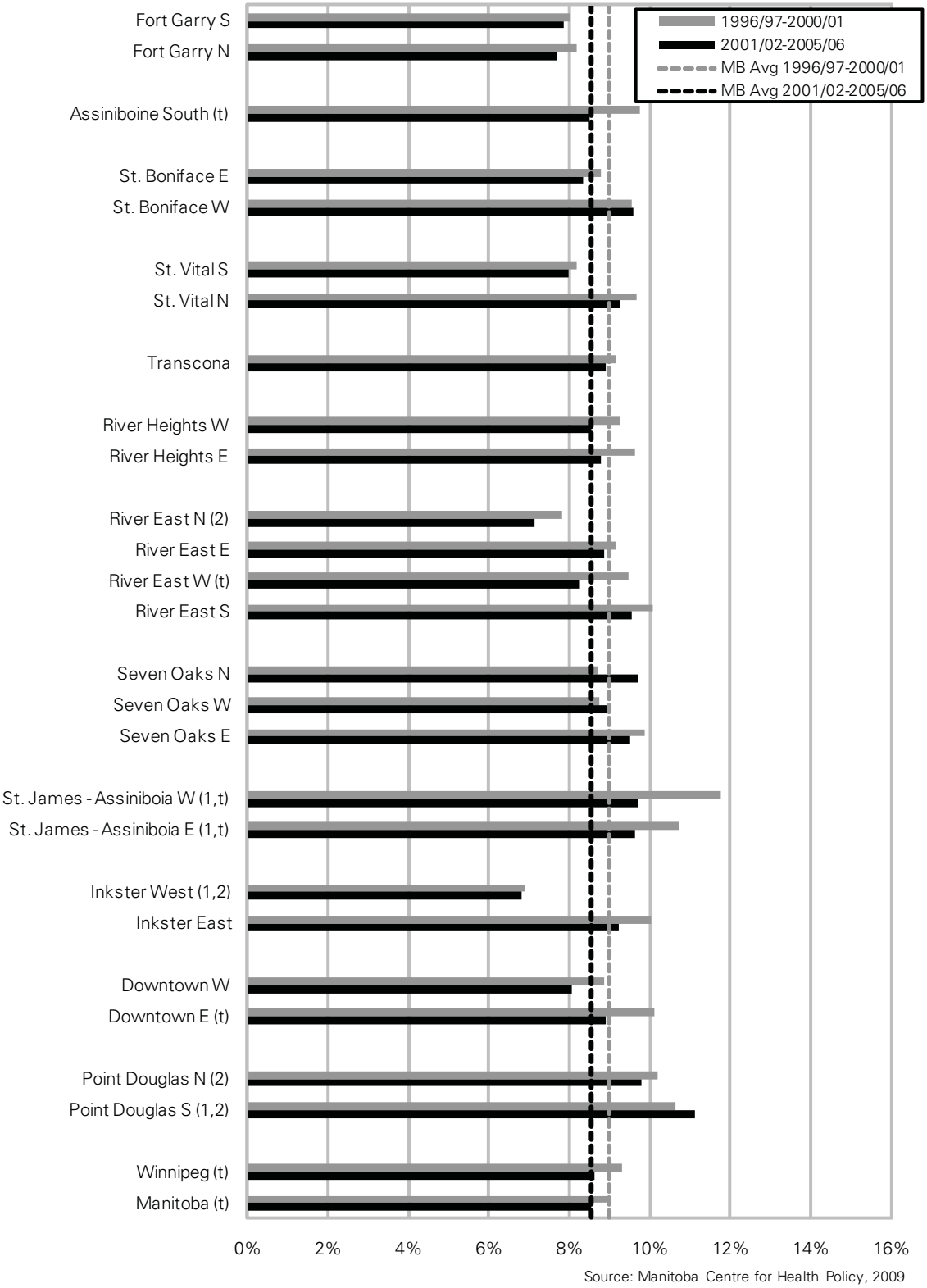
Age- & sex-adjusted percent of residents aged 19+ treated for ischemic heart disease




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.5.3: Ischemic Heart Disease Prevalence by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 19+ treated for ischemic heart disease




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Ischemic Heart Disease prevalence decreased in Manitoba from 9.0% to 8.5% of the population age 19 or older.
- Interlake and Winnipeg RHAs showed the largest decreases, whereas the changes in other RHAs were smaller, and some did not decrease at all.
- IHD prevalence was not strongly related to health status at the RHA level, as IHD prevalence was high in some healthy RHAs and some less healthy RHAs.
- However, the results for the larger areas did show an association with health status: prevalence was lowest in the Rural South, about average in the Mid, and highest in the North.
- Prevalence in the North was significantly higher than average and did not decrease over time.
- There were strong relationships between income and IHD prevalence in urban and rural areas in both time periods: IHD prevalence was higher among residents of lower income areas. The relationship in rural areas was dominated by the high prevalence among the lowest income areas; whereas in urban areas, there was a much more gradual difference across the income groups (Appendix 2).

### Comparison to other findings:

- These results are consistent with those from the 2003 Atlas and Section 4.7 below, which show that rates of Acute Myocardial Infarction (one of the key diagnoses that comprise the IHD group) are decreasing over time in Manitoba.
- These data also mirror broader findings regarding the decrease in heart disease prevalence and mortality in Canada (Statistics Canada, 2004; Heart and Stroke Foundation, 2009).

## 4.6 Osteoporosis

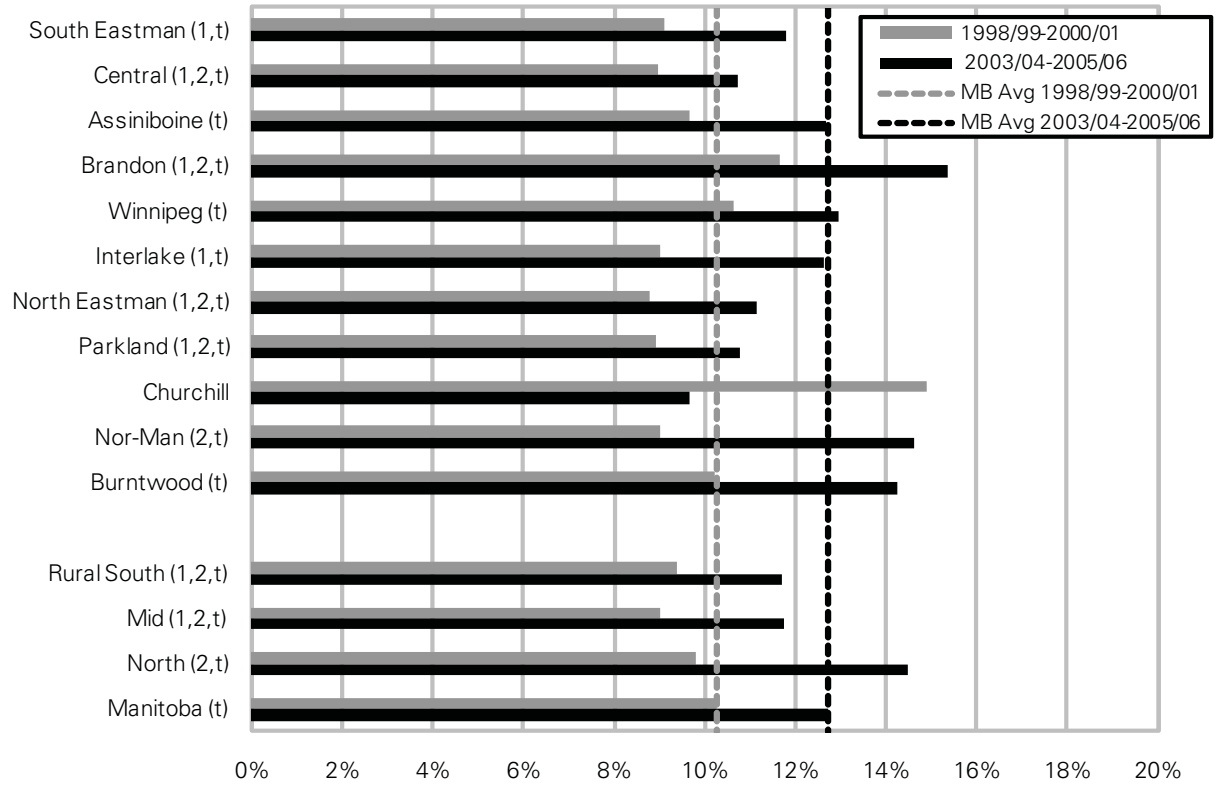
Definition: the proportion of residents age 50 or older diagnosed with osteoporosis in a three–year period, through either:

- at least one physician visit or hospitalization for any of the following diagnoses:
  - osteoporosis, ICD–9 CM code 733.0; ICD–10–CA code M81
  - hip fracture, ICD–9 CM code 820–821; ICD–10–CA code S72
  - spine fracture, ICD–9 CM code 805; ICD–10–CA codes S12.0–S12.2, S12.7, S12.9, S22.0, S22.1, S32.0–S32.2, T08
  - humerus fracture, ICD–9 CM code 812; ICD–10–CA codes S42.2–S42.4
  - wrist fracture (radius, ulna and carpal bones), ICD–9 CM code 813–814; ICD–10–CA codes S52, S62.0, S62.1, or
- one or more prescriptions for medications to treat osteoporosis (listed in Glossary).

Fractures associated with trauma (codes listed in Glossary) were excluded. Values were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and were age– and sex–adjusted to the Manitoba population (50+) in the first time period.

**Figure 4.6.1: Osteoporosis Prevalence by RHA**

Age- & sex-adjusted percent of residents aged 50+ treated for osteoporosis

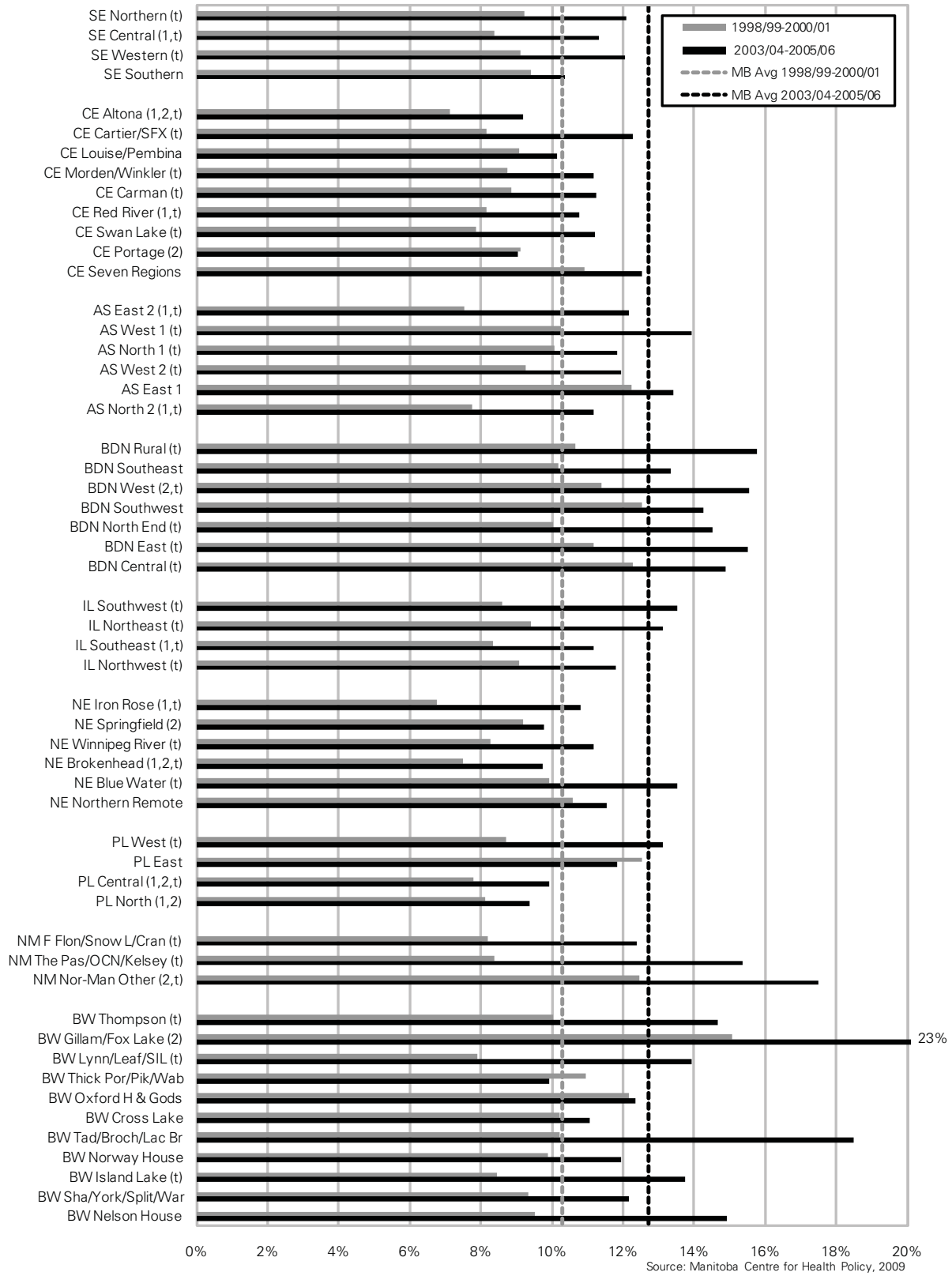



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.6.2: Osteoporosis Prevalence by District

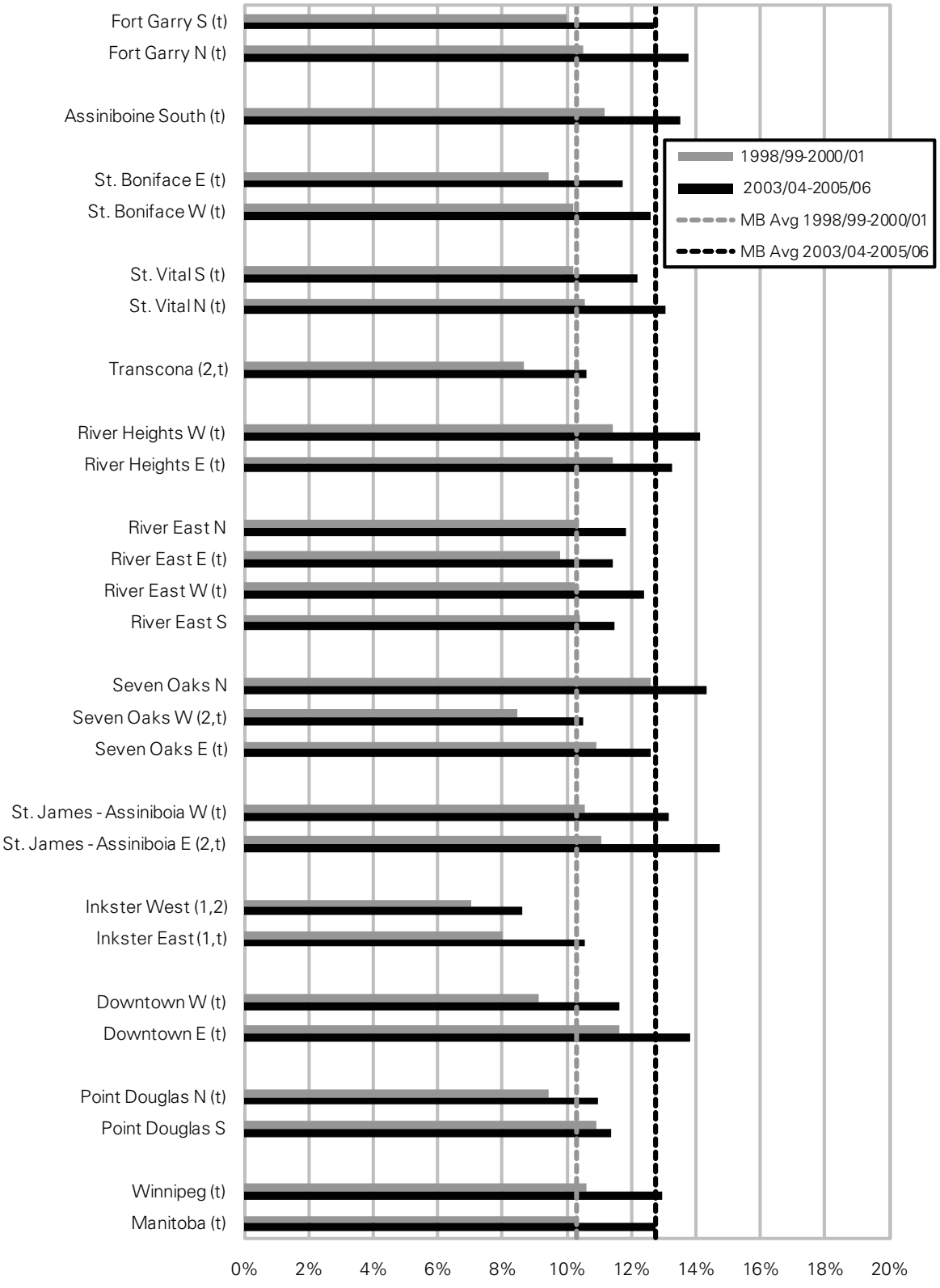
Age- & sex-adjusted percent of residents aged 50+ treated for osteoporosis




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.6.3: Osteoporosis Prevalence by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 50+ treated for osteoporosis




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Note: This newly developed indicator is likely an under–estimate of the true population burden of osteoporosis because it only includes clinically diagnosed cases. It is likely that other residents also have osteoporosis, but it has never been diagnosed and recorded by a physician during an ambulatory visit or hospitalization.
    - This indicator was included to provide an estimate of the level and distribution of bone health in Manitoba, which is based on the work of local investigators using MCHP and other data (Lix et al., 2008). It has not yet been validated against other data sources or definitions of osteoporosis.
- Osteoporosis prevalence increased in Manitoba from 10.3% to 12.7% of the population age 50 or older.
- Osteoporosis prevalence was not strongly related to health status at the RHA or aggregate levels.
- There was no significant relationship between income and osteoporosis prevalence for rural or urban areas in either time period, making osteoporosis different from every other chronic disease in this report (Appendix 2).
- The prevalence of osteoporosis is much higher among women than men; see Appendix 3 for sex–specific rates.

## Comparison to other findings:

- As this is a new indicator for MCHP, previous reports do not provide comparable values.

## Part 2: Event Rates

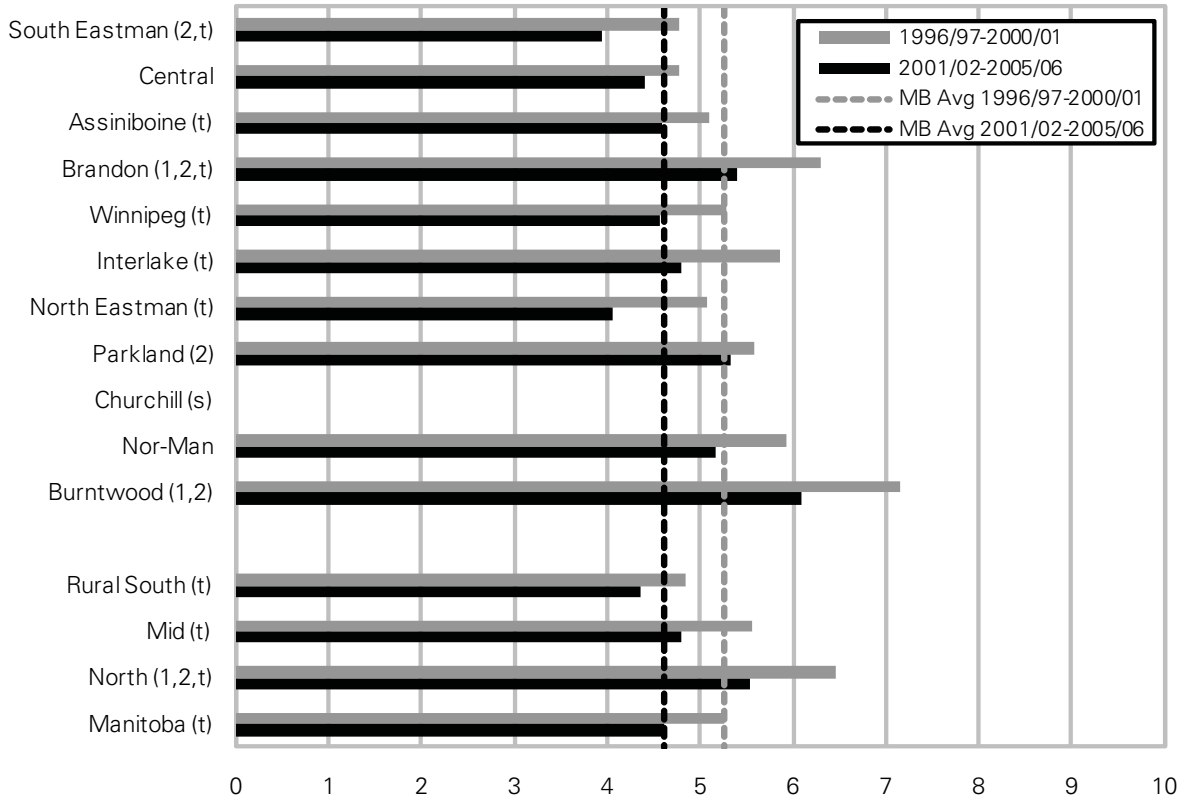
This Section provides average annual rates of key health–related events. They are shown as rates per 1,000 residents per year, not as percentages, because these events can happen to the same person more than once.

## 4.7 Acute Myocardial Infarction (Heart Attack) Rates

Definition: The number of hospitalizations or deaths due to Acute Myocardial Infarction (AMI) in residents age 40 or older. AMI was defined by ICD–9–CM code 410 (ICD–10 code I21) in the most responsible diagnosis field for hospitalization or as the cause of death in Vital Statistics files. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population age 40+ in the first time period. See Glossary for additional details.

**Figure 4.7.1: Heart Attack (AMI) Rates by RHA**

Age- & sex-adjusted annual rate of death or hospitalization (3+ days) for AMI, per 1,000 residents aged 40+

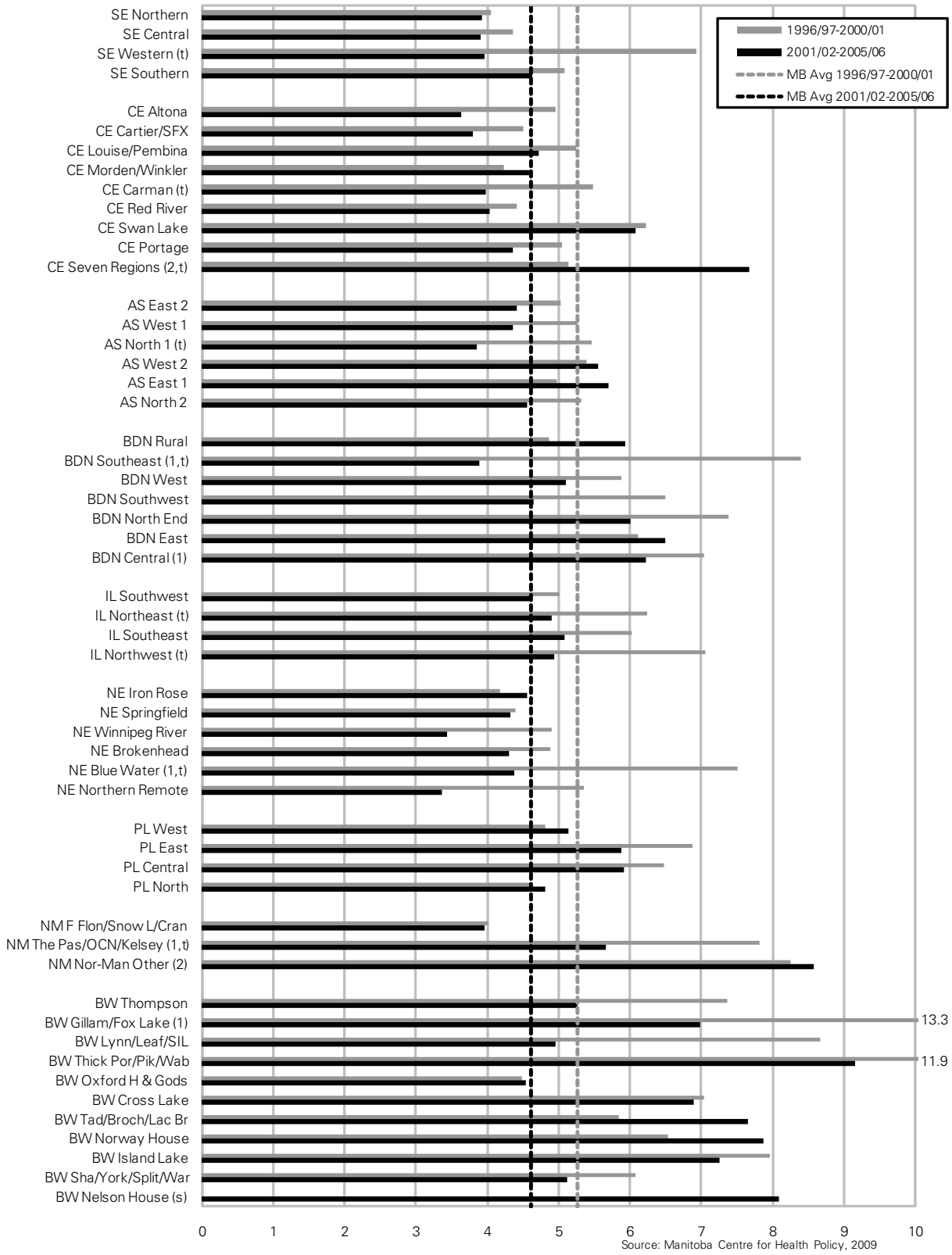



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.7.2: Heart Attack (AMI) Rates by District

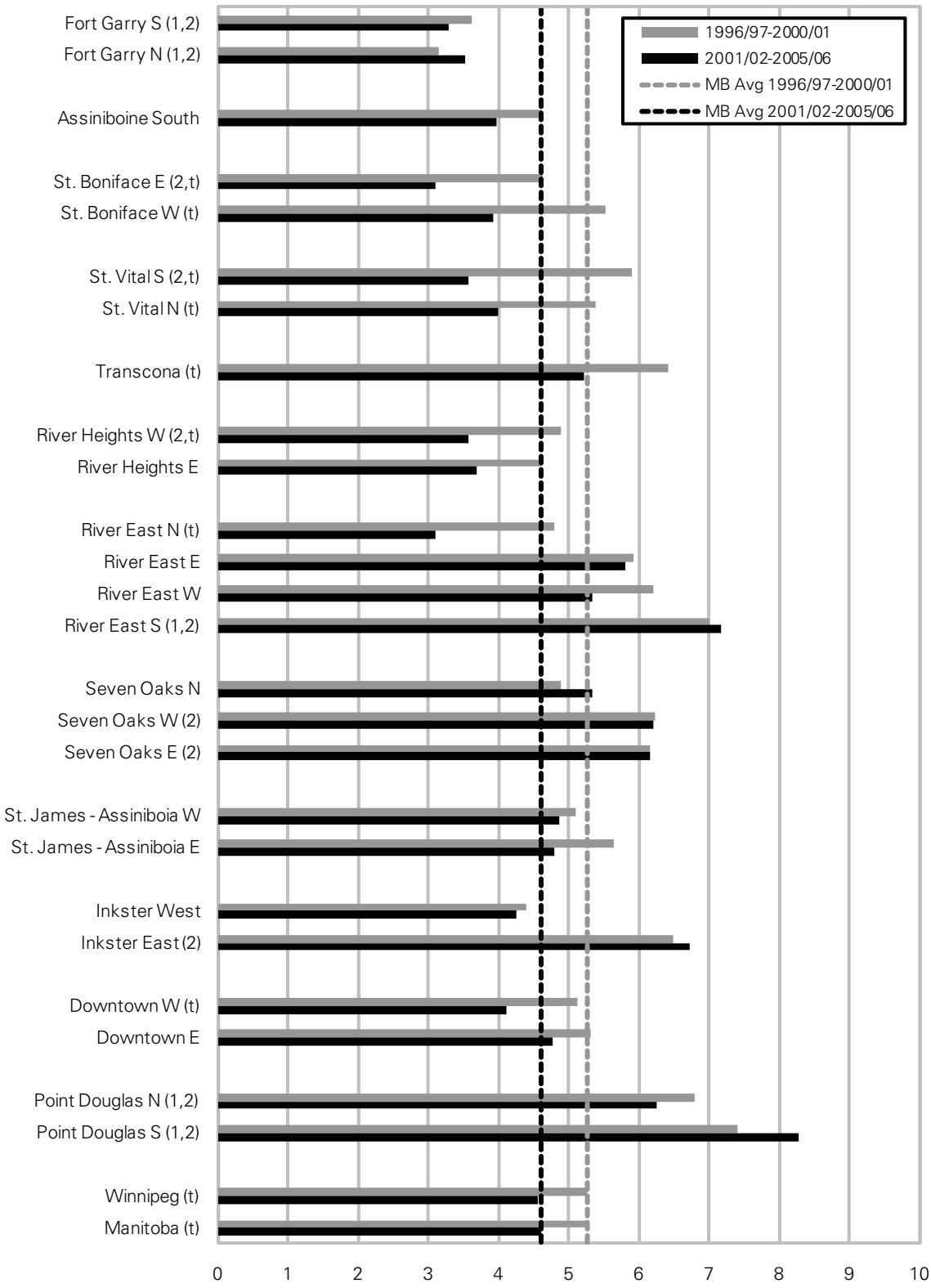
Age- & sex-adjusted annual rate of death or hospitalization (3+ days) for AMI, per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.7.3: Heart Attack (AMI) Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rate of death or hospitalization (3+ days) for AMI, per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The rate of AMIs decreased in Manitoba from 5.3 to 4.6 AMIs per 1,000 residents age 40+ per year. Decreases were seen in all RHAs and almost all Districts and Winnipeg sub–areas.
- AMI rates were related to health status at the aggregate area level: the Rural South had low rates; Mid areas had average rates, and the North had high rates. The relationship was weaker at the RHA level.
- There were strong relationships between income and AMI rates in urban and rural areas in both time periods: there were more AMIs among residents of lower income areas (Appendix 2).

### Comparison to other findings:

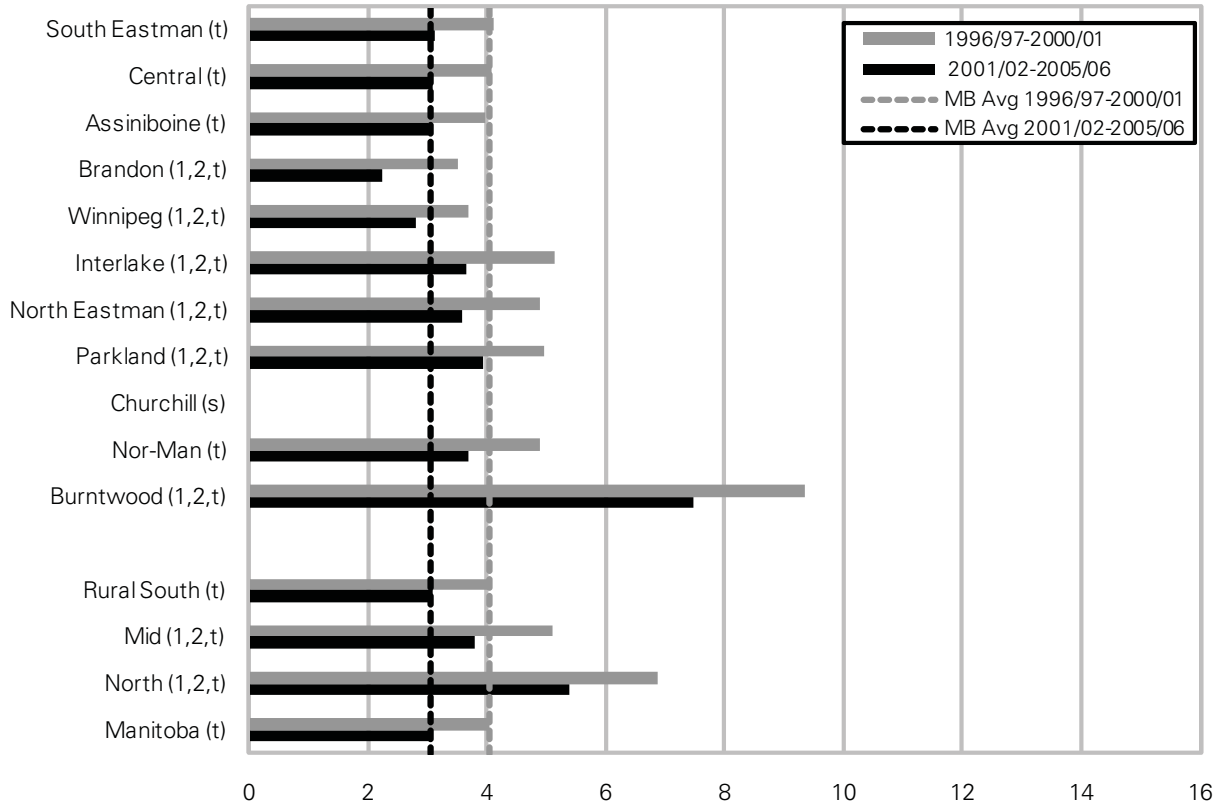
- These rates are consistent with those shown in the 2003 Atlas, although the values here are higher because this report used only residents age 40+, whereas the 2003 Atlas used residents age 20+. Also, the 2003 Atlas used only hospitalizations to count AMIs, whereas this report used hospitalization or death. The 2003 Atlas also showed a decreasing rate over time, as does this report.
- This gradually decreasing age–adjusted rate of AMIs over time is also consistent with trends reported for Canada: AMI mortality rates have fallen over time; and AMI hospitalization rates were steady through the late 1990s, but decreased slightly in the 2000s (Heart and Stroke Foundation, 2006).

## 4.8 Stroke Rates

Definition: The number of hospitalizations or deaths due to stroke in residents age 40 or older. Stroke was defined by ICD–9–CM codes 431, 434, 436 (ICD–10 codes I61, I63, I64) in the most responsible diagnosis field for hospitalization, or as the cause of death in Vital Statistics files. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population age 40+ in the first time period.

**Figure 4.8.1: Stroke Incidence Rates by RHA**

Age- & sex-adjusted annual rate of death or hospitalization for stroke, per 1,000 residents aged 40+

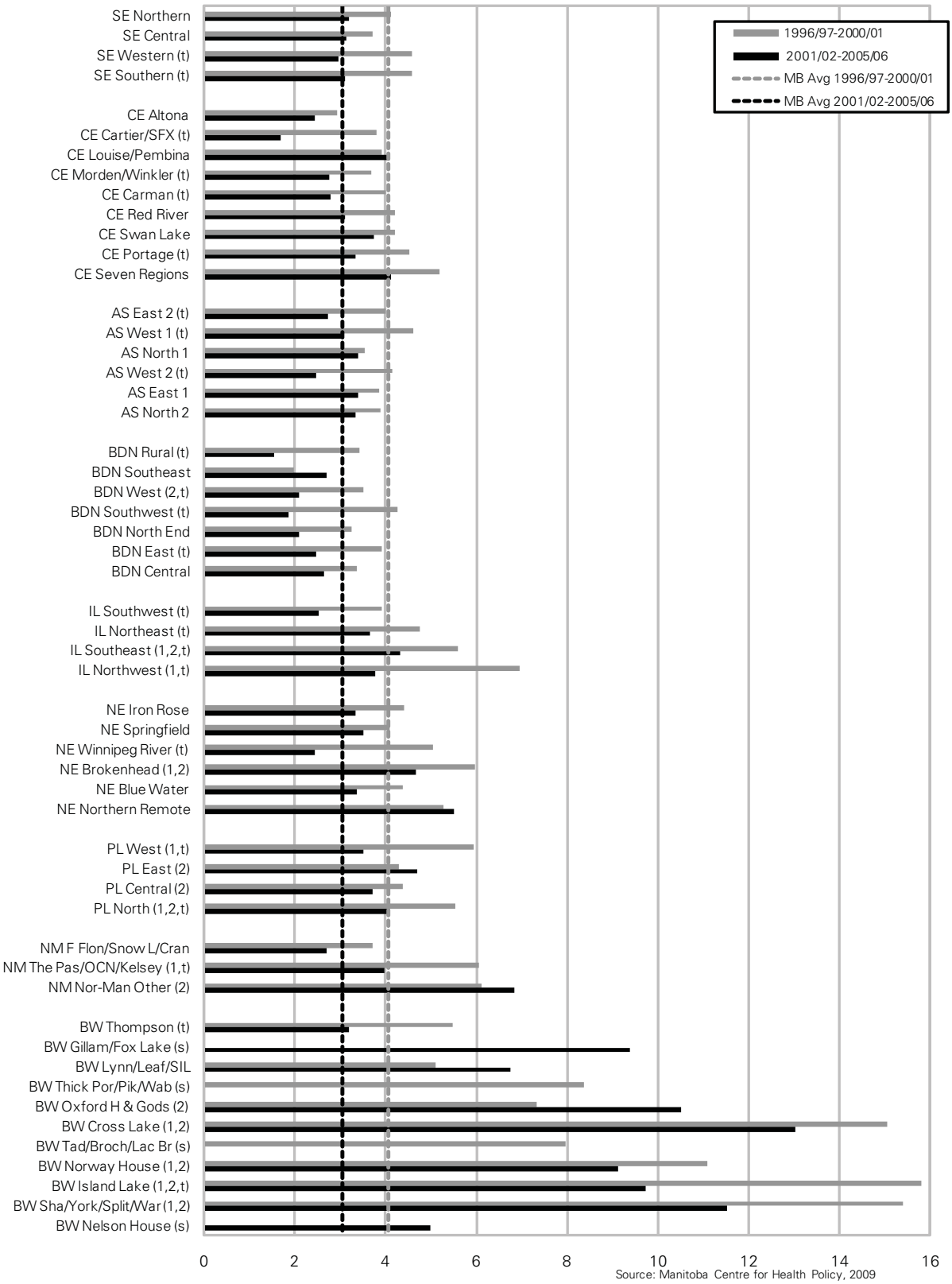



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.8.2: Stroke Incidence Rates by District

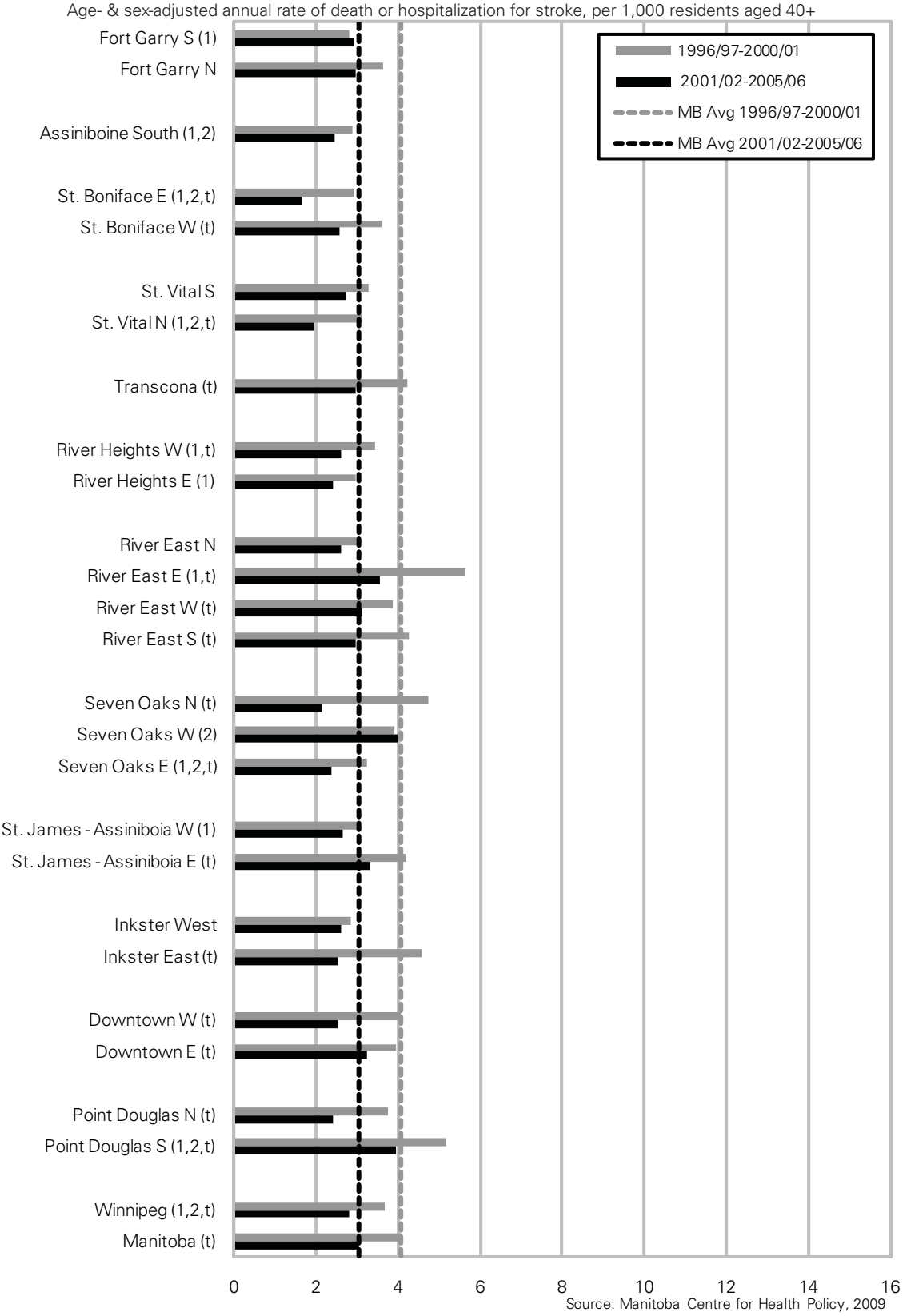
Age- & sex-adjusted annual rate of death or hospitalization for stroke, per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.8.3: Stroke Incidence Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rate of death or hospitalization for stroke, per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of strokes decreased in Manitoba from 4.05 to 3.05 strokes per 1,000 residents age 40+ per year. Decreases were seen in virtually all areas of Manitoba.
- Stroke rates were related to health status at the aggregate area level: the Rural South had average rates; Mid areas had above average rates, and the North had the highest rates, but the relationship was weaker at the RHA level.
- Winnipeg and Brandon residents had low stroke rates, while Burntwood residents had high rates.
- There were strong relationships between income and stroke rates in urban and rural areas in both time periods: there were more strokes among residents of lower income areas (Appendix 2).
- Note: this is an indicator for which the age adjustment can be very large because strokes occur much more frequently among older residents. For example, the crude stroke rate in Burntwood is only slightly higher than the provincial average (see Appendix 2), but the young age profile of Burntwood residents makes the adjusted rate much higher than the provincial average.

## Comparison to other findings:

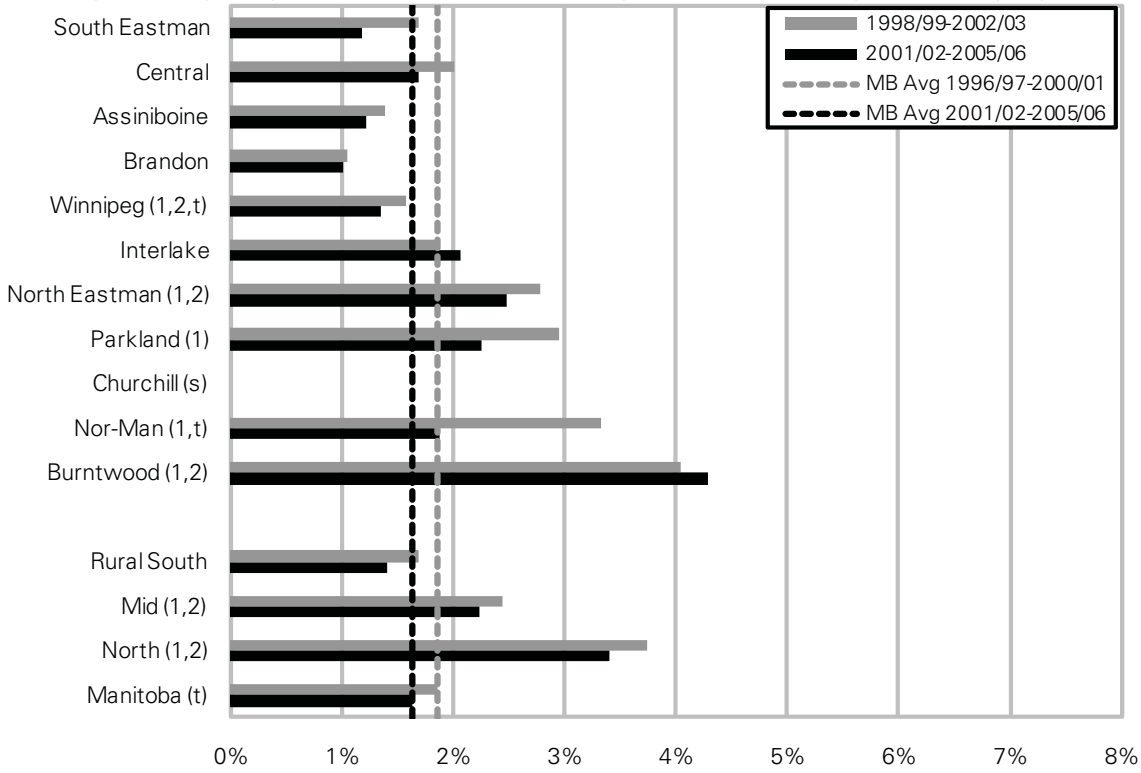
- These rates are consistent with those shown in the 2003 Atlas. The values here are higher because this report used only residents age 40+, whereas the 2003 Atlas used residents age 20+. Also, the 2003 Atlas used only hospitalizations to count strokes, whereas this report used hospitalization or death. The 2003 Atlas also showed a decreasing rate over time, as does this report.
- The decreasing age–adjusted rate of strokes is consistent with trends reported for Canada: mortality and hospitalization rates for stroke have decreased steadily over time (Heart and Stroke Foundation, 2006).

## 4.9 Lower Limb Amputations Among Residents with Diabetes

Definition: The percentage of residents with diabetes (age 19+) who had a lower limb amputation (below or including the knee) in a 5–year period. Amputation was defined by ICD–9–CM procedure codes 84.1–84.17 (CCI codes: 1.VC.93, 1.VG.93, 1.VQ.93, 1.WA.93, 1.WE.93, 1.WJ.93, 1.WL.93, 1.WM.93) in any procedure field. Amputations associated with accidental injury were excluded (see glossary for codes). Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population age 19+ in the first time period.

**Figure 4.9.1: Lower Limb Amputations Among Residents with Diabetes by RHA**

Age- & sex-adjusted percent of residents with diabetes (aged 19+) who had an amputation in a 5-year period

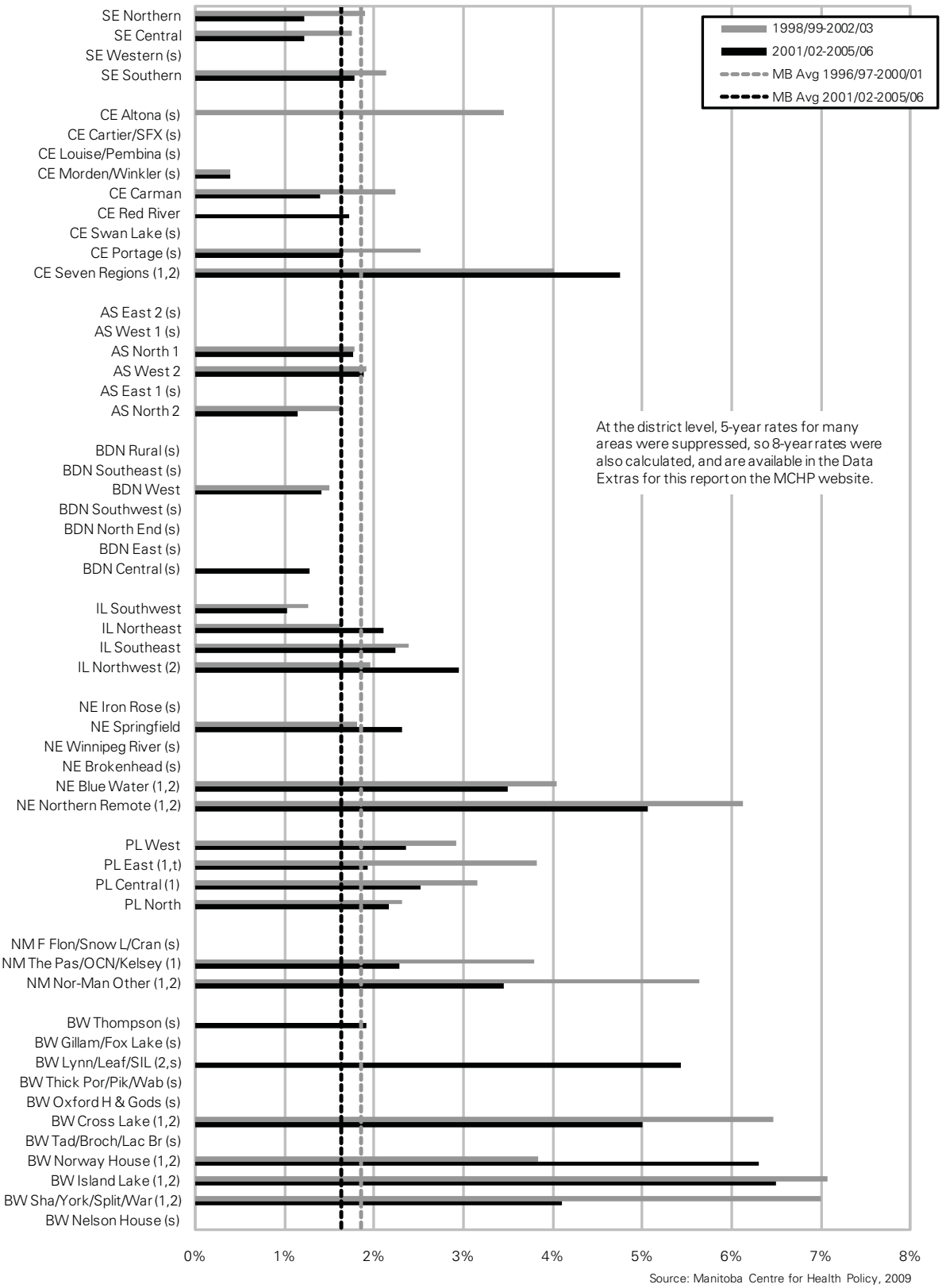



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.9.2: Lower Limb Amputations Among Residents with Diabetes by District

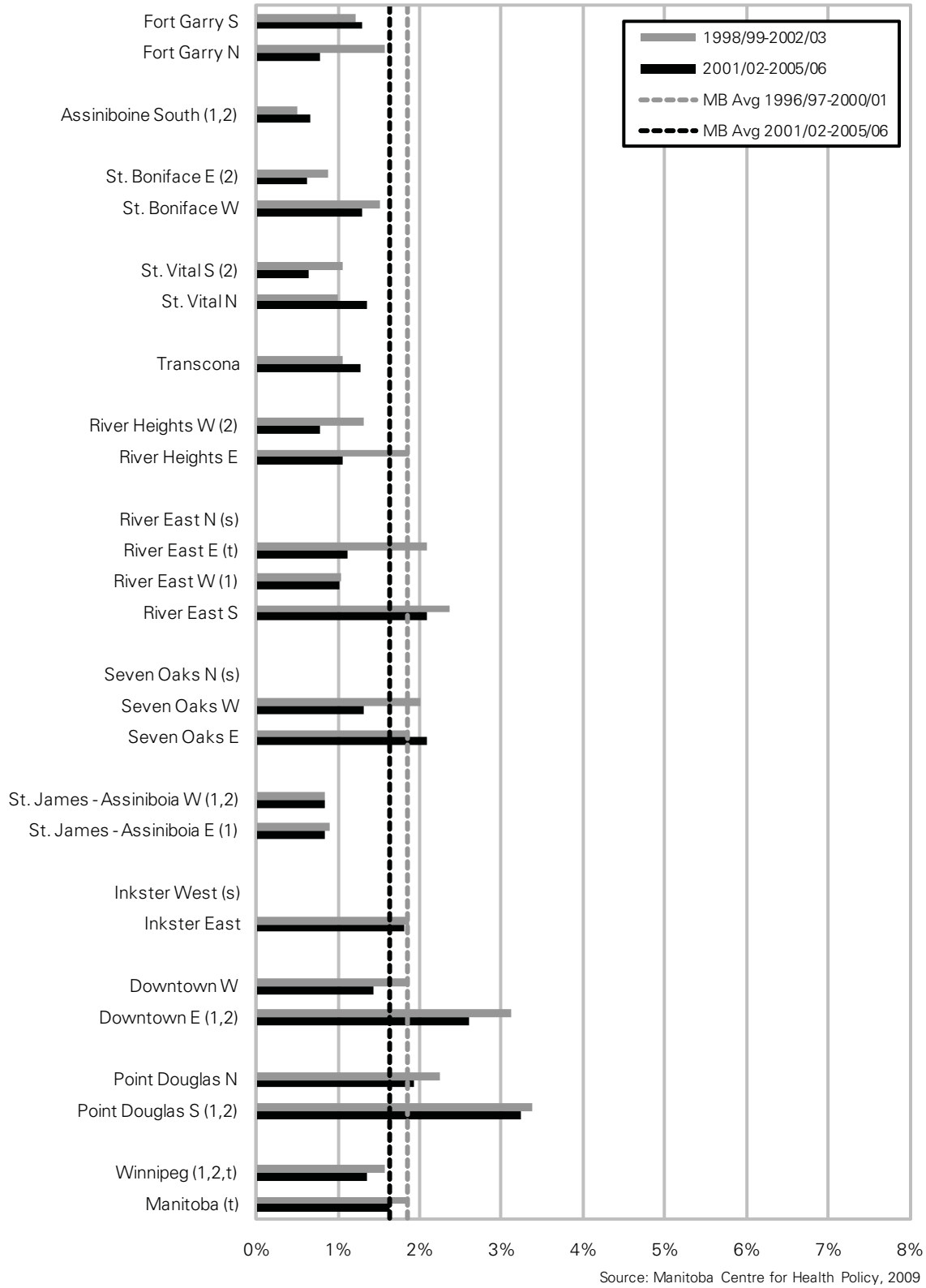
Age- & sex-adjusted percent of residents with diabetes (aged 19+) who had an amputation in a 5-year period




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.9.3: Lower Limb Amputations Among Residents with Diabetes by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents with diabetes (aged 19+) who had an amputation in a 5-year period




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, the percentage of residents with diabetes who had an amputation in a 5–year period decreased from 1.86% to 1.63%. Most RHAs appear to have decreasing rates, though only the decreases in Winnipeg and NOR–MAN reached statistical significance.
- There were large differences in rates for residents of different areas: in the second time period, 1.01% of Brandon residents with diabetes had amputations, versus 4.28% of Burntwood residents with diabetes.
- Amputation rates appear to be associated with general health status at the RHA and aggregate levels, with lower rates among residents of healthier areas and higher rates among residents of less healthy areas.
- There were strong relationships between income and amputation rates in urban and rural areas in both time periods, with more amputations among residents of lower income areas (Appendix 2).
- At the district level, five–year rates for many areas were suppressed, so eight–year rates were also calculated, and are available in the Data Extras for this report on the MCHP website.

## Comparison to other findings:

- The decrease in amputation rates is consistent with findings from the What Works report, which found that rates increased from the mid 1980s through the mid 1990s, but have declined steadily since then.

## Part 3: Mortality Rates Among those With and Without Chronic Diseases

This Section compares mortality rates of residents 'with' each of the six chronic diseases listed in Part 1 to mortality rates for those without that disease (at the start of the follow–up period). Both groups were followed for five years, to compare cumulative mortality rates for all causes combined. Values were age– and sex–adjusted to the Manitoba population.

For each of the diseases analyzed, the pattern of results across areas were remarkably consistent. Despite significant variation in actual values, the pattern of relative mortality rates by RHA for those 'with' any given disease and those without it were very similar. Because of this, and because comparable values from other studies are not readily available for most of these indicators, the results have been summarized in Table 4.1 below. The graphs by RHA, District, and Winnipeg Neighbourhood Cluster follow the table, but without 'Key findings' and 'Comparisons to other findings' Sections for each indicator. Table 4.1 includes mortality associated with the Cumulative Mental Illness grouping which is defined and shown in Chapter 5.

**Table 4.1: Mortality With and Without Chronic Diseases**

Five-year mortality rates among residents age 19+

| Disease | 5-Year Mortality "With" | 5-Year Mortality 'Without' | Ratio |
|---|---|---|---|
| Hypertension | 4.4% | 3.2% | 1.38 |
| Arthritis | 5.6% | 4.9% | 1.14 |
| Respiratory Disease | 7.8% | 5.4% | 1.44 |
| Diabetes | 11.7% | 5.3% | 2.21 |
| Ischemic Heart Disease | 7.0% | 4.6% | 1.52 |
| Osteoporosis (age 50+) | 17.0% | 12.6% | 1.35 |
| Cumulative Mental Illness | 9.1% | 5.6% | 1.63 |

Source: Manitoba Centre for Health Policy, 2009

### Key findings for mortality among those with and without selected diseases:

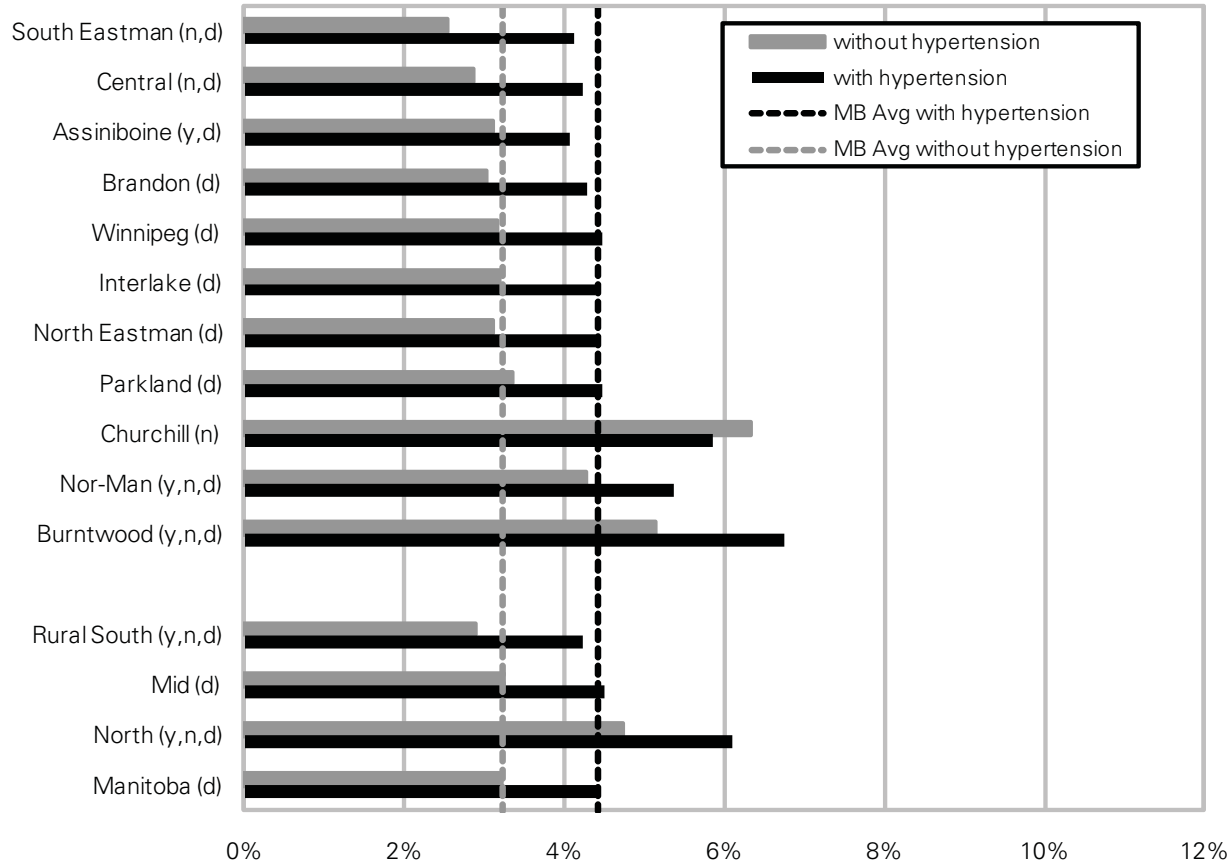
- Five–year mortality rates were higher among those with each of the diseases than those without, and similar patterns were seen in virtually all areas in Manitoba for most diseases.
- Of the six diseases studied, diabetes showed the greatest difference: the five–year mortality rate for residents with diabetes was more than twice that for those without diabetes (see Table 4.1).
    - This finding is similar to that reported by the Public Health Agency of Canada (2008) and to a 2005 report by researchers at Dalhousie university. It showed that in Nova Scotia, the death rate for people with diabetes was about 1.8 times that of people without diabetes (Langille & Curry, 2005).
- Mortality rates were consistently lowest in the Rural South, average in the Mid areas, and highest in the North.
- All groups also showed strong relationships between average income and mortality rates in urban and rural areas: mortality rates were higher among residents of lower income areas (Appendix 2). The only exception was that the relationship among rural residents without osteoporosis was not significant.

## 4.10 Mortality Rates With and Without Hypertension

Definition: The rate of death among those with hypertension compared to those without, including deaths by all causes from 2001/02–2005/06. See Section 4.1 for the definition of hypertension. Values were age– and sex–adjusted to the Manitoba population.

**Figure 4.10.1: Mortality Rates for People With and Without Hypertension by RHA, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years

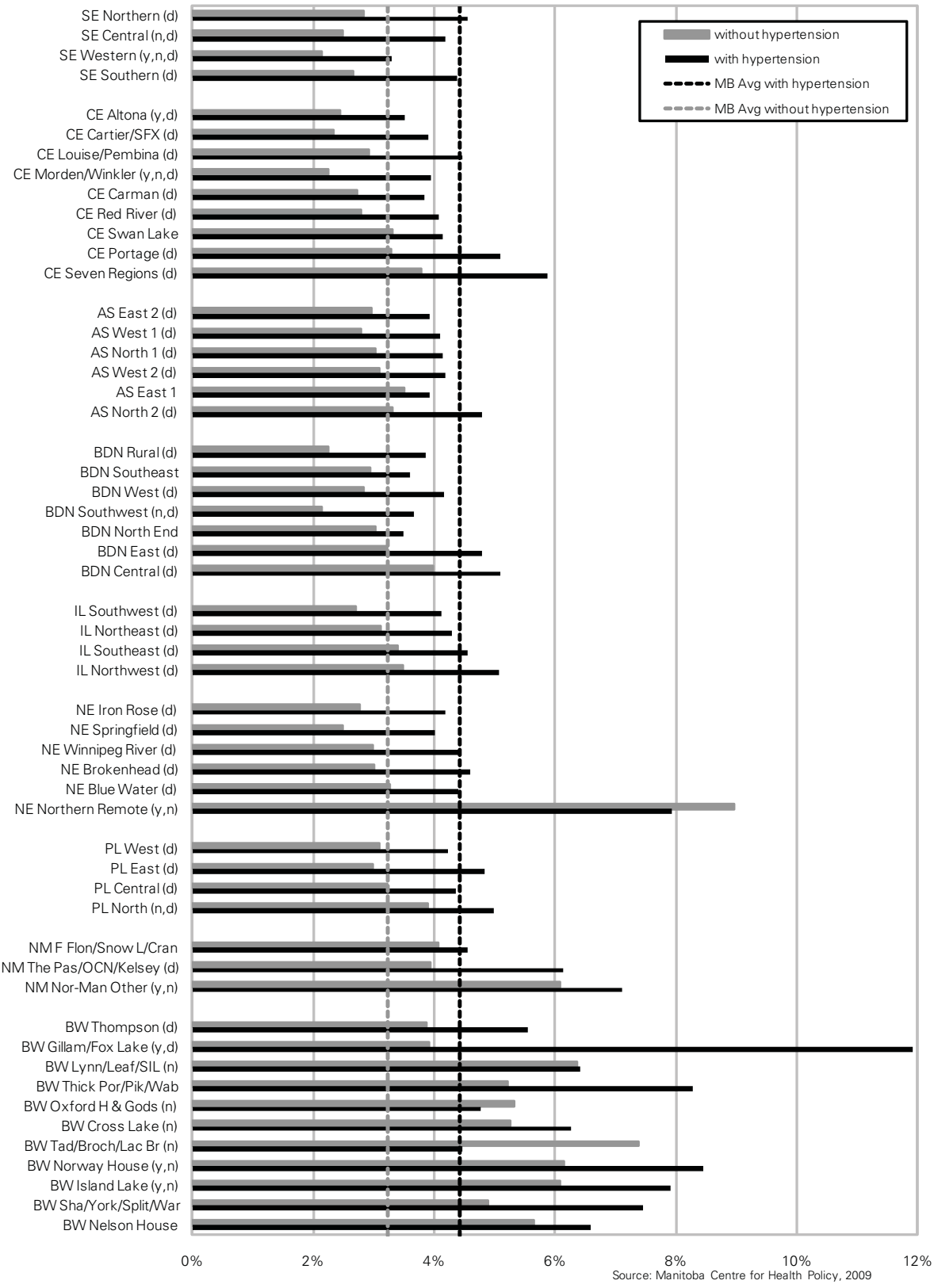



'y' indicates area's rate for those with hypertension was statistically different from Manitoba average with hypertension
'n' indicates area's rate for those without hypertension was statistically different from Manitoba average without hypertension
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 4.10.2: Mortality Rates for People With and Without Hypertension by District, 2001/02-2005/06**

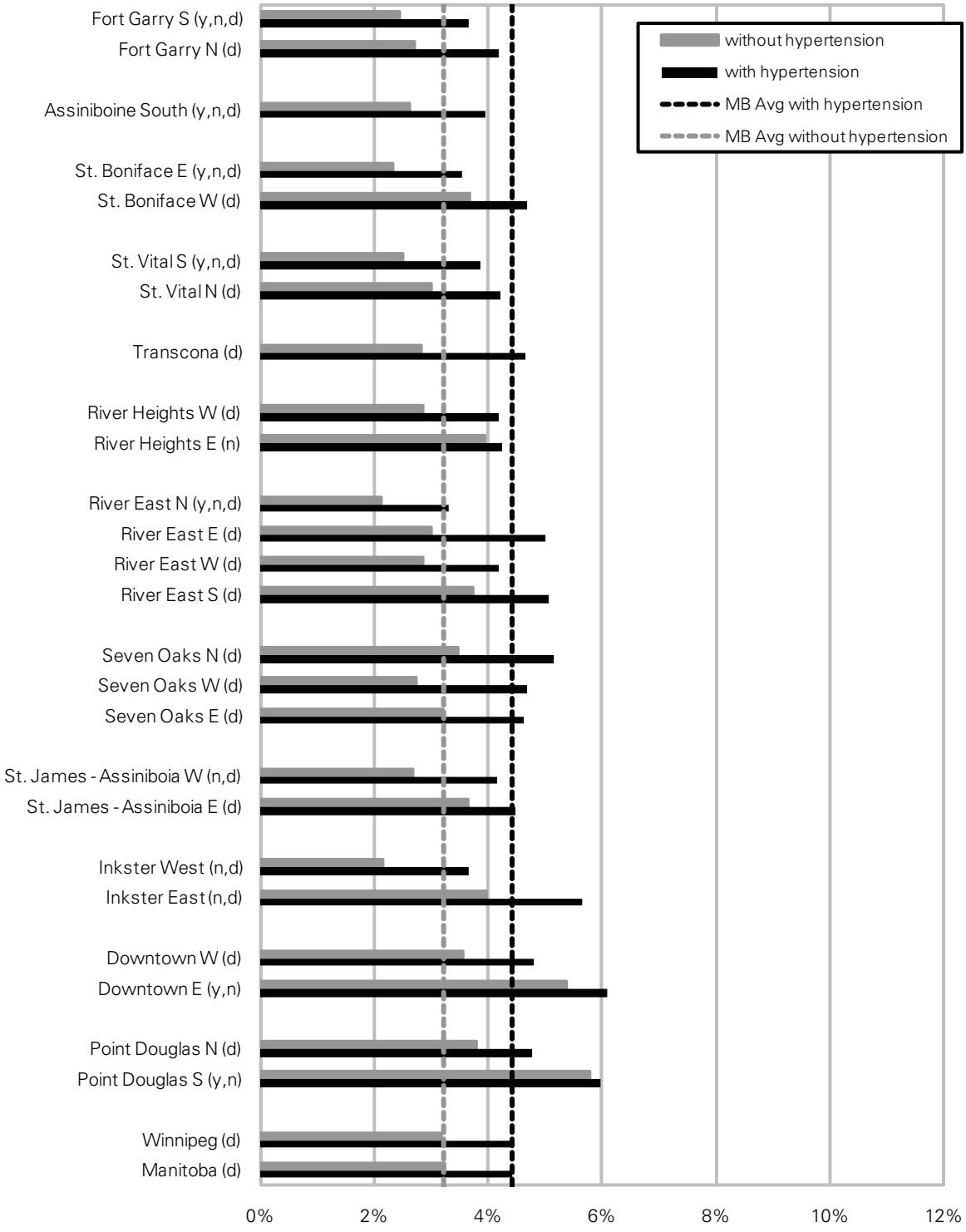
Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.10.3: Mortality Rates for People With and Without Hypertension by Winnipeg Neighbourhood Cluster, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




'y' indicates area's rate for those with hypertension was statistically different from Manitoba average with hypertension
'n' indicates area's rate for those without hypertension was statistically different from Manitoba average without hypertension
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

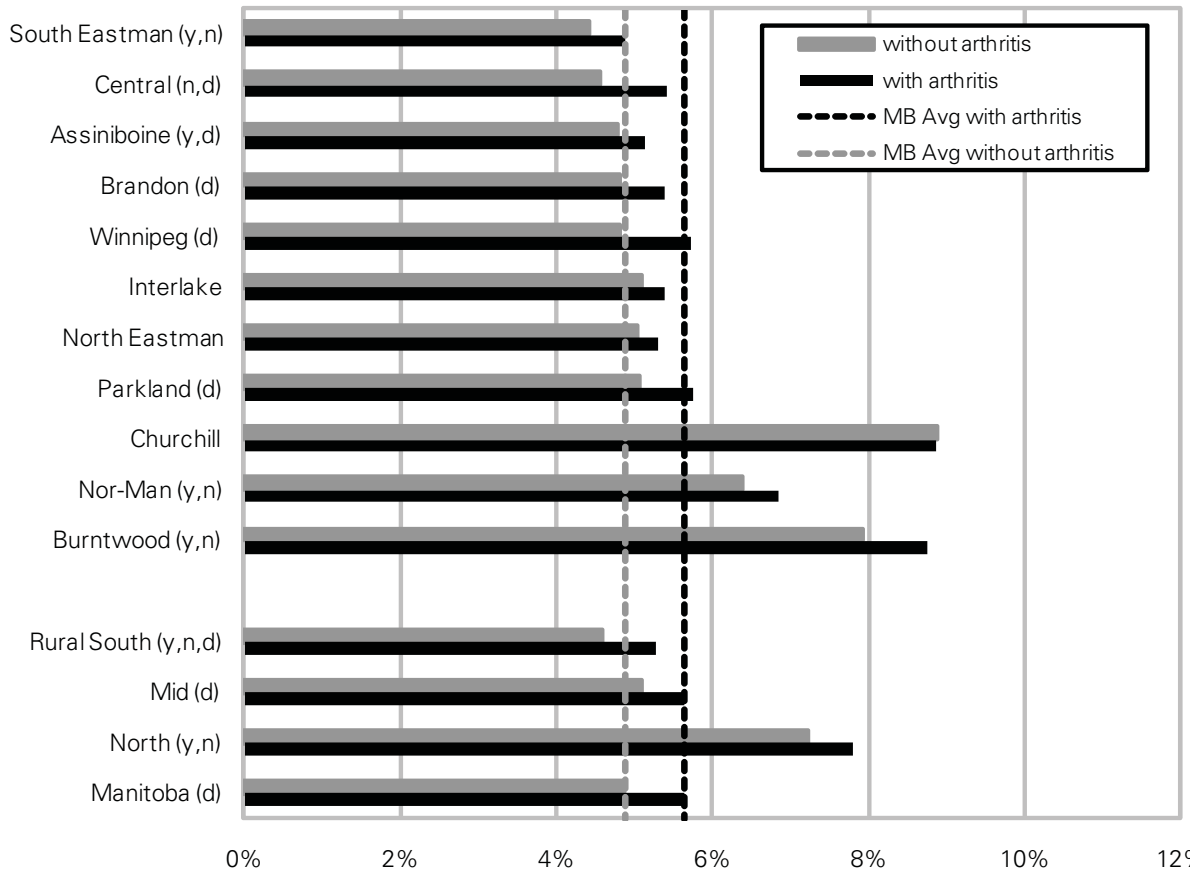
Source: Manitoba Centre for Health Policy, 2009

## 4.11 Mortality Rates With and Without Arthritis

Definition: The rate of death among those with arthritis compared to those without, including deaths by all causes from 2001/02–2005/06. See Section 4.2 for the definition of arthritis. Values were age– and sex–adjusted to the Manitoba population.

**Figure 4.11.1: Five-Year Mortality for People With and Without Arthritis by RHA, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years

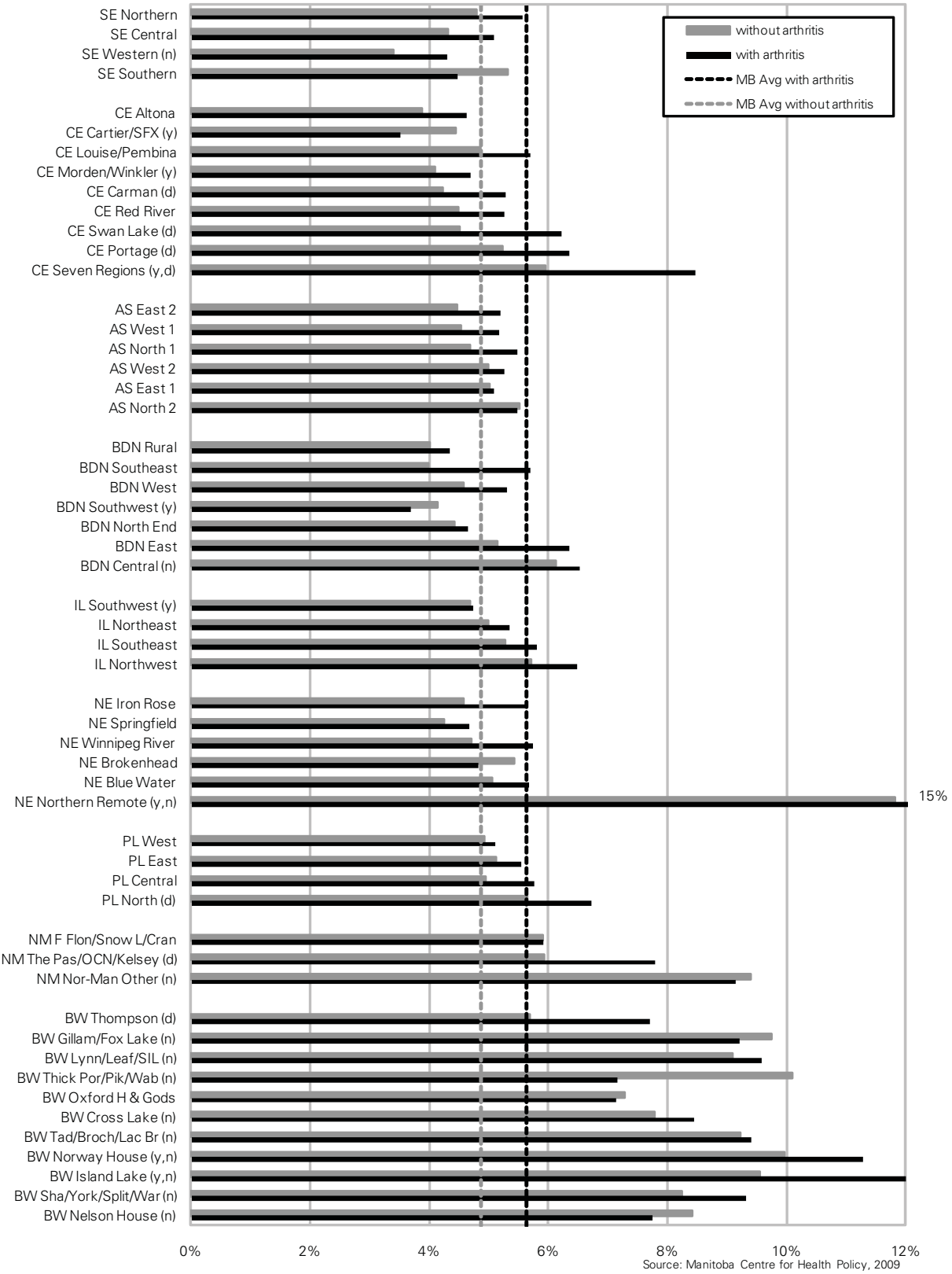



'y' indicates area's rate for those with arthritis was statistically different from Manitoba average with arthritis
'n' indicates area's rate for those without arthritis was statistically different from Manitoba average without arthritis
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.11.2: Five-Year Mortality for People With and Without Arthritis by District, 2001/02-2005/06

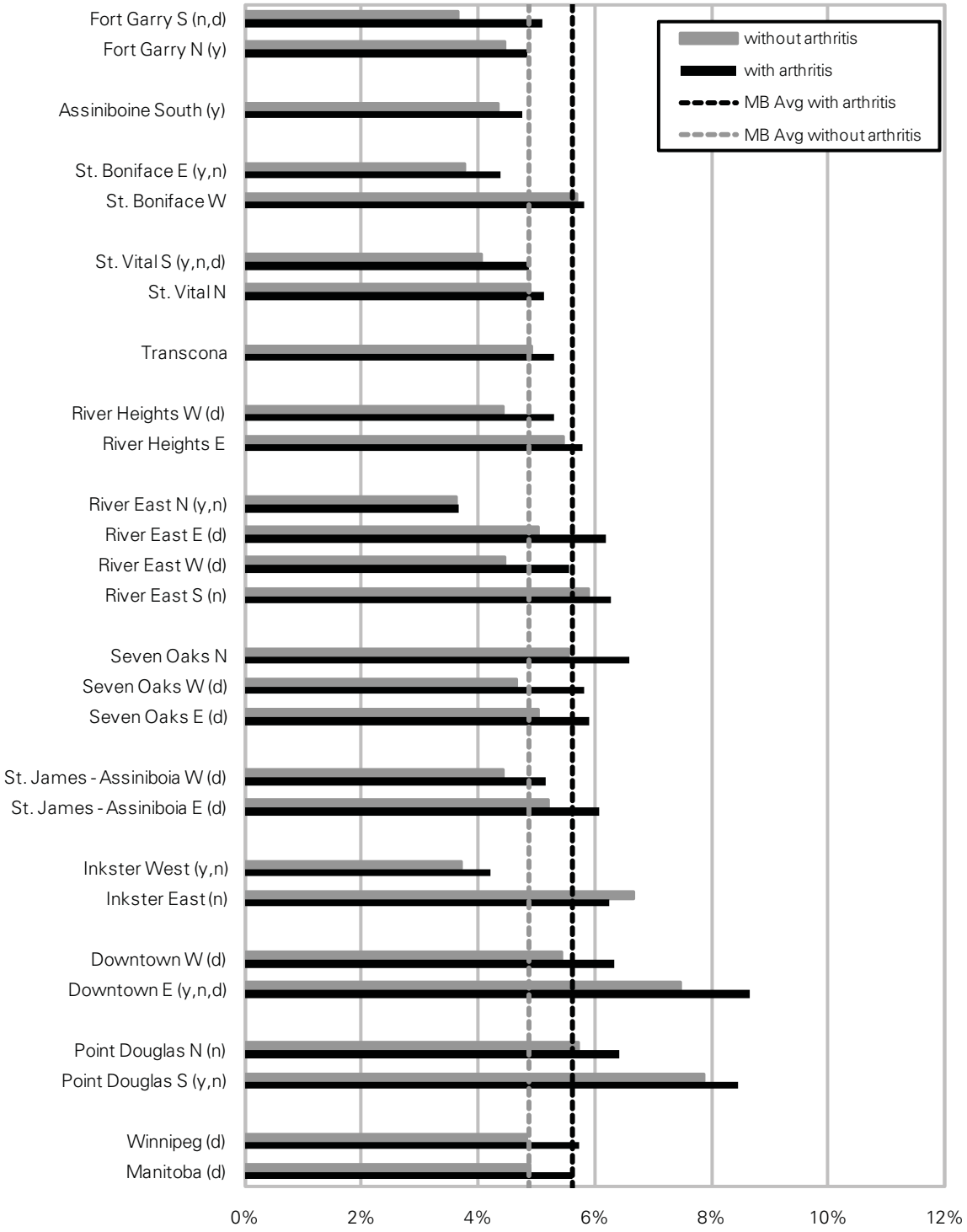
Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.11.3: Five-Year Mortality for People With and Without Arthritis by Winnipeg Neighbourhood Cluster, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




'y' indicates area's rate for those with arthritis was statistically different from Manitoba average with arthritis
'n' indicates area's rate for those without arthritis was statistically different from Manitoba average without arthritis
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

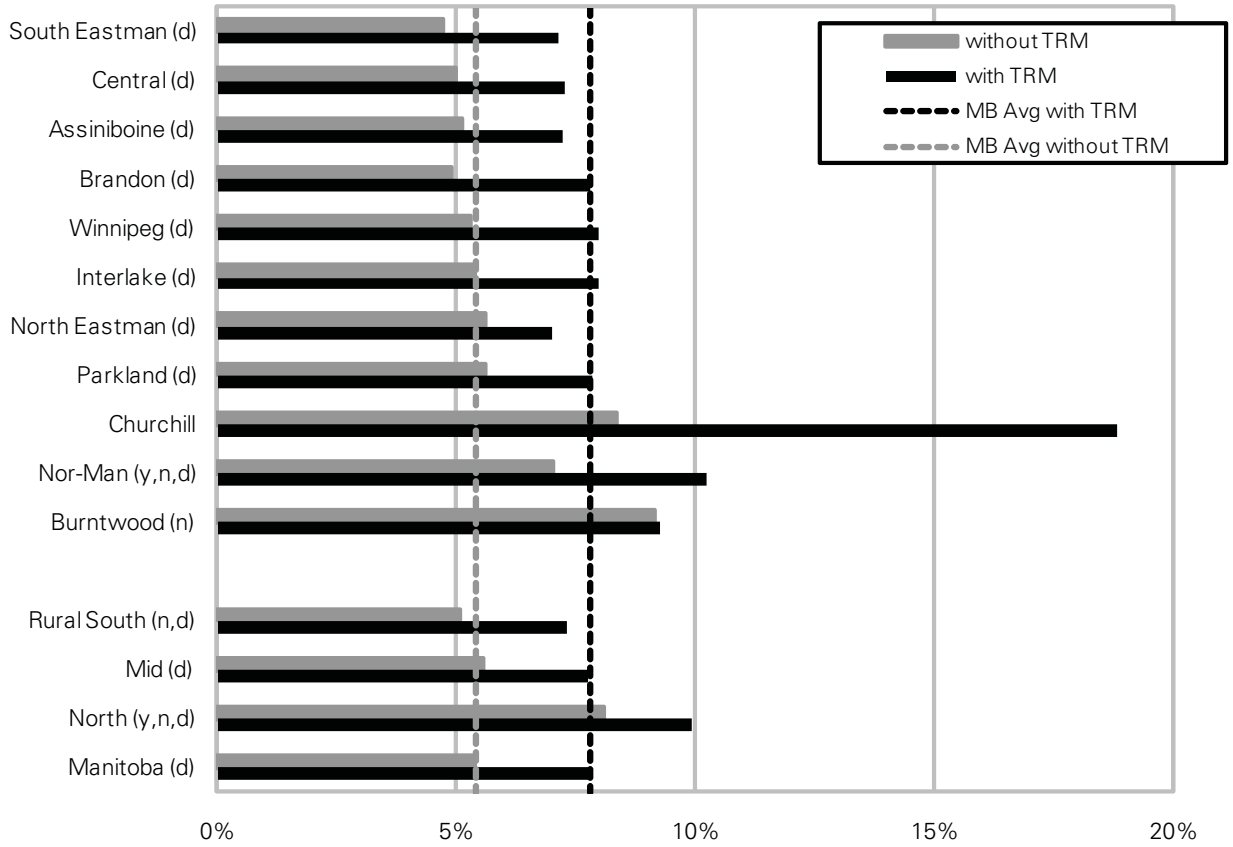
Source: Manitoba Centre for Health Policy, 2009

## 4.12 Mortality Rates With and Without Respiratory Disease

Definition: The rate of death among those with respiratory disease compared to those without, including deaths by all causes from 2001/02–2005/06. See Section 4.3 for the definition of respiratory disease. Values were age– and sex–adjusted to the Manitoba population.

**Figure 4.12.1: Five-Year Mortality for People With and Without Total Respiratory Morbidity (TRM) by RHA, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years

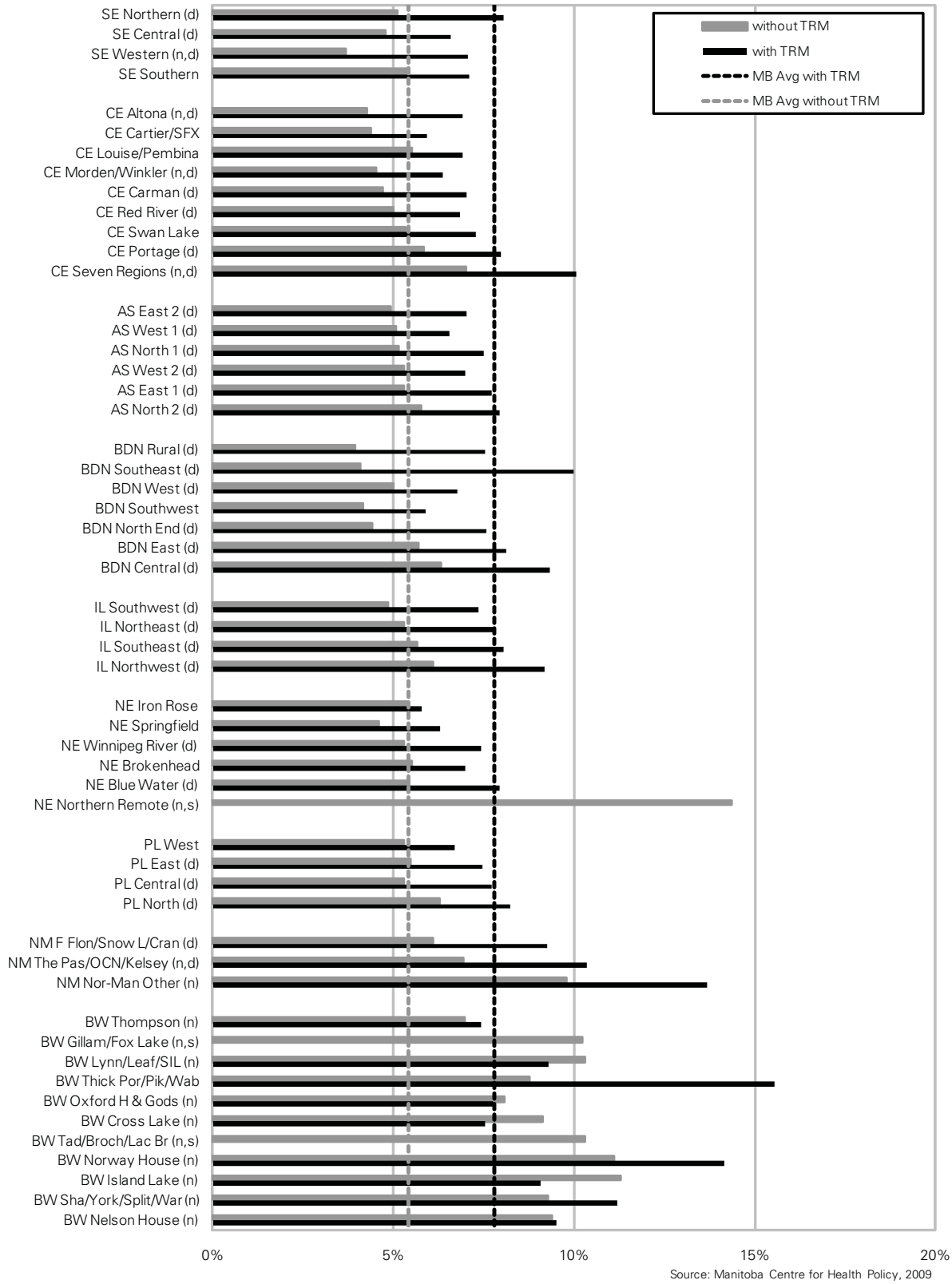



'y' indicates area's rate for those with TRM was statistically different from Manitoba average with TRM
'n' indicates area's rate for those without TRM was statistically different from Manitoba average without TRM
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 4.12.2: Five-Year Mortality for People With and Without Total Respiratory Morbidity (TRM) by District, 2001/02-2005/06**

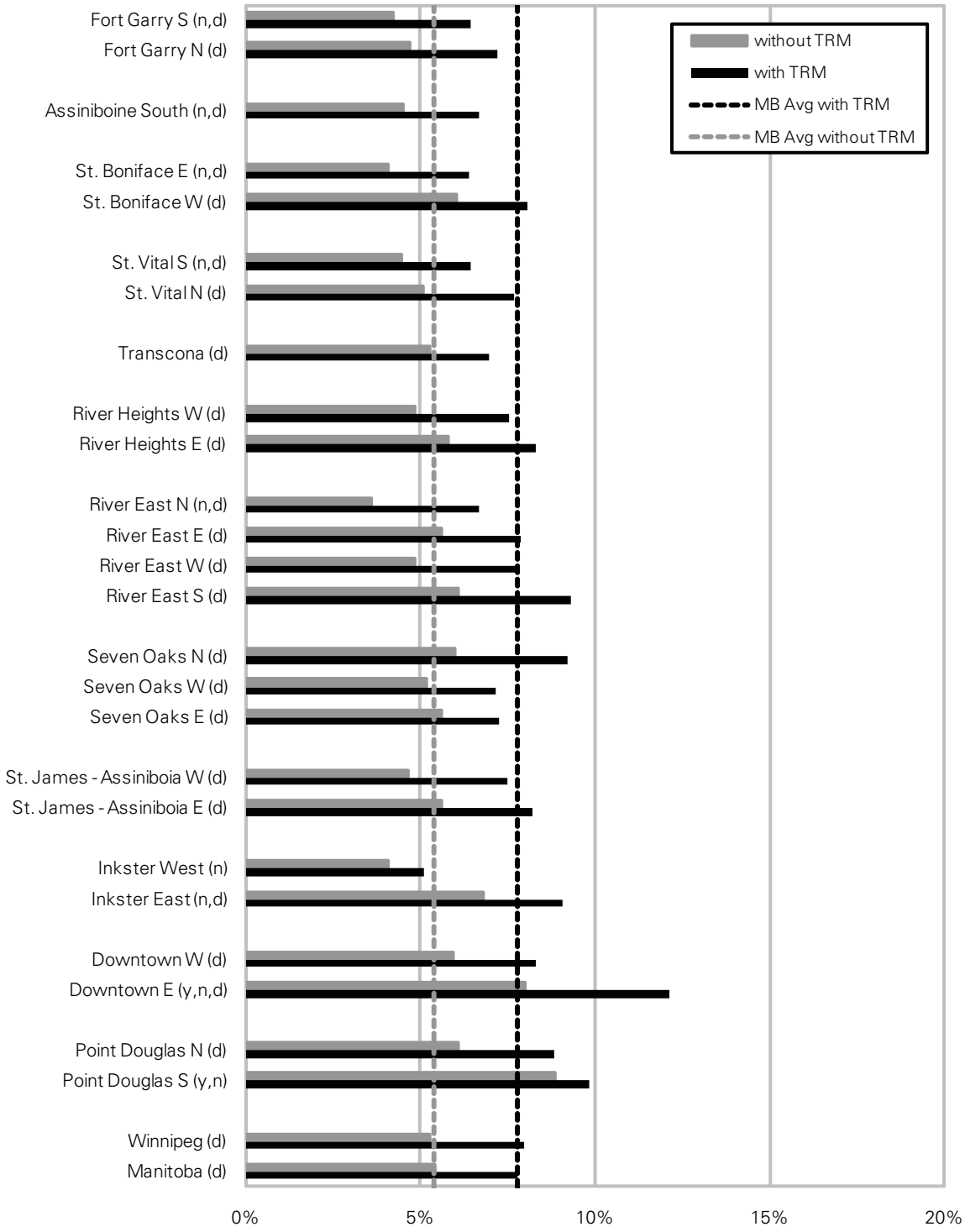
Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.12.3: Five-Year Mortality for People With and Without Total Respiratory Morbidity (TRM) by Winnipeg Neighbourhood Cluster, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years



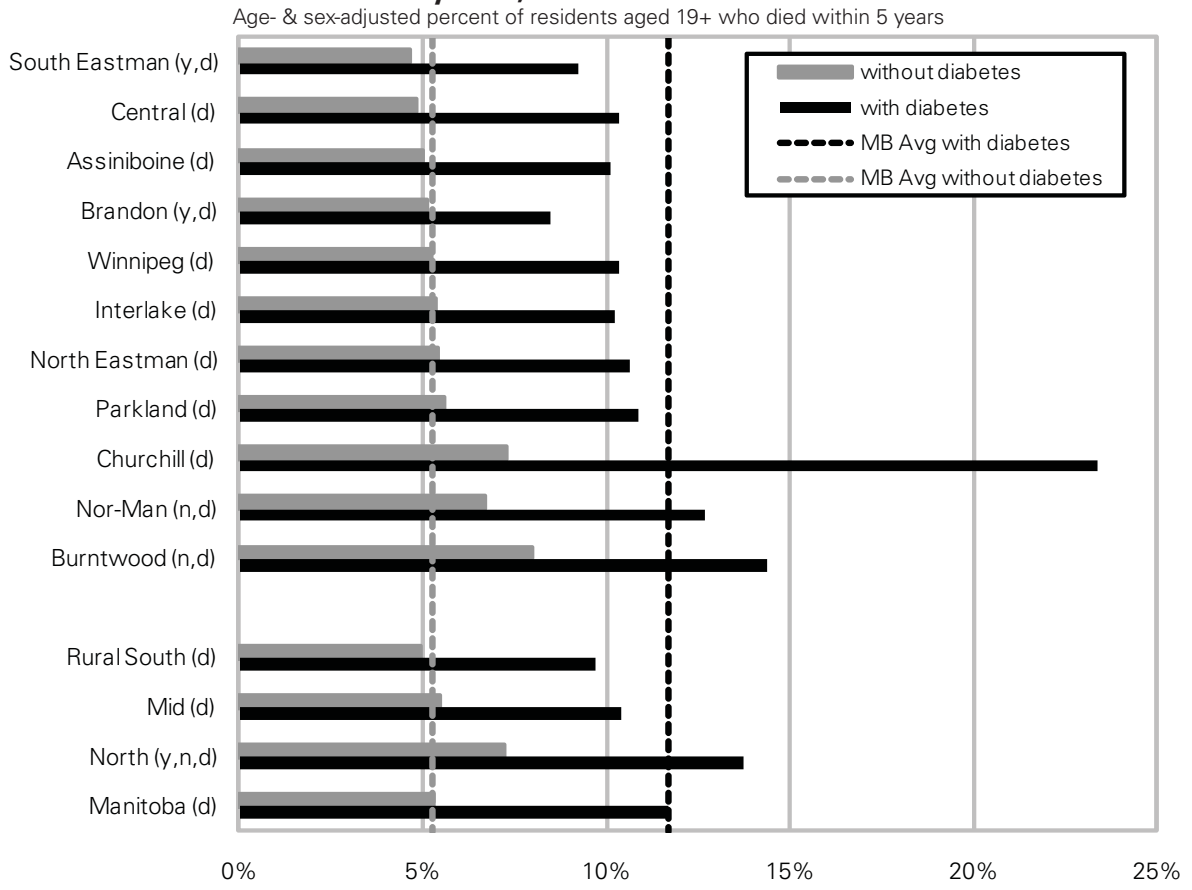

'y' indicates area's rate for those with TRM was statistically different from Manitoba average with TRM
'n' indicates area's rate for those without TRM was statistically different from Manitoba average without TRM
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## 4.13 Mortality Rates With and Without Diabetes

Definition: The rate of death among those with diabetes compared to those without, including deaths by all causes from 2001/02–2005/06. See Section 4.4 for the definition of diabetes. Values were age– and sex–adjusted to the Manitoba population.

**Figure 4.13.1: Five-Year Mortality for People With and Without Diabetes by RHA, 2001/02-2005/06**

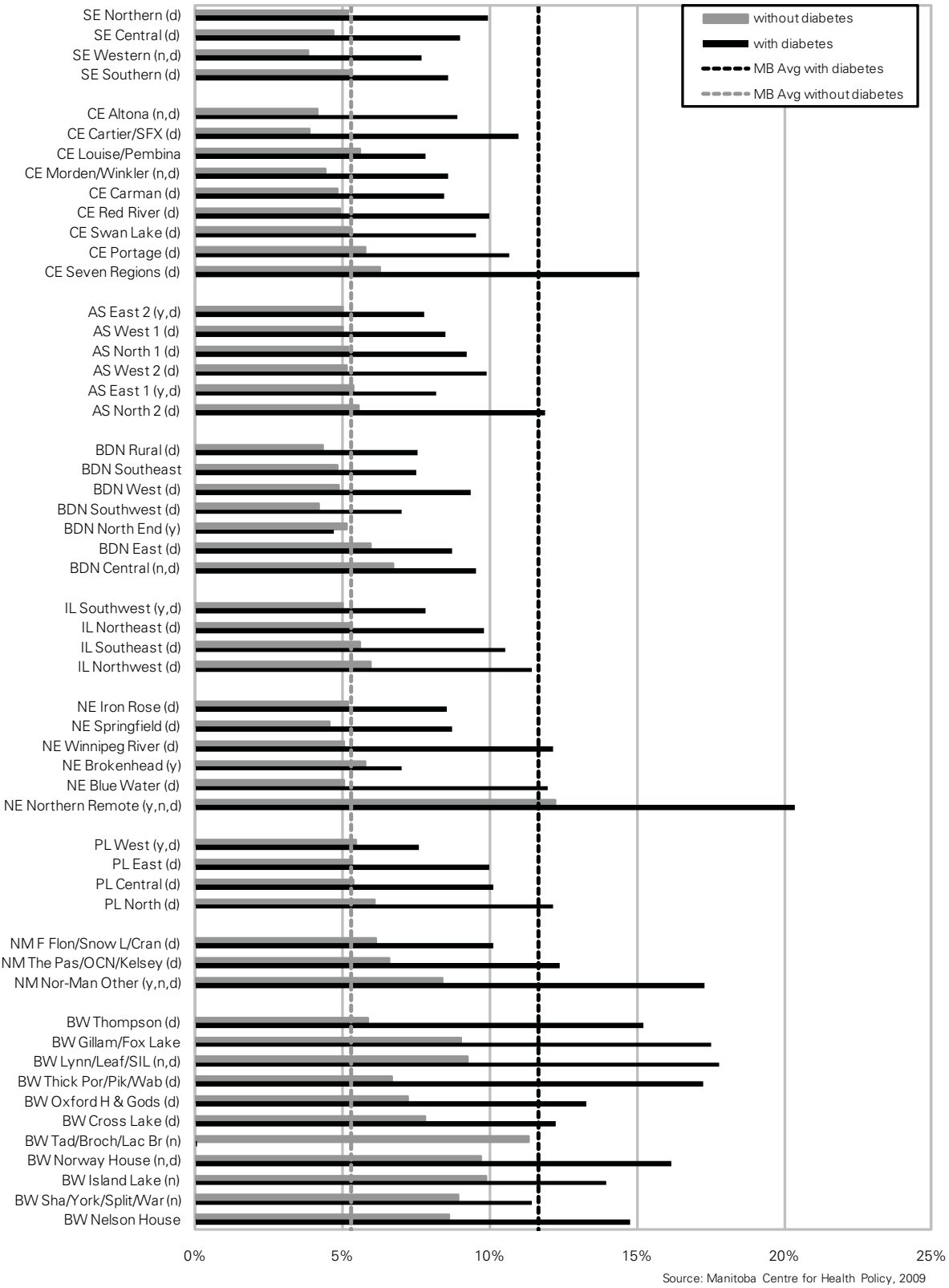



'y' indicates area's rate for those with diabetes was statistically different from Manitoba average with diabetes
'n' indicates area's rate or those without diabetes was statistically different from Manitoba average without diabetes
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 4.13.2: Five-Year Mortality for People With and Without Diabetes by District, 2001/02-2005/06**

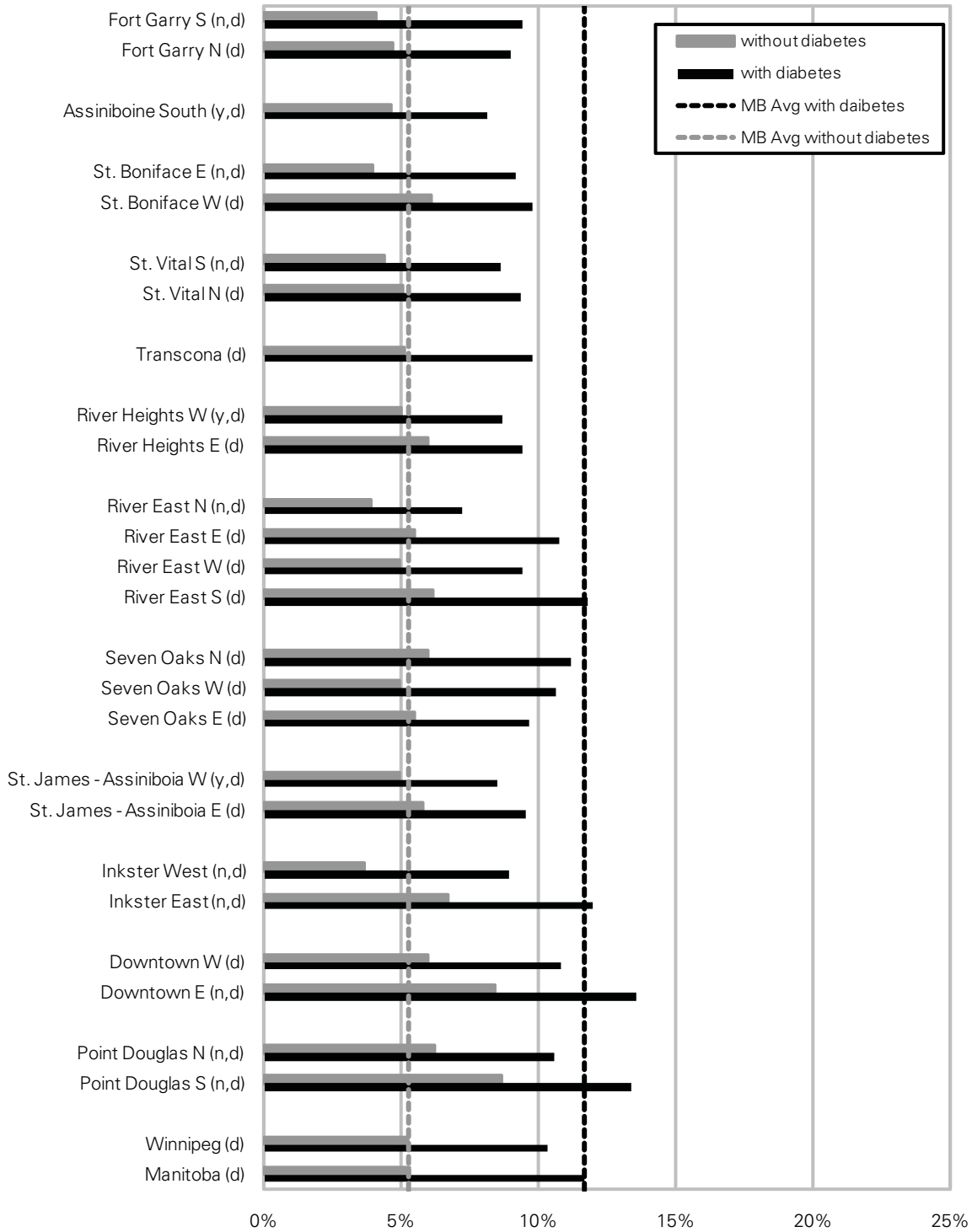
Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.13.3: Five-Year Mortality for People With and Without Diabetes by Winnipeg Neighbourhood Cluster, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




'y' indicates area's rate for those with diabetes was statistically different from Manitoba average with diabetes
'n' indicates area's rate or those without diabetes was statistically different from Manitoba average without diabetes
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

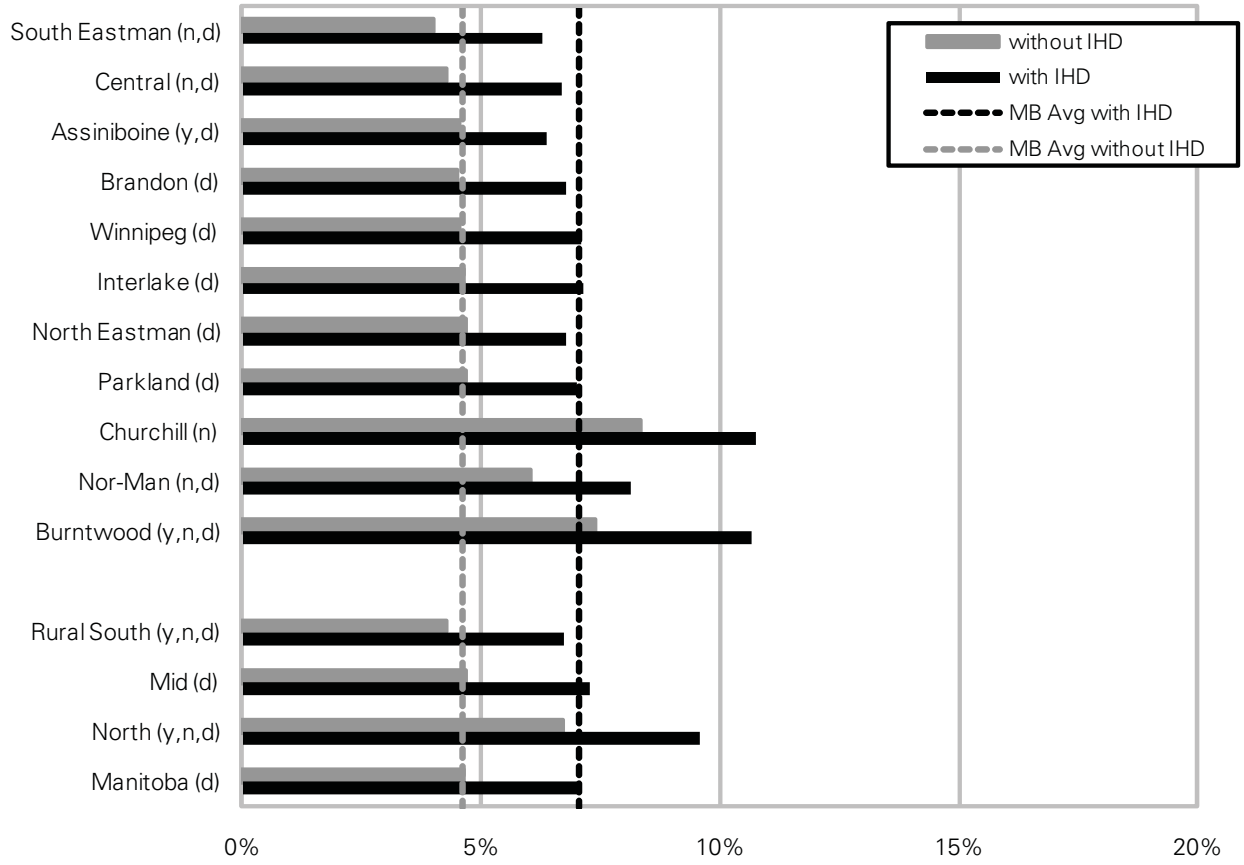
Source: Manitoba Centre for Health Policy, 2009

## 4.14 Mortality Rates With and Without Ischemic Heart Disease

Definition: The rate of death among those with ischemic heart disease compared to those without, including deaths by all causes from 2001/02–2005/06. See Section 4.5 for the definition of ischemic heart disease. Values were age– and sex–adjusted to the Manitoba population.

**Figure 4.14.1: Five-Year Mortality for People With and Without Ischemic Heart Disease (IHD) by RHA, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years

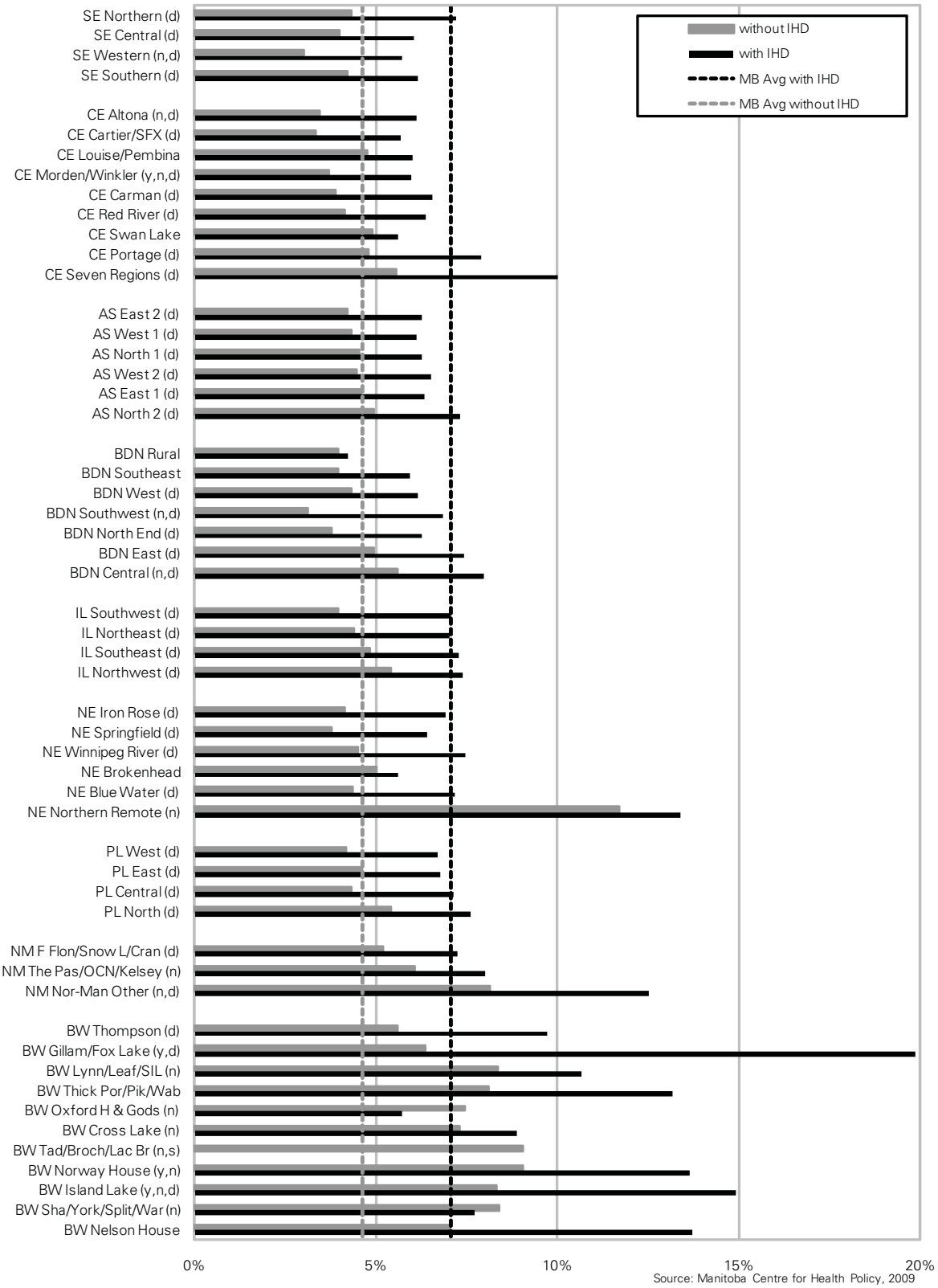



'y' indicates area's rate for those with IHD was statistically different from Manitoba average with IHD
'n' indicates area's rate for those without IHD was statistically different from Manitoba average without IHD
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 4.14.2: Five-Year Mortality for People With and Without Ischemic Heart Disease (IHD) by District, 2001/02-2005/06**

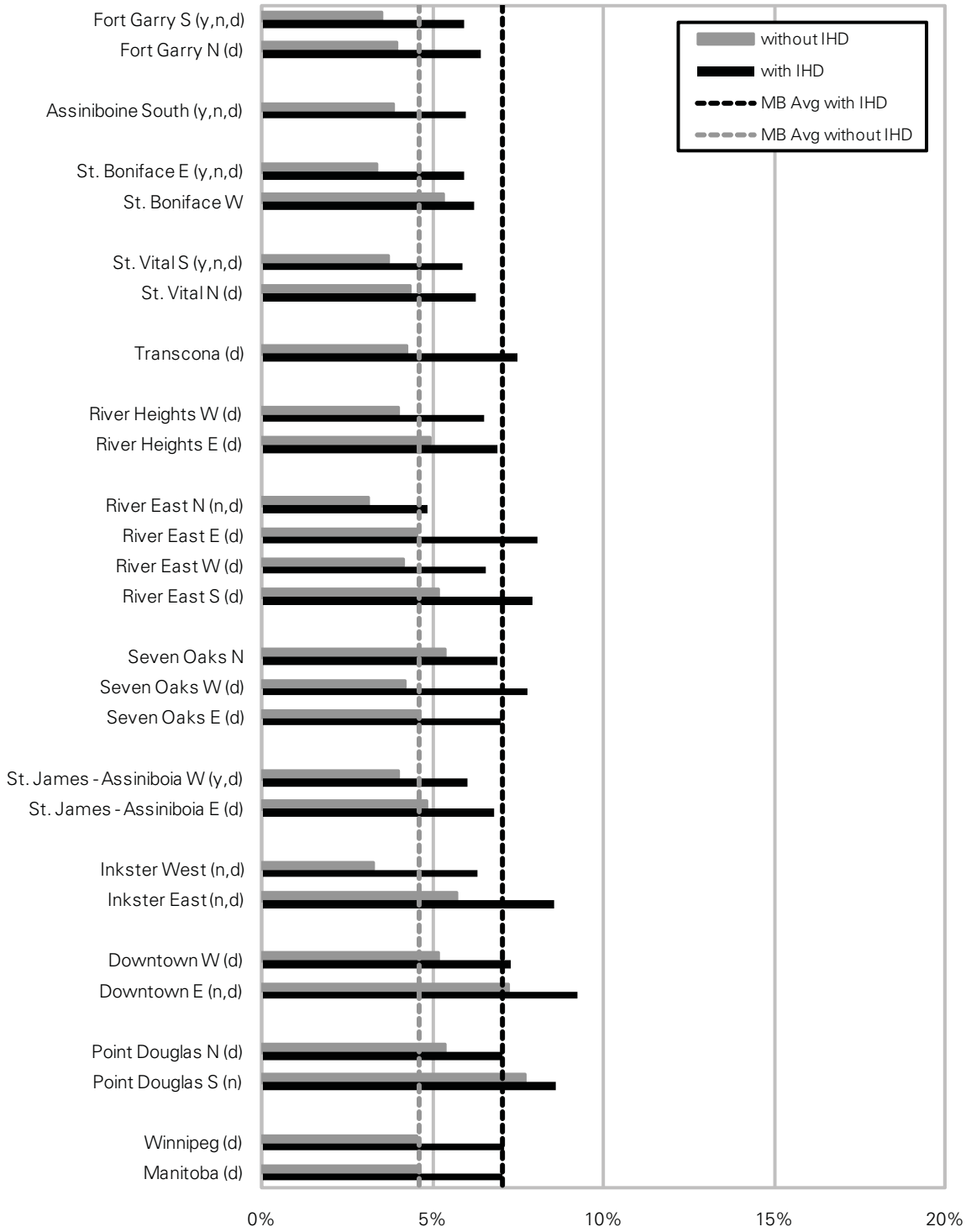
Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.14.3: Five-Year Mortality for People With and Without Ischemic Heart Disease (IHD) by Winnipeg Neighbourhood Cluster, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




'y' indicates area's rate for those with IHD was statistically different from Manitoba average with IHD
'n' indicates area's rate for those without IHD was statistically different from Manitoba average without IHD
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

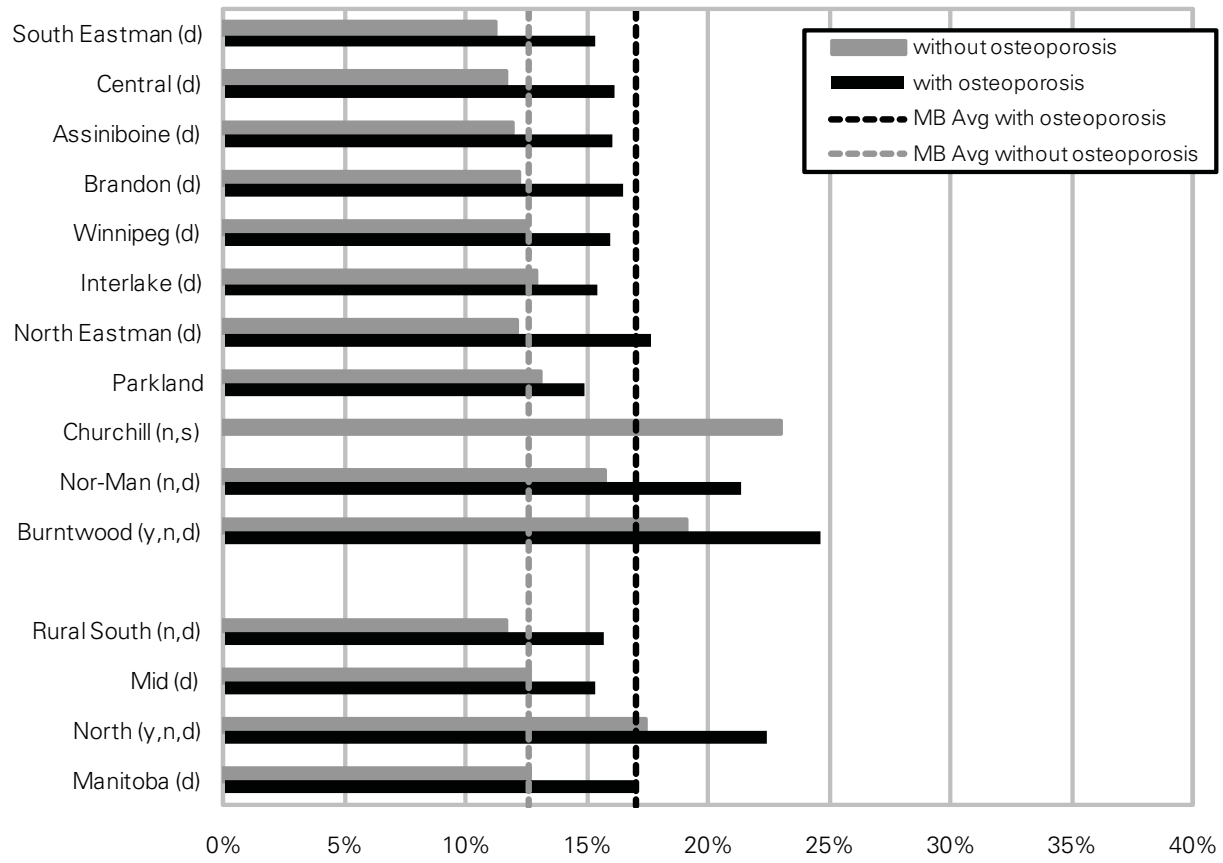
Source: Manitoba Centre for Health Policy, 2009

## 4.15 Mortality Rates With and Without Osteoporosis

Definition: The rate of death among those with osteoporosis compared to those without, including deaths by all causes from 2001/02–2005/06. See Section 4.6 for the definition of osteoporosis. Values were age– and sex–adjusted to the Manitoba population.

**Figure 4.15.1: Five-Year Mortality for People With and Without Osteoporosis by RHA, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 50+ who died within 5 years

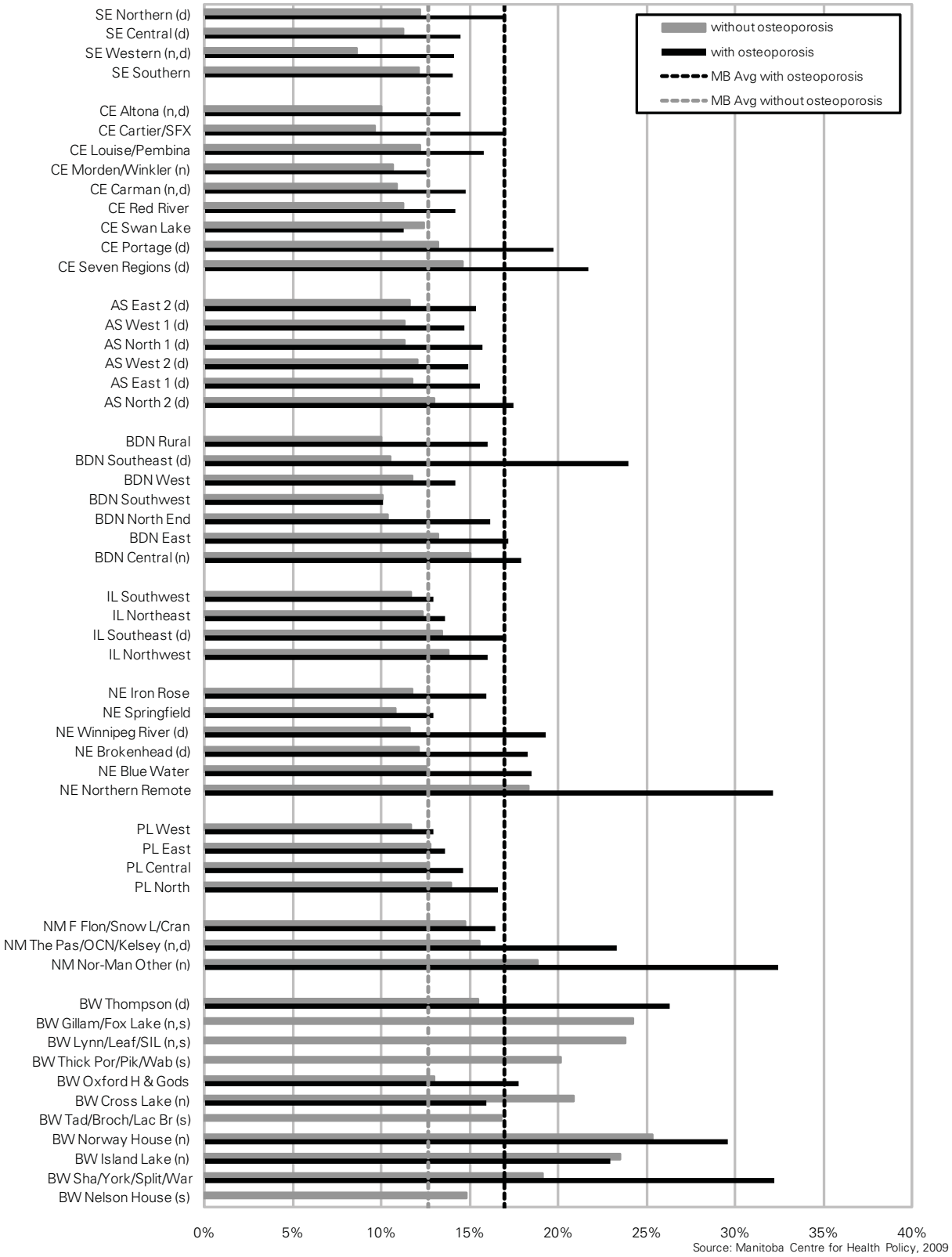



'y' indicates area's rate for those with osteoporosis was statistically different from Manitoba average with osteoporosis
'n' indicates area's rate for those without osteoporosis was statistically different from Manitoba average without osteoporosis
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 4.15.2: Five-Year Mortality for People With and Without Osteoporosis by District, 2001/02-2005/06

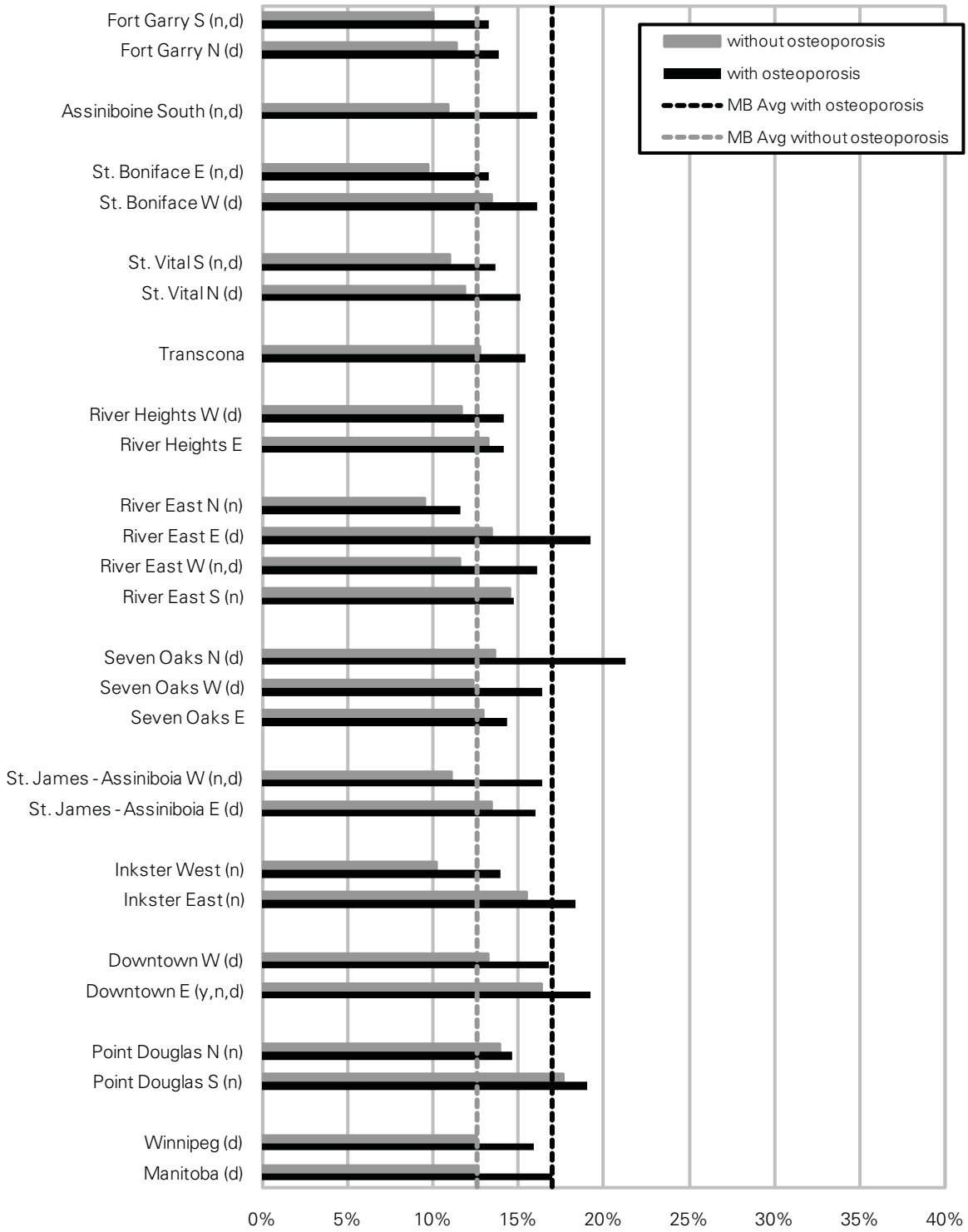
Age- & sex-adjusted percent of residents aged 50+ who died within 5 years




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.15.3: Five-Year Mortality for People With and Without Osteoporosis by Winnipeg Neighbourhood Cluster, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 50+ who died within 5 years




'y' indicates area's rate for those with osteoporosis was statistically different from Manitoba average with osteoporosis
'n' indicates area's rate for those without osteoporosis was statistically different from Manitoba average without osteoporosis
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

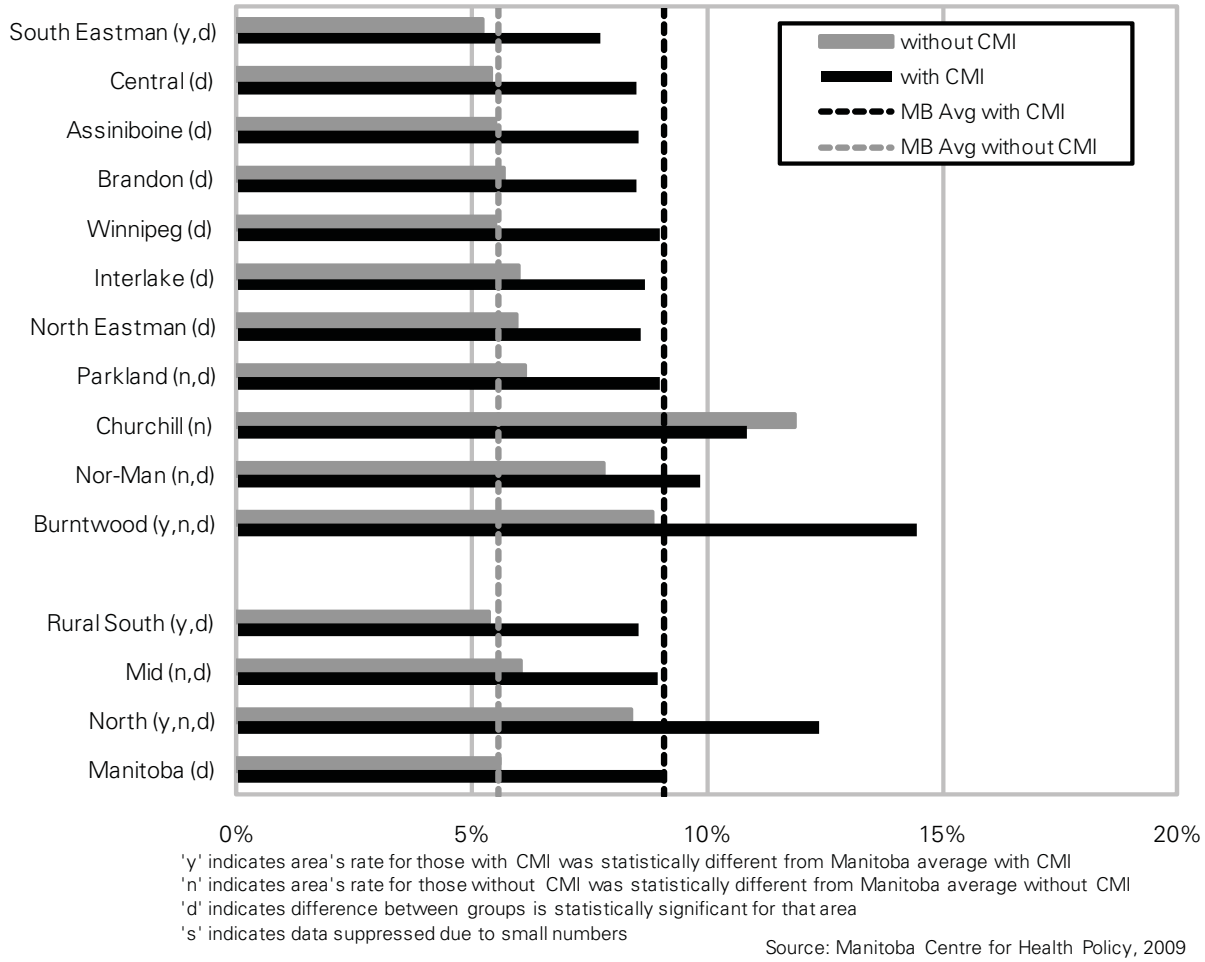
Source: Manitoba Centre for Health Policy, 2009

## 4.16 Mortality Rates With and Without Cumulative Mental Illness

Definition: The rate of death among those in the 'Cumulative Mental Illness' group compared to those without, including deaths by all causes from 2001/02–2005/06. See Section 5.1 for the definition of Cumulative Mental Illness. Values were age– and sex–adjusted to the Manitoba population.

**Figure 4.16.1: Five-Year Mortality for People With and Without Cumulative Mental Illness (CMI) by RHA, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years

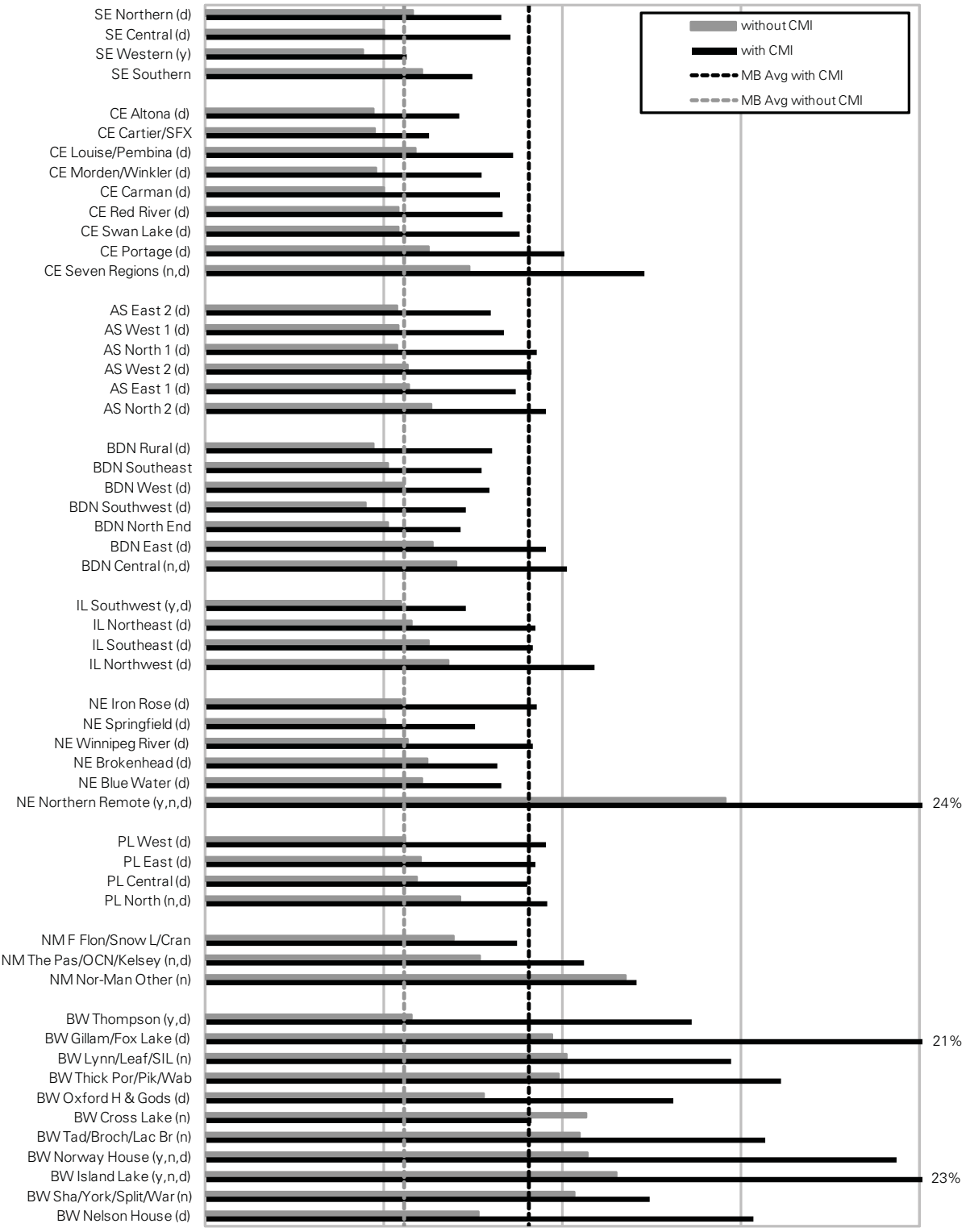



'y' indicates area's rate for those with CMI was statistically different from Manitoba average with CMI
'n' indicates area's rate for those without CMI was statistically different from Manitoba average without CMI
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 4.16.2: Five-Year Mortality for People With and Without Cumulative Mental Illness (CMI) by District, 2001/02-2005/06**

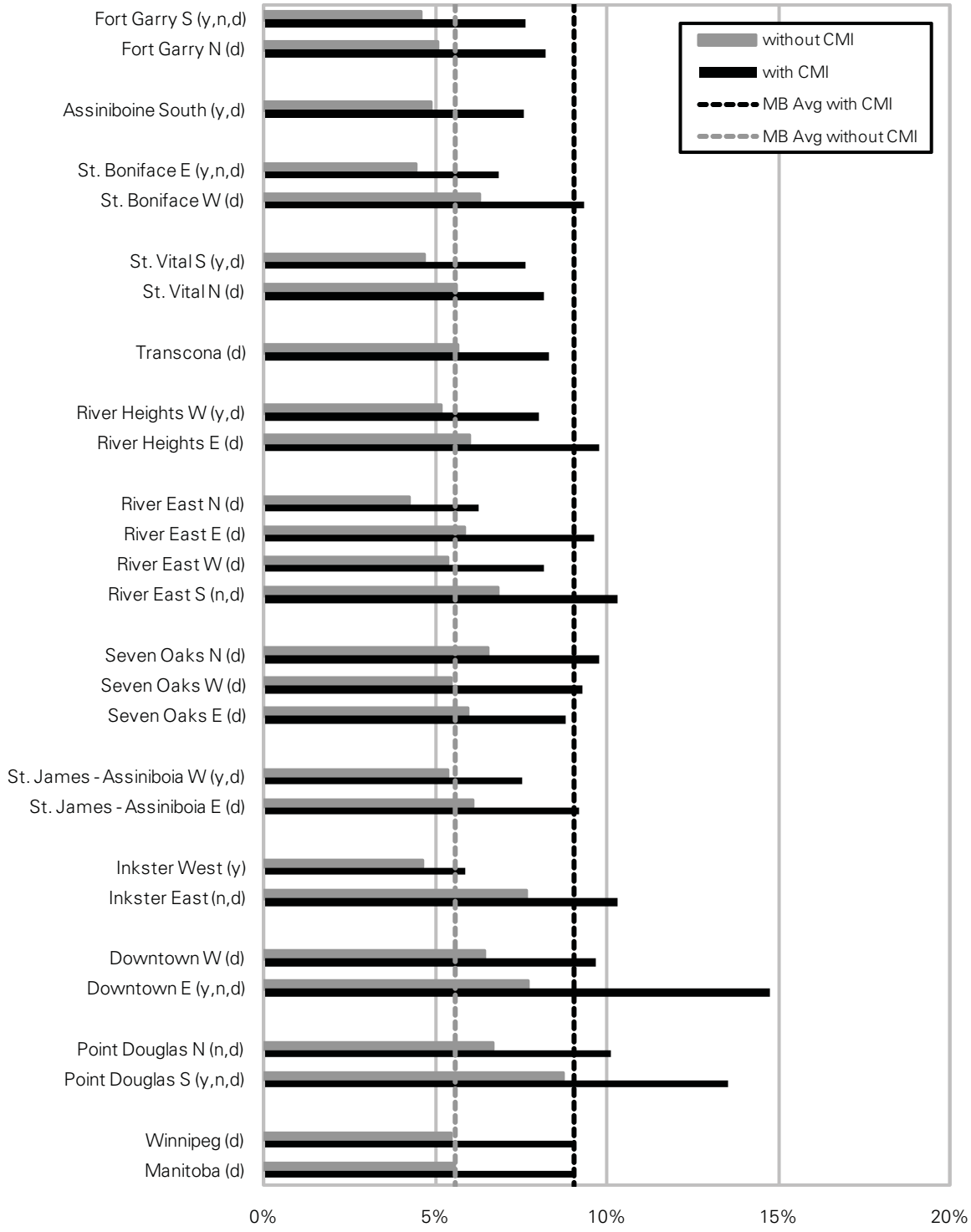
Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




Source: Manitoba Centre for Health Policy, 2009

**Figure 4.16.3: Five-Year Mortality for People With and Without Cumulative Mental Illness (CMI) by Winnipeg Neighbourhood Clusters, 2001/02-2005/06**

Age- & sex-adjusted percent of residents aged 19+ who died within 5 years




'y' indicates area's rate for those with CMI was statistically different from Manitoba average with CMI
'n' indicates area's rate for those without CMI was statistically different from Manitoba average without CMI
'd' indicates difference between groups is statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

# Chapter 5: Mental Illness

## Key Findings for Chapter 5

- The prevalence of some mental illnesses increased in Manitoba, while for others, prevalence was stable or decreased slightly. Among those increasing over time were the two most prevalent illnesses: depression and anxiety, in addition to dementia. The prevalence of substance abuse declined, and that for schizophrenia and personality disorders (the two least prevalent illnesses) was stable.
- However, because there is significant co–morbidity among mental illnesses, the increase in the proportion of the population affected is not simply the sum of the changes in the individual illnesses. The 'cumulative mental illness' indicator was created to reveal the percentage of the population with any of five prominent mental illnesses: depression, anxiety, substance abuse, schizophrenia, and personality disorders. Prevalence increased from 22.4% in 1996/97–2000/01 to 24.3% of the population age 10 or older in 2001/02–2005/06. This indicator also helps overcome differences in specific diagnoses assigned: for example, in the North, the prevalence of depression is relatively low, but that of substance abuse is relatively high. The cumulative indicator shows that overall, the proportion of the population affected by mental illness was relatively low in the Rural South and Mid areas, but higher in the North.
- Unlike most physical illnesses, the prevalence of mental illness is not directly related to general health status of residents at the RHA level (using premature mortality rates).
- Some mental illnesses are more prevalent among residents of Winnipeg and Brandon RHAs, though some portion of this difference may have been caused by residents of other areas moving to those centres in order to be closer to services they need. (This is important because in order to be defined as cases, people must seek help and have their disorder(s) diagnosed by physicians—during visits or hospitalizations).
- The prevalence of depression, anxiety, and dementia were consistently related to income among residents of urban areas (lower income areas had higher prevalence), but not rural areas. For the other mental illnesses, significant associations with income were seen among both urban and rural areas.

## Introduction

This chapter provides the prevalence of a number of mental illnesses (among residents age 10 years or older) that can be tracked using administrative data: depression, anxiety Disorders, substance abuse, schizophrenia, personality disorders, and dementia (age 55+). The case definitions were adapted from MCHP's Mental Illness report (Martens et al., 2004), with revisions to incorporate the change to ICD–10–CA codes in hospital abstracts as of April 1, 2004.

## Comparison to Results from 2004 Mental Illness Report

For the prevalence indicators in this chapter, the values shown in this report are consistent with, but slightly lower than, those shown in the 2004 Mental Illness report. This is because the 2004 report included data from the Mental Health Management Information System, whereas this report did not due to the several layers of approvals and review required for access to the data. The additional data would not have contributed any substantial change to the results. The time periods covered were also slightly different: the Mental Illness report used the five–year period from 1997/98–2001/02, whereas this report provides results for two 5–year time periods, 1996/97–2000/01 and 2001/02–2005/06. Table 5.1 below provides a comparison of values in the two reports.

**Table 5.1: Comparison of Mental Illness Prevalence Values**

Percentage of Residents aged 10+ with disorder

| Disorder | Mental Illness Report 2004 1997/98-2001/02 | RHA Atlas 2009 | |
|---|---|---|---|
| | | Time 1 1996/97-2000/01 | Time 2 2001/02-2005/06 |
| Cumulative | 24.00 | 22.40 | 24.30 |
| Depression | 18.10 | 16.90 | 19.10 |
| Anxiety | 6.65 | 6.06 | 7.44 |
| Substance Abuse | 5.84 | 5.44 | 4.90 |
| Schizophrenia | 1.19 | 1.11 | 1.12 |
| Personality Disorders | 0.91 | 0.88 | 0.85 |
| Dementia (55+) | 10.40 | 10.00 | 10.80 |

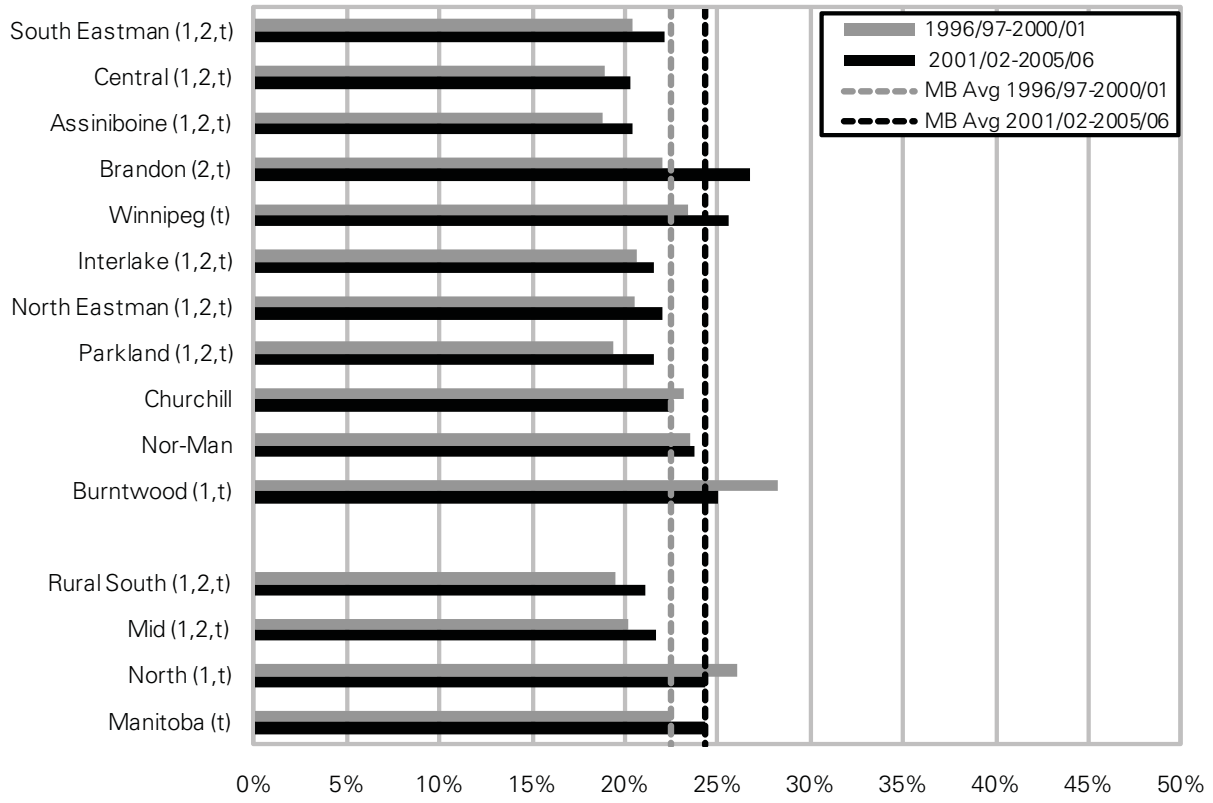
Comparison of these prevalence values to results of other studies are challenging because of the data sources and definitions used. For a detailed review and comparison of prevalence values to other studies, see the Mental Illness report.

## 5.1 Cumulative Mental Illness

The grouping 'Cumulative Mental Illness' was created to provide an overall indicator of the prevalence of mental illness and accounts for the co–occurrence among mental illnesses. Cumulative prevalence was defined as the proportion of the population who received treatment for any of the following: depression, anxiety, substance abuse, personality disorders, or schizophrenia. Sections 5.2–5.6 describe the exact case definitions used for each disorder.

**Figure 5.1.1: Prevalence of Cumulative Disorders by RHA**

Age- & sex-adjusted percent of residents aged 10+ with disorder

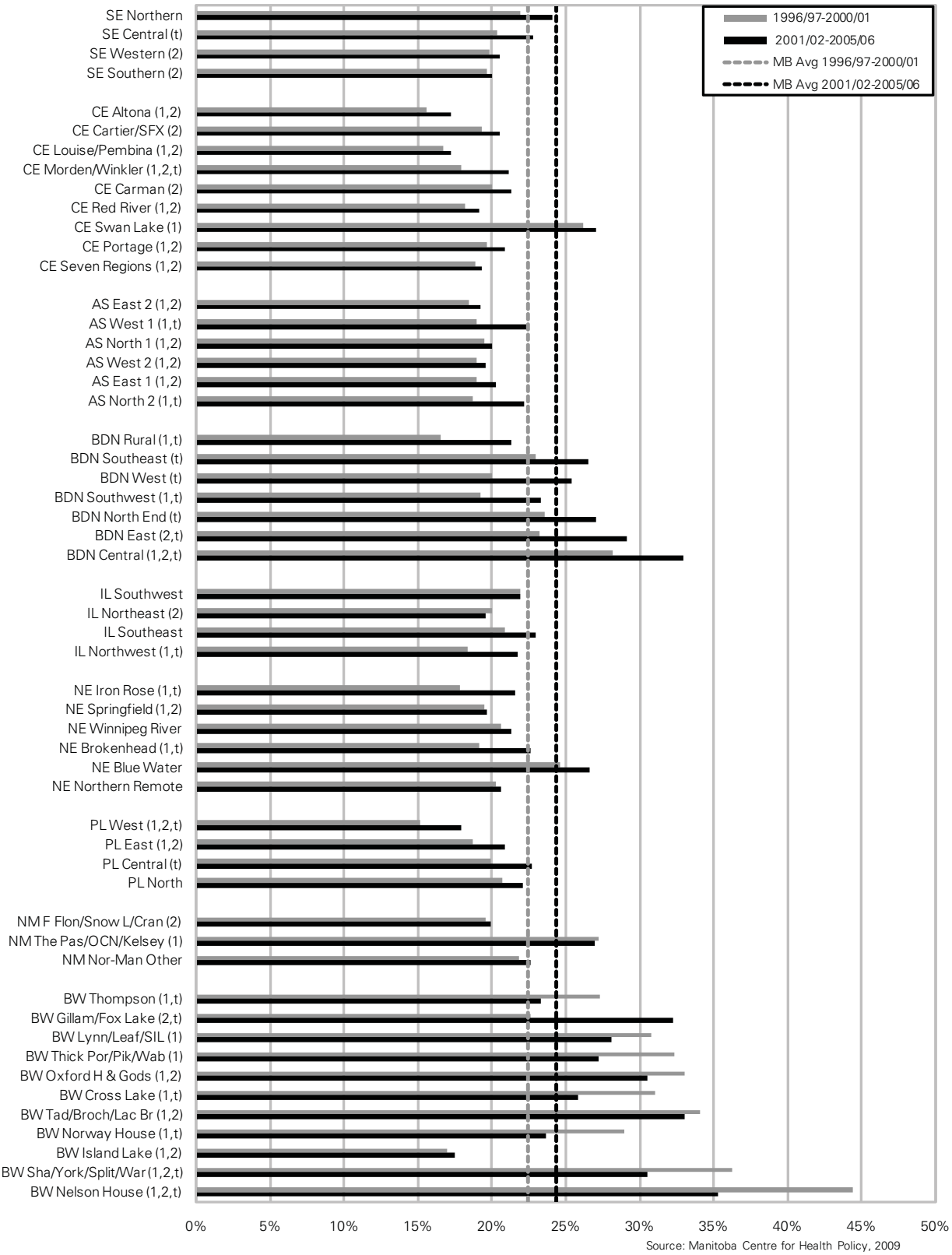



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 5.1.2: Prevalence of Cumulative Disorders by District

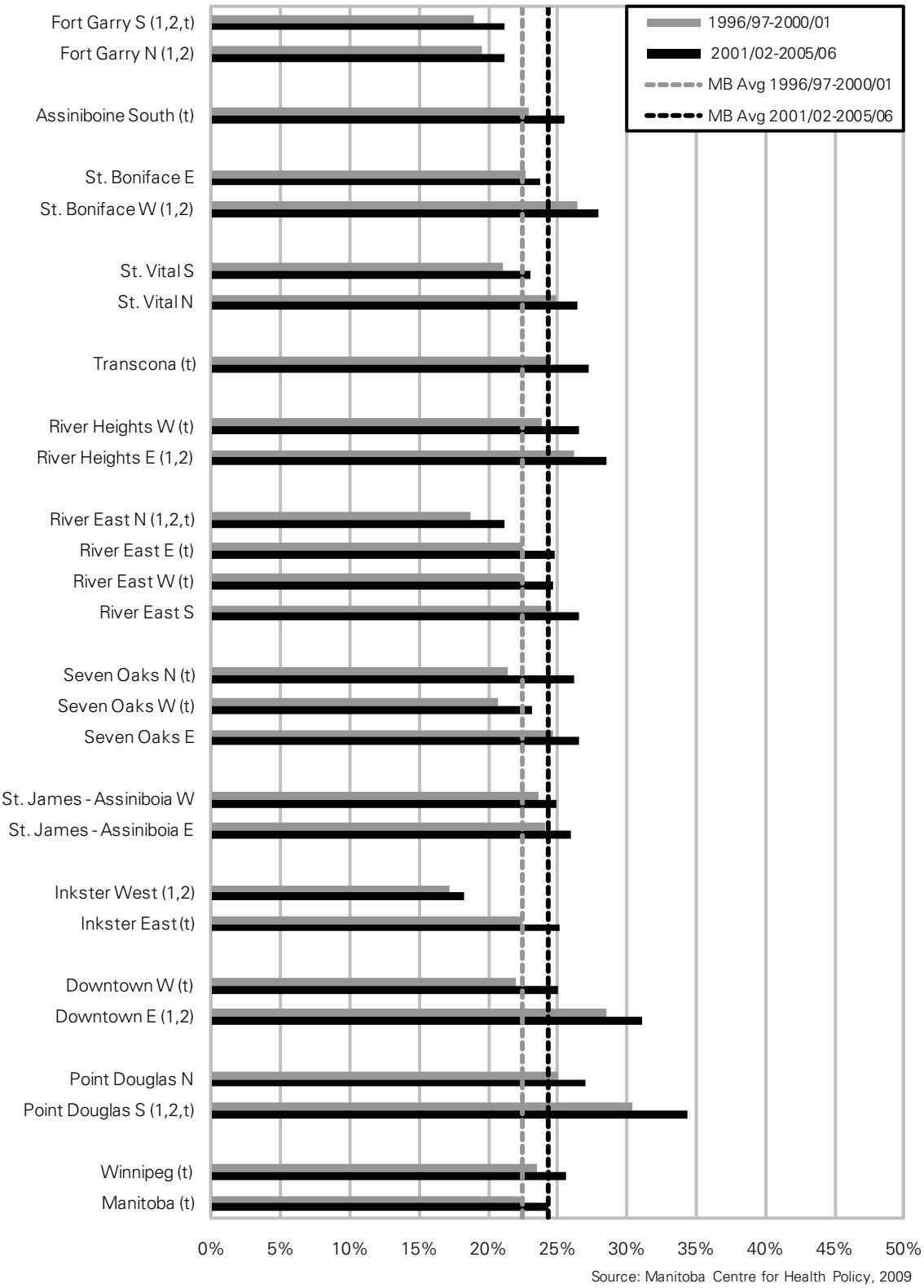
Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

**Figure 5.1.3: Prevalence of Cumulative Disorders by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Cumulative prevalence increased in Manitoba from 22.4% to 24.3% of the population age 10 or older, and this increase was reflected in most RHAs and Districts, as well as Winnipeg sub–areas.
- There was no relationship between cumulative disorders prevalence and health status at the RHA or aggregate levels.
- Residents of the North, Winnipeg and Brandon had higher prevalence than residents in the Rural South and Mid areas. Some portion of the higher rates for Winnipeg and Brandon may be due to residents with severe mental illness moving from other RHAs to those centres in order to be close to services they need.
- In rural areas, there was no relationship between income and cumulative prevalence in either time period, whereas in urban areas, prevalence was significantly higher in lower income areas in both time periods (Appendix 2).

## Comparison to other findings:

- The prevalence values for Time 1 are slightly lower than those in the Mental Illness report, likely due to differences in data sources used (see Introduction).
- See the Mental Illness report for comparisons to other studies.

## 5.2 Depression

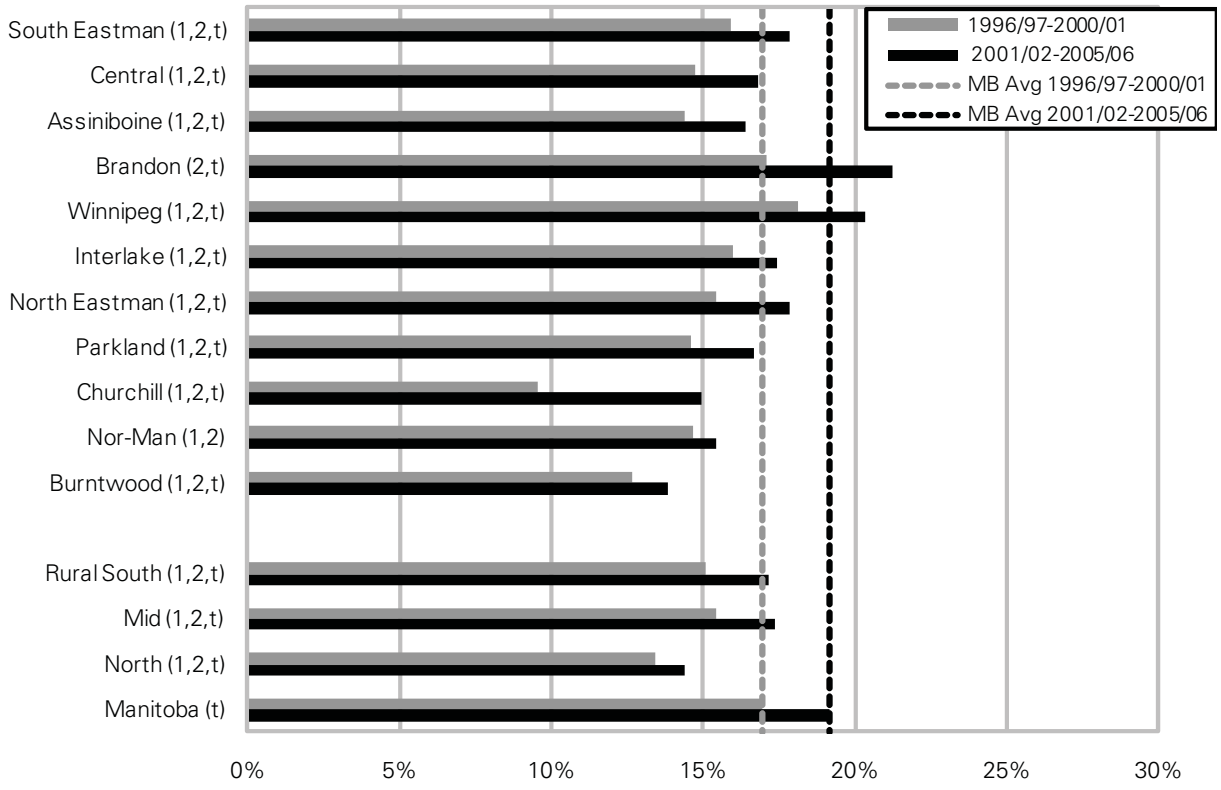
Definition: The proportion of residents age 10 or older diagnosed with depression over a five–year period, by any of the following:

- one or more hospitalizations with a diagnosis for depressive disorder, affective psychoses, neurotic depression or adjustment reaction, ICD–9–CM codes 296.2–296.8, 300.4, 309, 311; ICD–10–CA codes F31, F32, F33, F34.1, F38.0, F38.1, F41.2, F43.1, F43.2, F43.8, F53.0, F93.0
- one or more physician visits with a diagnosis for depressive disorder, affective psychoses or adjustment reaction, ICD–9–CM codes 296, 309, 311
- one or more hospitalizations with a diagnosis for anxiety disorders, ICD–9–CM code 300; ICD–10–CA codes F32.0, F34.1, F40, F41, F42, F44, F45.0, F451, F452, F48, F68.0, F99, and one or more prescriptions for an antidepressant or mood stabilizer, ATC codes N03AB02, N03AB52, N03AF01, N05AN01, N06A
- one or more physician visits with a diagnosis for anxiety disorders, ICD–9–CM code 300, and one or more prescriptions for an antidepressant or mood stabilizer, ATC codes N03AB02, N03AB52, N03AF01, N05AN01, N06A

Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Figure 5.2.1: Prevalence of Depression by RHA**

Age- & sex-adjusted percent of residents aged 10+ with disorder

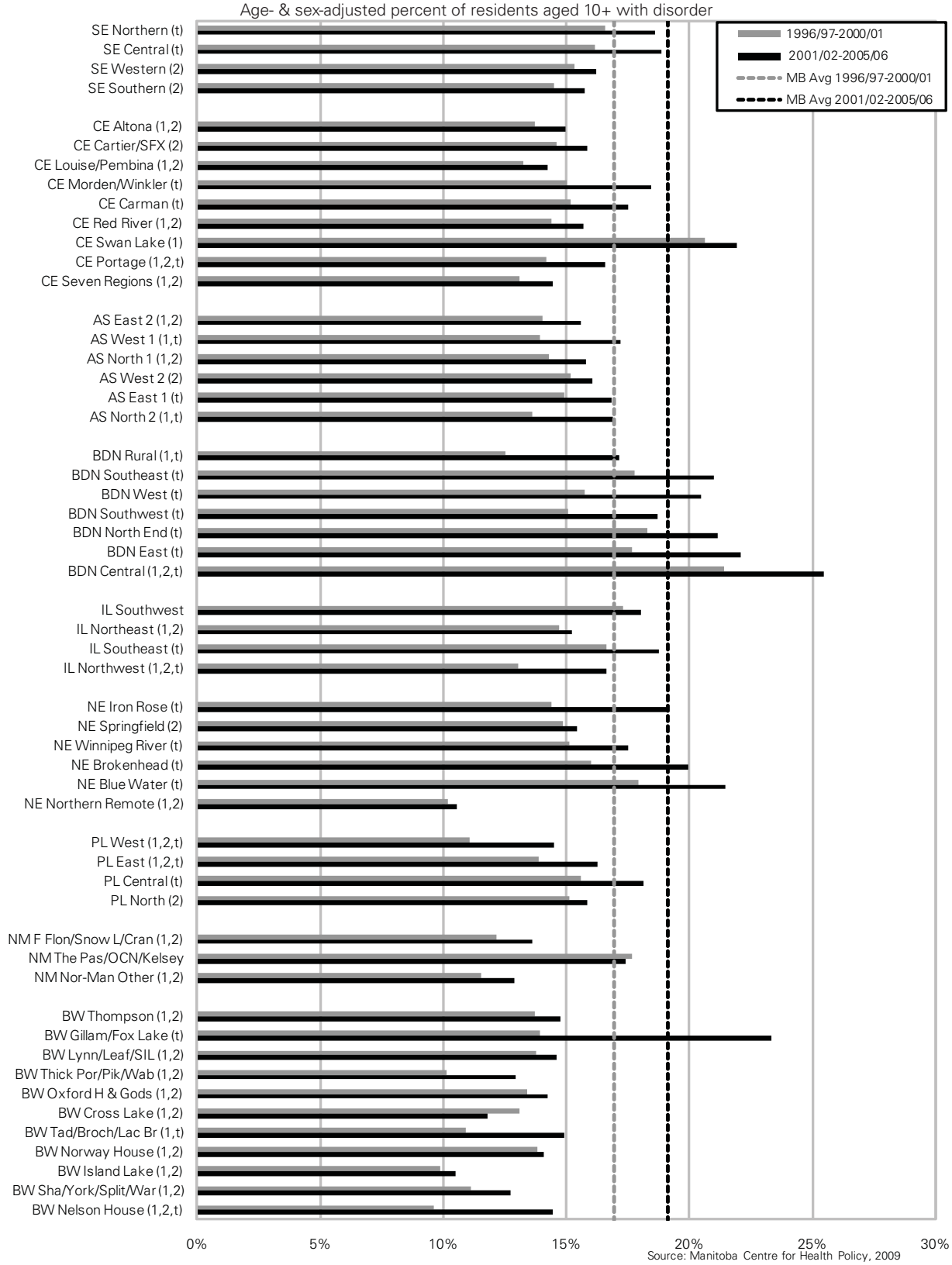



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 5.2.2: Prevalence of Depression by District

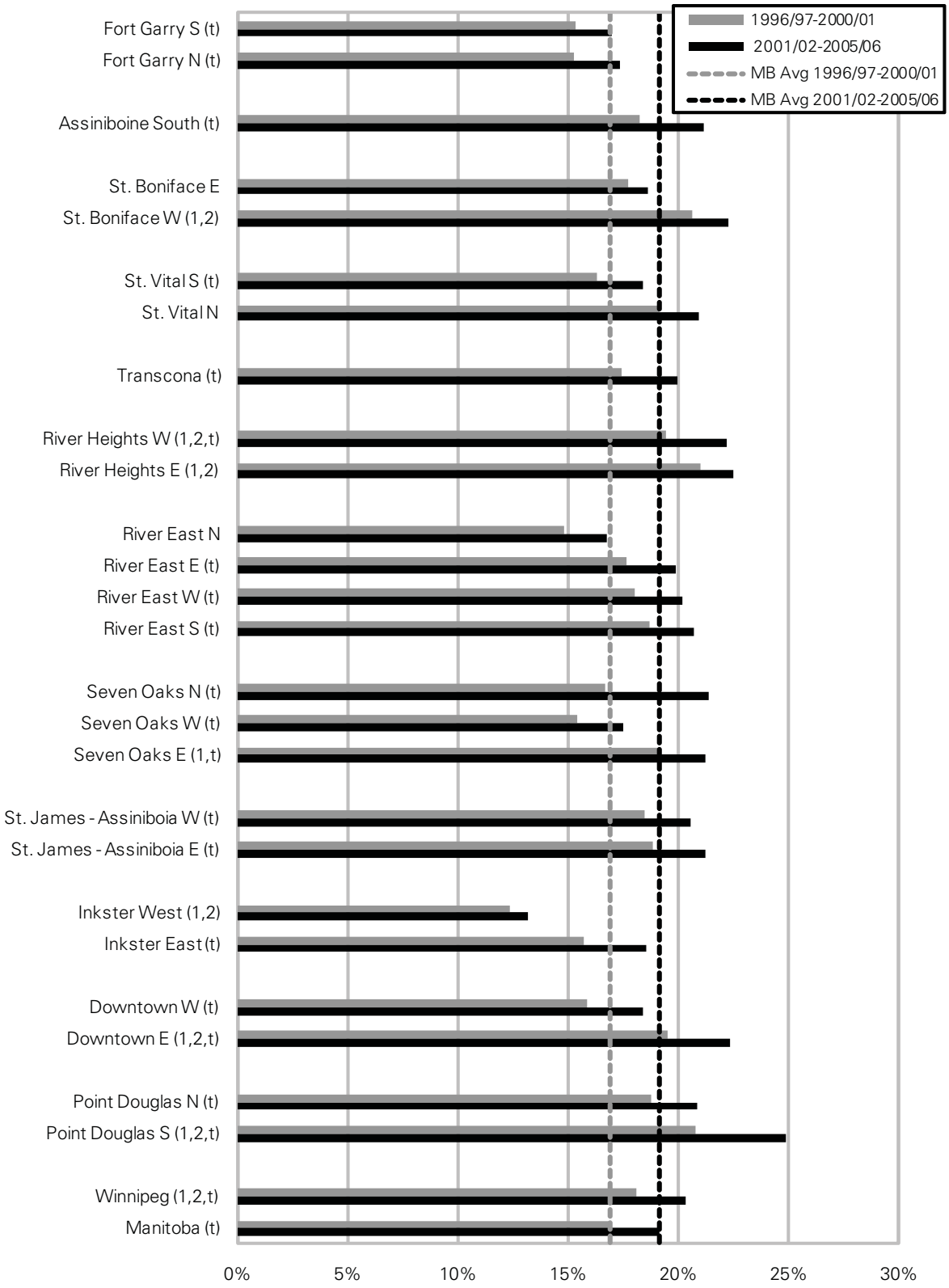
Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

**Figure 5.2.3: Prevalence of Depression by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Depression prevalence increased from 16.9% to 19.1% of residents age 10+.
- An increase was seen in all RHAs and Winnipeg sub–areas and virtually all Districts.
- Depression prevalence was not strongly related to health status at the RHA level.
- Northern RHAs had the lowest depression prevalence, but they have high values for substance abuse prevalence (Section 5.4), which may be related. The Cumulative Mental Illness indicator which combines these disorders (Section 5.1) reflects this as well, indicating that residents of the North had higher values than Rural South or Mid residents.
- Winnipeg and Brandon RHAs had the highest prevalence values, both over 20% in the second time period.
- Depression prevalence was significantly related to income in urban areas, but not rural areas. Among urban residents, depression prevalence was higher in lower income areas, in both time periods (Appendix 2).

## Comparison to other findings:

- The prevalence values for Time 1 are slightly lower than those in the Mental Illness report, likely due to differences in data sources used (see Introduction).
- See the Mental Illness report for comparisons to other studies.

## 5.3 Anxiety Disorders

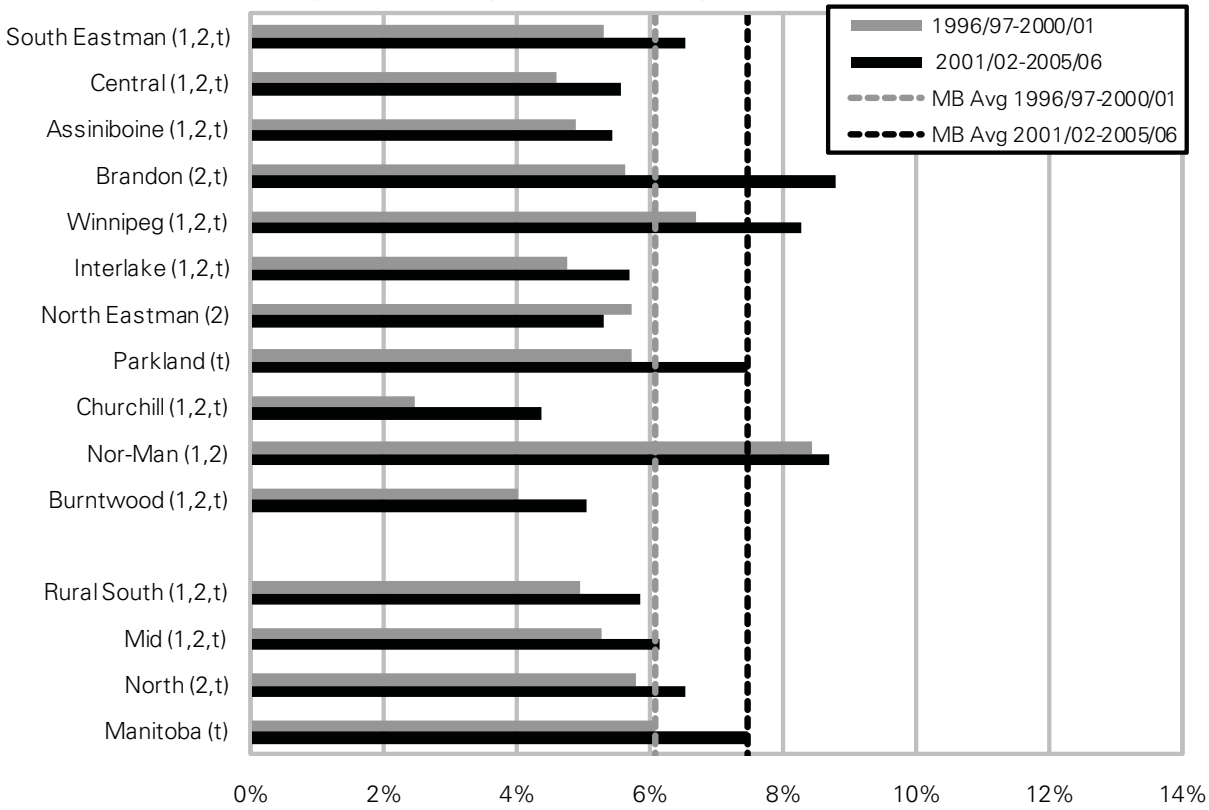
Definition: The proportion of residents age 10 or older diagnosed with anxiety over a five–year period, by any of the following:

- one or more hospitalizations with a diagnosis for anxiety states, phobic disorders or obsessive–compulsive disorders, ICD–9–CM codes 300.0, 300.2, 300.3; ICD–10–CA codes F40, F41.0, F41.1, F41.3, F41.8, F41.9, F42
- three or more physician visits with a diagnosis for anxiety disorders, ICD–9–CM code 300

Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Figure 5.3.1: Prevalence of Anxiety Disorders by RHA**

Age- & sex-adjusted percent of residents aged 10+ with disorder

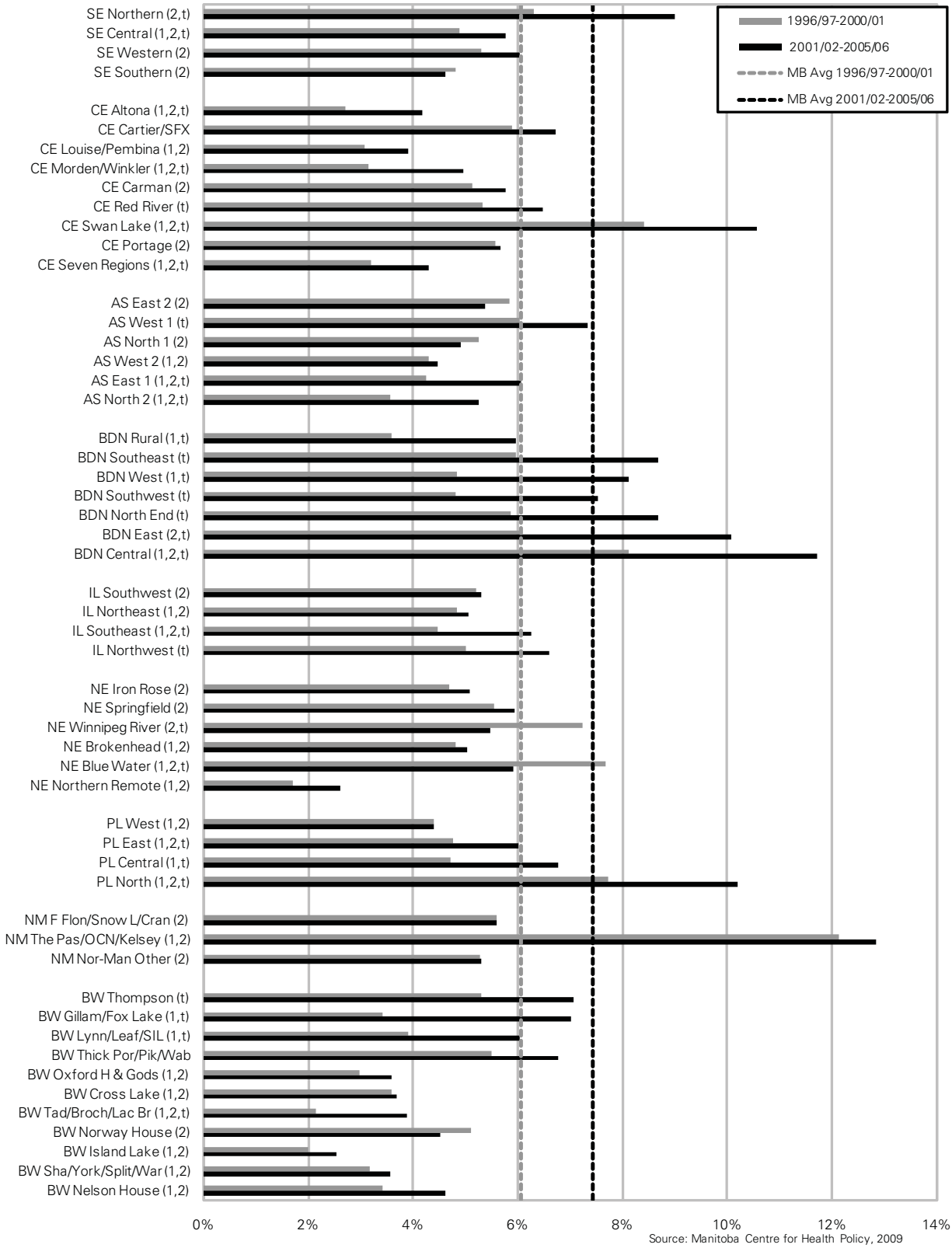



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 5.3.2: Prevalence of Anxiety Disorders by District

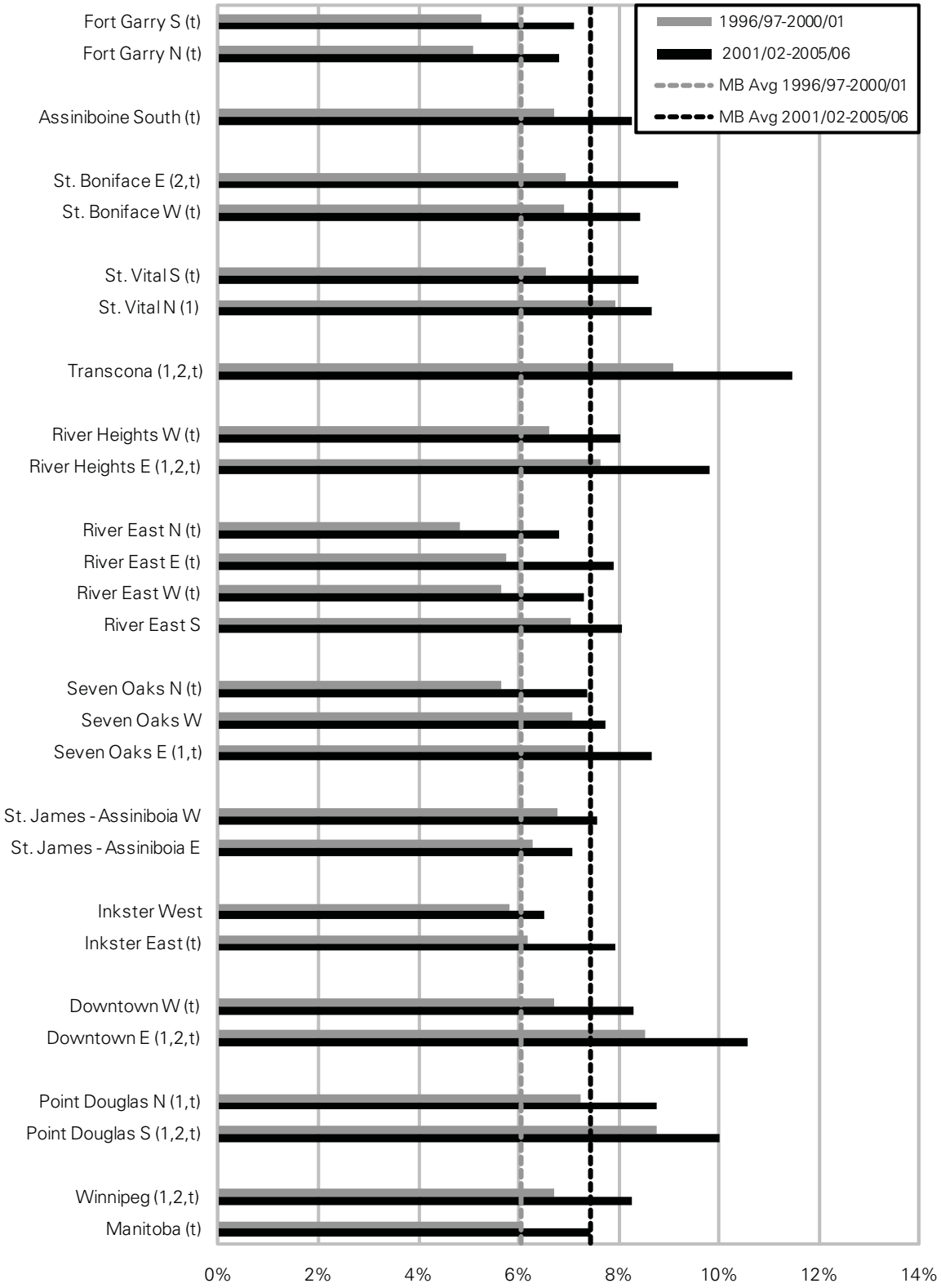
Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

**Figure 5.3.3: Prevalence of Anxiety Disorders by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The prevalence of anxiety disorders increased in Manitoba from 6.1% to 7.4% of residents age 10 or older.
- An increase was seen in most RHAs and sub–areas, though some of the changes did not reach the level of statistical significance.
- Anxiety prevalence was not strongly related to health status at the RHA level, though values were higher in the North than Mid areas, and higher in Mid areas than in the Rural South.
- Winnipeg, Brandon and NOR–MAN RHAs had the highest values.
- Anxiety prevalence was significantly related to income in urban areas, but not rural areas. Among urban residents, anxiety prevalence was significantly higher among residents of lower income areas in both time periods (Appendix 2).

## Comparison to other findings:

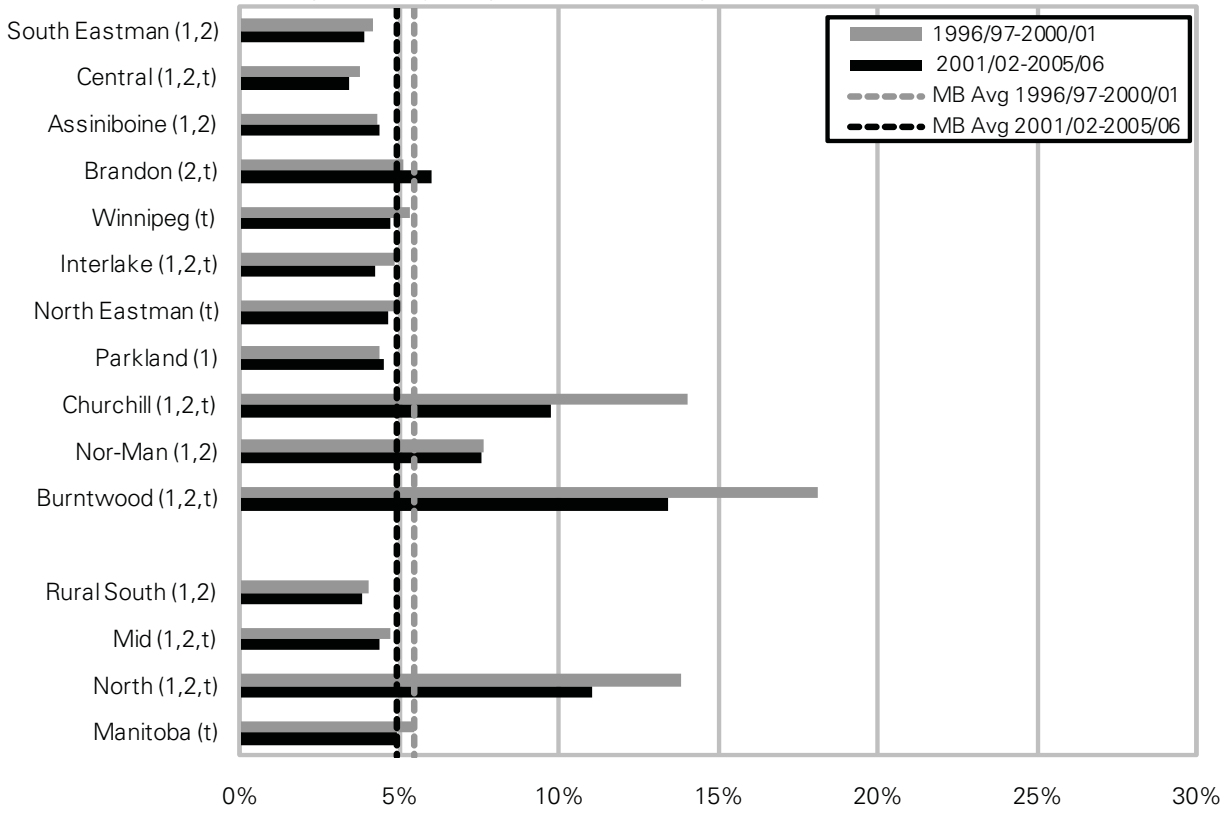
- The prevalence values for Time 1 are slightly lower than those in the Mental Illness report, likely due to differences in data sources used (see Introduction).
- See the Mental Illness report for comparisons to other studies.

## 5.4 Substance Abuse

Definition: The proportion of residents age 10 or older diagnosed with any of the following codes in one or more physician visits or hospital abstracts over a five–year period: alcoholic or drug psychoses, alcohol or drug dependence or nondependent abuse of drugs, ICD–9–CM codes 291, 292, 303, 304, 305; ICD–10–CA codes F10–F19, F55. Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Figure 5.4.1: Prevalence of Substance Abuse by RHA**

Age- & sex-adjusted percent of residents aged 10+ with disorder

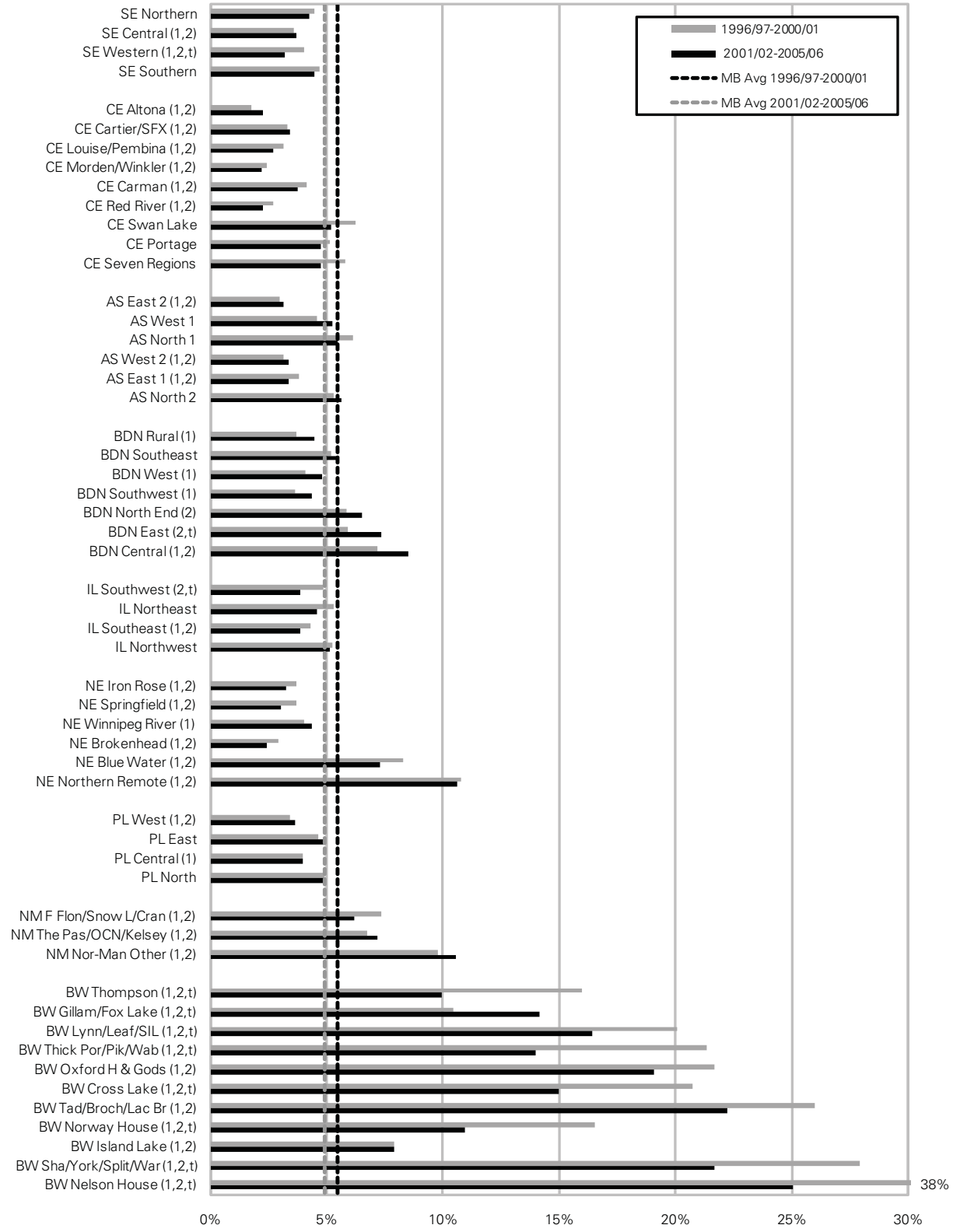



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 5.4.2: Prevalence of Substance Abuse by District

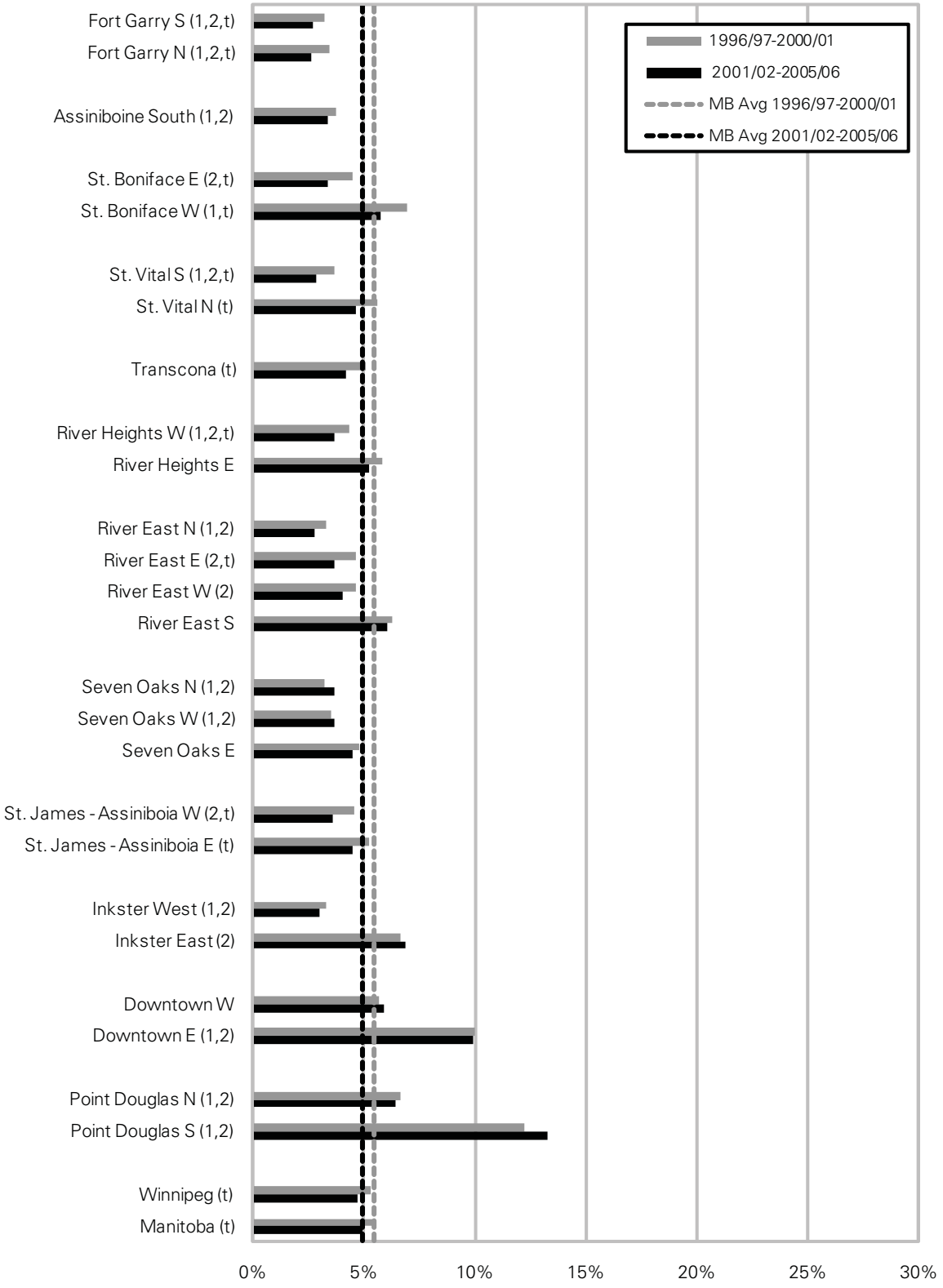
Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

**Figure 5.4.3: Prevalence of Substance Abuse by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The prevalence of substance abuse decreased in Manitoba from 5.4% to 4.9% of residents age 10 or older.
- Values in most RHAs and sub–areas either remained stable or decreased, though not all decreases reached statistical significance.
- Substance abuse prevalence was not strongly related to health status at the RHA level, though values were highest in northern RHAs—especially Burntwood and Churchill—and in the Downtown East and Point Douglas South areas of Winnipeg. However, prevalence in those Winnipeg areas was stable over time, whereas in Burntwood and Churchill, prevalence decreased.
- There were strong relationships between income and substance abuse prevalence in urban and rural areas in both time periods: prevalence was higher among residents of lower income areas (Appendix 2).

## Comparison to other findings:

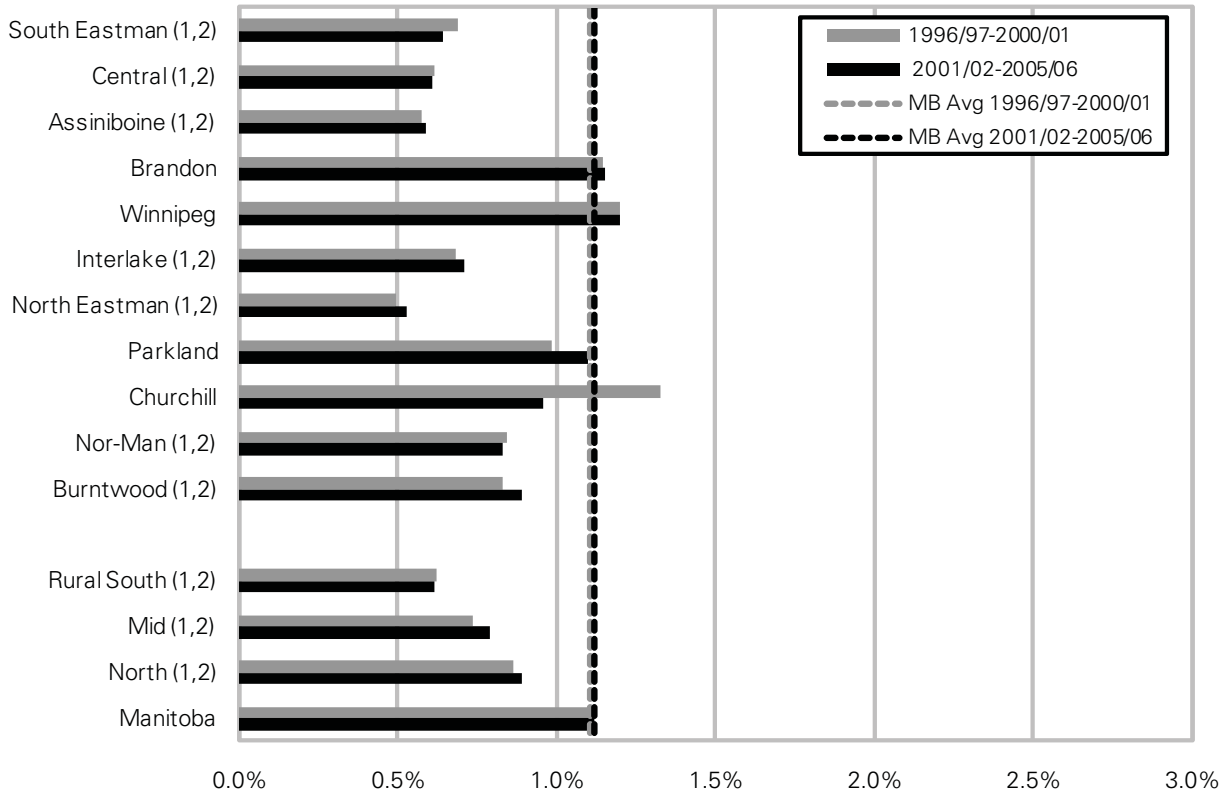
- The prevalence values for Time 1 are slightly lower than those in the Mental Illness report, likely due to differences in data sources used (see Introduction).
- See the Mental Illness report for comparisons to other studies.

## 5.5 Schizophrenia

Definition: The percentage of residents age 10 or older diagnosed with schizophrenia (ICD–9–CM code 295; ICD–10–CA codes F20, F21, F23.2, F25) in hospital abstracts or physician visits. Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06. Within each period, records going back 12 years were examined to ensure inclusion of residents diagnosed earlier, but who have not had the diagnosis attributed to recent service use records. Values were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Figure 5.5.1: Prevalence of Schizophrenia by RHA**

Age- & sex-adjusted percent of residents aged 10+ with disorder

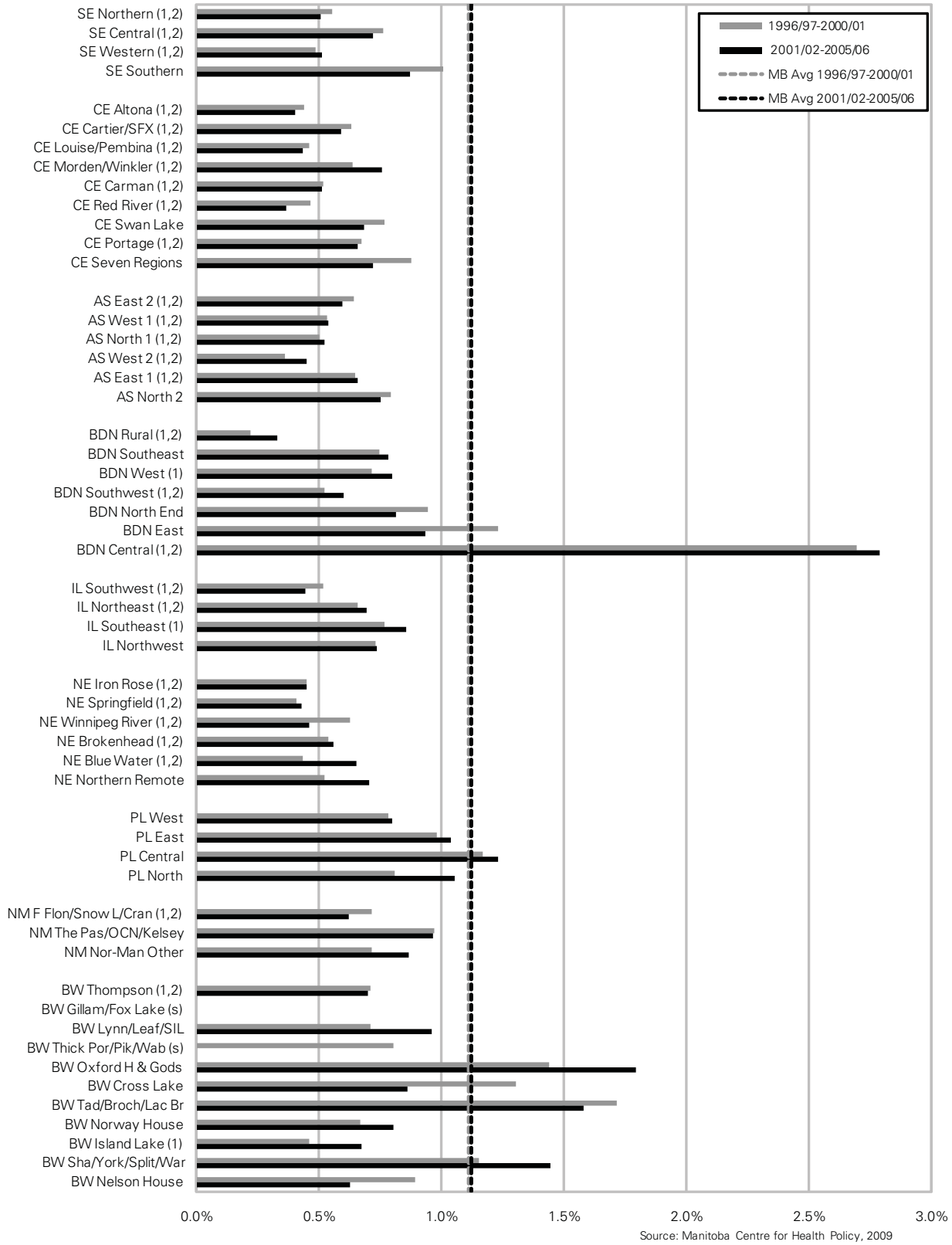



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 5.5.2: Prevalence of Schizophrenia by District

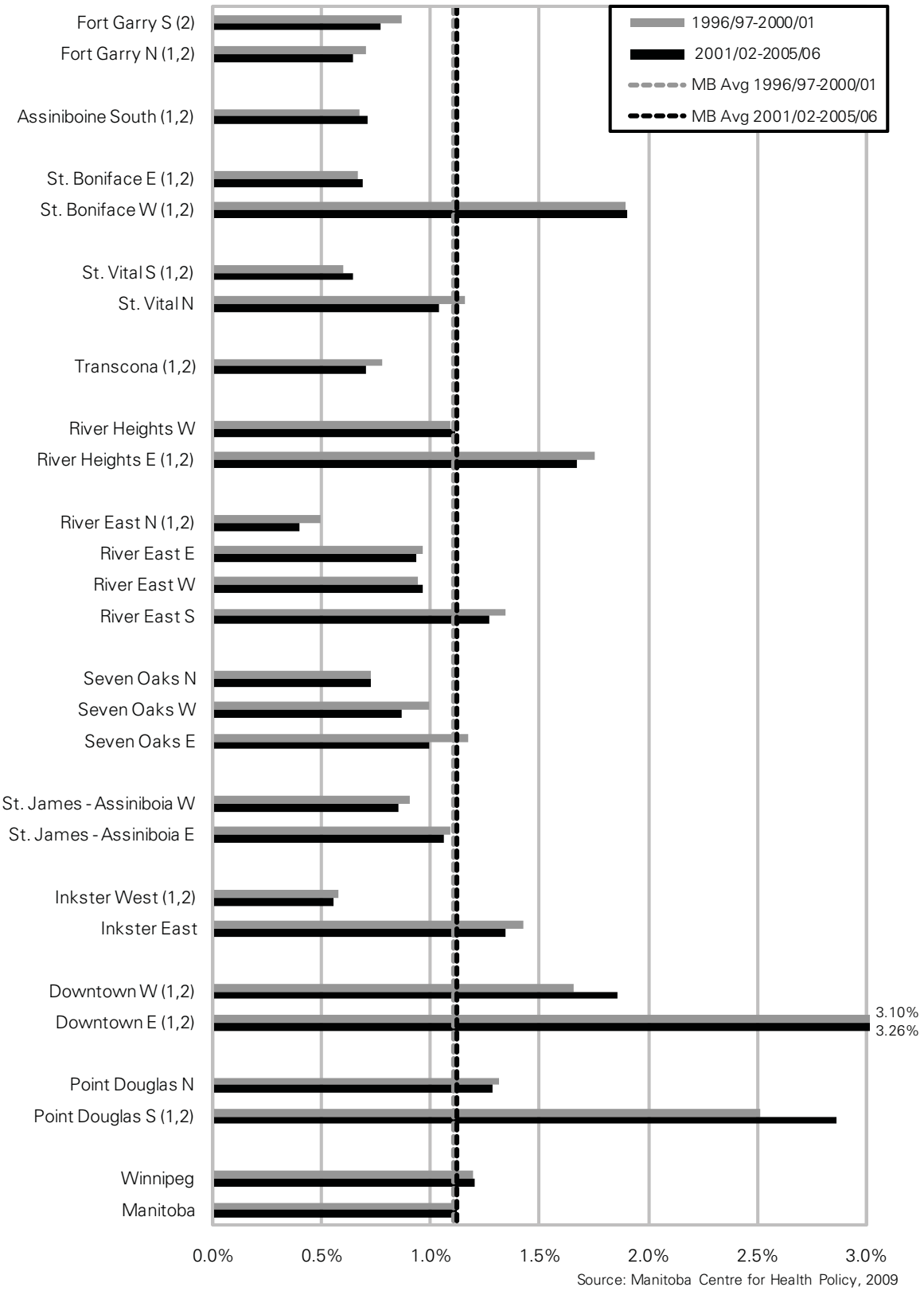
Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

**Figure 5.5.3: Prevalence of Schizophrenia by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of schizophrenia in Manitoba has remained stable at 1.11% (the small increase shown is not statistically significant), and rates for all RHAs and sub–areas were stable.
- Winnipeg and Brandon RHAs had the highest values, but as noted above, some of these residents may have relocated to these centres from other RHAs in order to be close to services they need. Easier access to Psychiatrists (to get the diagnosis) may also explain some portion of this difference.
- Within Winnipeg, the highest values were among Downtown East and Point Douglas South residents; in Brandon, the Central district had the highest value.
- Among rural RHAs, schizophrenia prevalence was related to health status: prevalence was lowest in the Rural South, highest in the North, and in between among those in Mid areas.
- There were strong relationships between income and schizophrenia prevalence in urban and rural areas in both time periods: prevalence was higher among residents of lower income areas (Appendix 2). The gradient was particularly strong among urban residents.

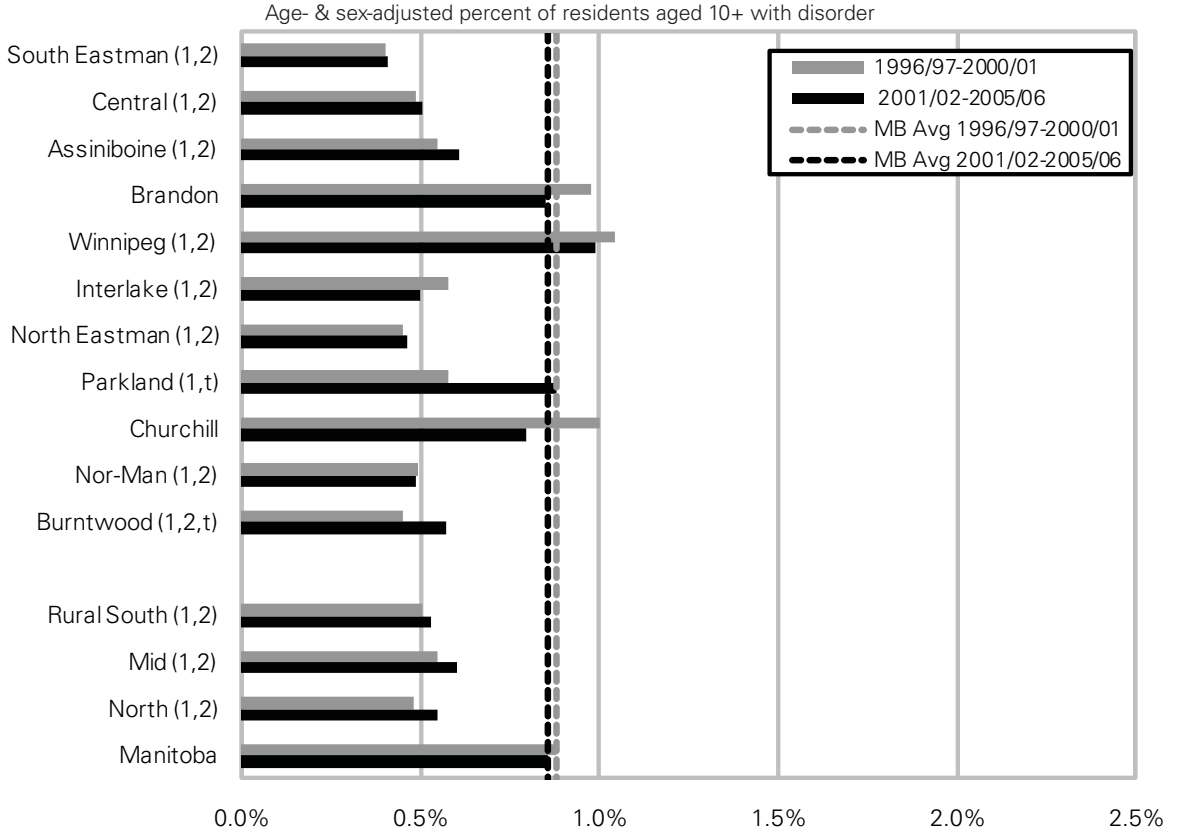
## Comparison to other findings:

- The prevalence values for Time 1 are considerably lower than those in the Mental Illness report, likely due to differences in data sources used (see Introduction).
- See the Mental Illness report for comparisons to other studies.

## 5.6 Personality Disorders

Definition: The proportion of residents age 10 or older diagnosed with personality disorders (ICD–9–CM code 301; ICD–10–CA codes F34.0, F60, F61, F62, F68.1, F68.8, F69) in hospital abstracts or physician claims. Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Figure 5.6.1: Prevalence of Personality Disorders by RHA**

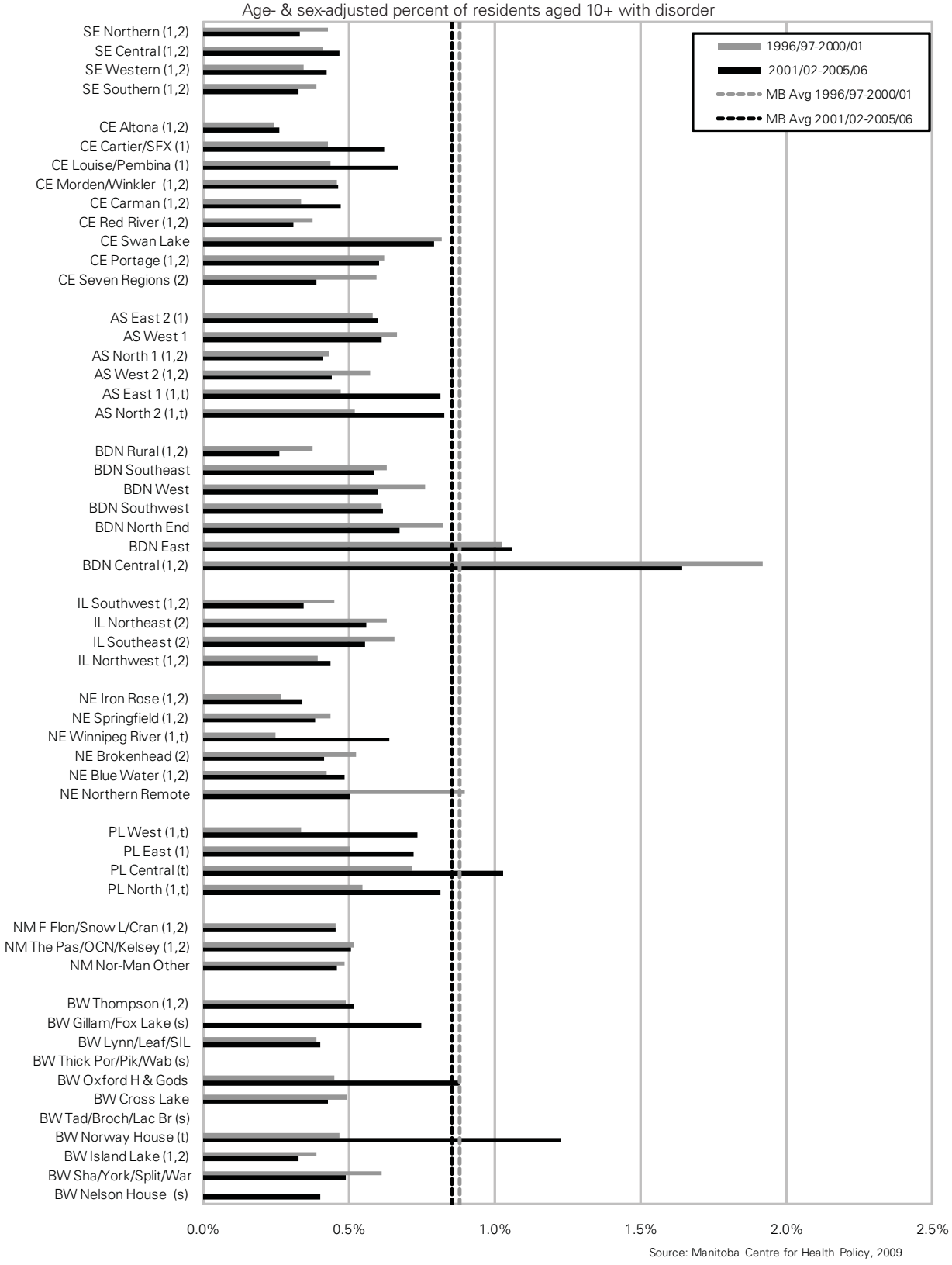



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 5.6.2: Prevalence of Personality Disorders by District

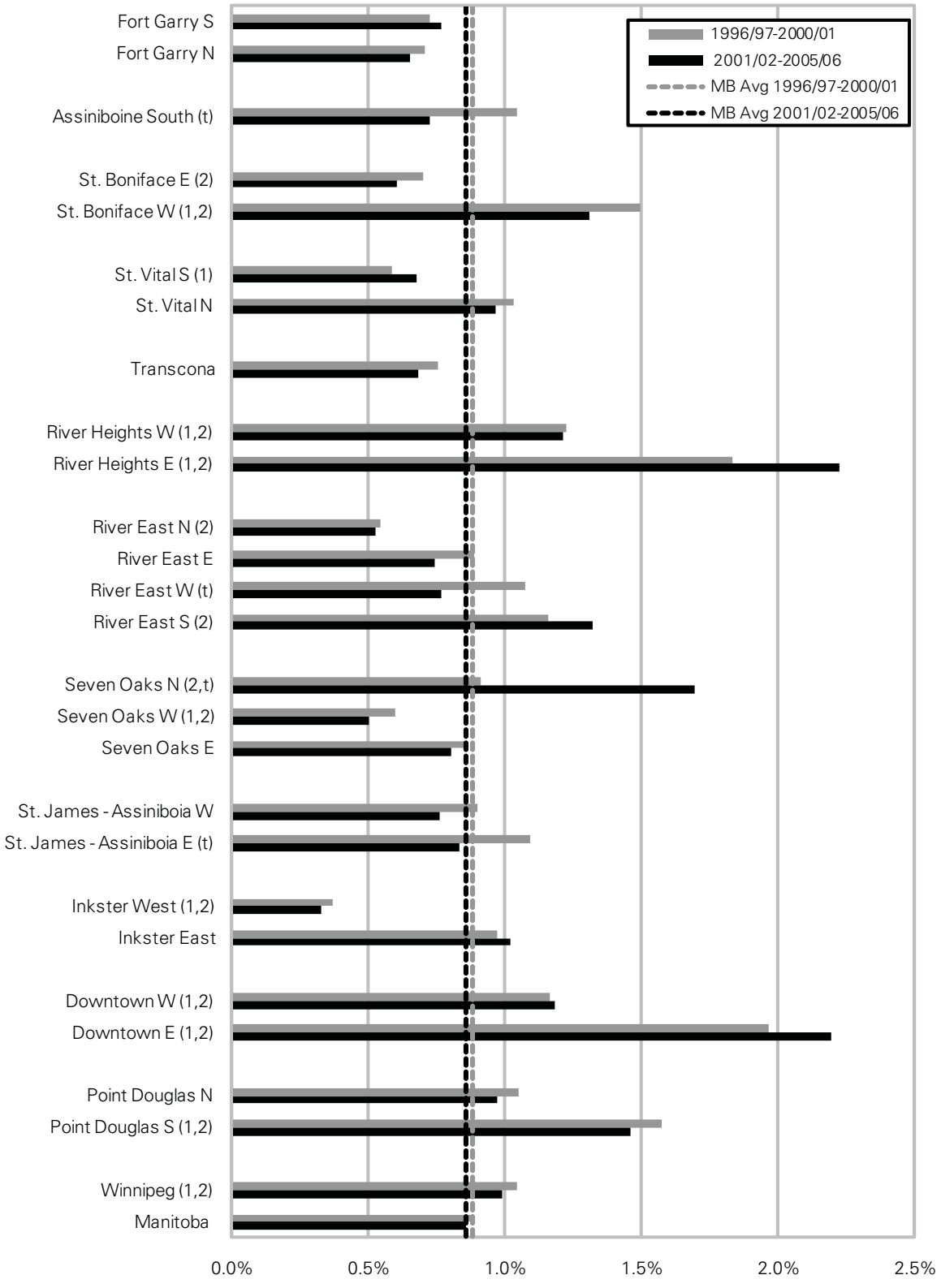
Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

**Figure 5.6.3: Prevalence of Personality Disorders by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 10+ with disorder




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The prevalence of personality disorders in Manitoba has remained stable over time (the small decrease from 0.88% to 0.85% is not statistically significant).
- In most areas, rates were stable; Parkland and Burntwood RHAs had significant increases, but both were well below the Manitoba average in the first time period.
- Personality Disorders prevalence was not strongly related to health status at the RHA level. Values were very similar for Rural South, Mid, and Northern residents.
- Winnipeg and Brandon RHAs had the highest values, but as noted previously, some of these residents may have relocated to these centres from other RHAs in order to be close to services they need. Easier access to Psychiatrists (to get the diagnosis) may also explain some portion of this difference.
- Within Winnipeg, prevalence values were particularly high in Downtown East and River Heights East.
- There were significant relationships between income and personality disorders prevalence in urban and rural areas in both time periods: prevalence was higher among residents of lower income areas (Appendix 2). The gradient was particularly strong among urban residents.

## Comparison to other findings:

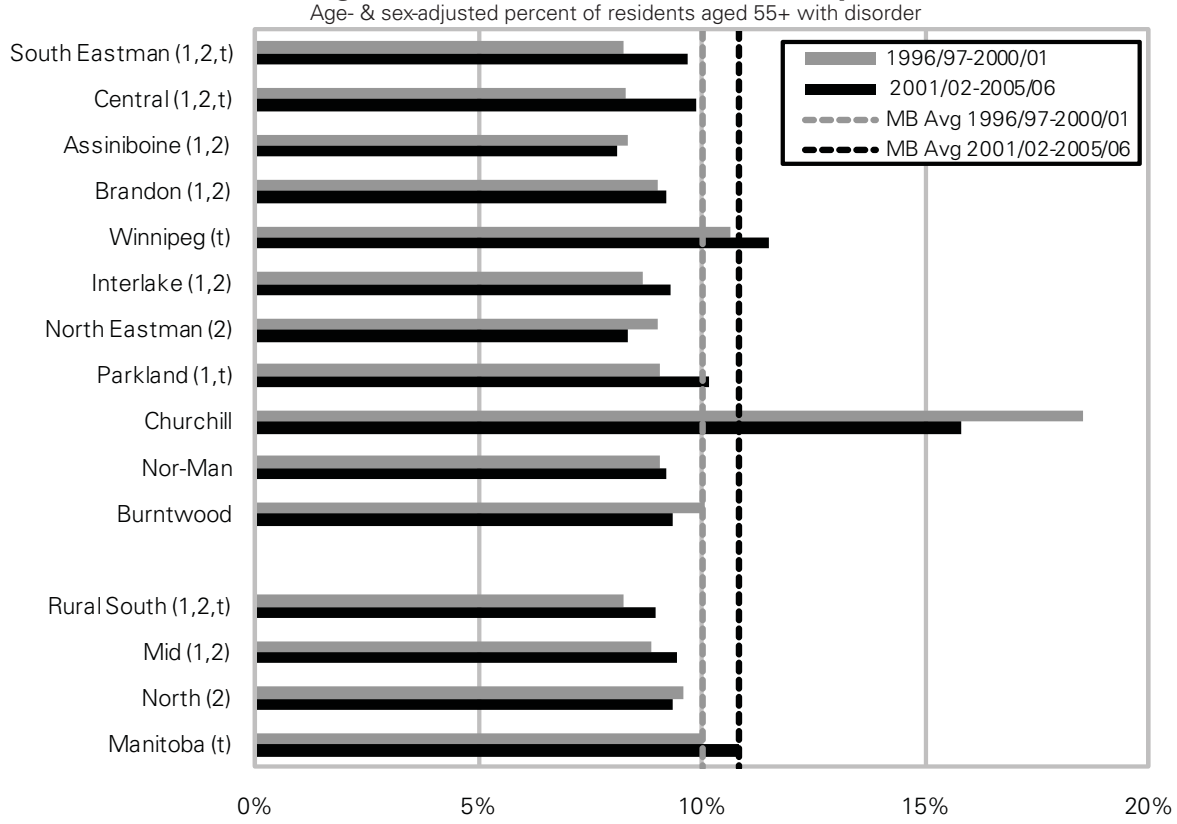
- The prevalence values for Time 1 are slightly lower than those in the Mental Illness report, likely due to differences in data sources used (see Introduction).
- See the Mental Illness report for comparisons to other studies.

## 5.7 Dementia (55+)

Definition: The proportion of residents age 55 or older with at least one physician visit or hospitalization for any of the following codes: ICD–9–CM 290, 291, 292, 294, 331, 797; ICD–10–CA codes F00, F01, F02, F03, F04, F05.1, F06.5, F06.6, F06.8, F06.9, F09, F10–F19, G30, G31.0, G31.1, G31.9, G32.8, G91, G93.7, G94, R54 (see Glossary for list of exclusions). Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (55+) in the first time period.

**Figure 5.7.1: Prevalence of Dementia by RHA**

Age- & sex-adjusted percent of residents aged 55+ with disorder

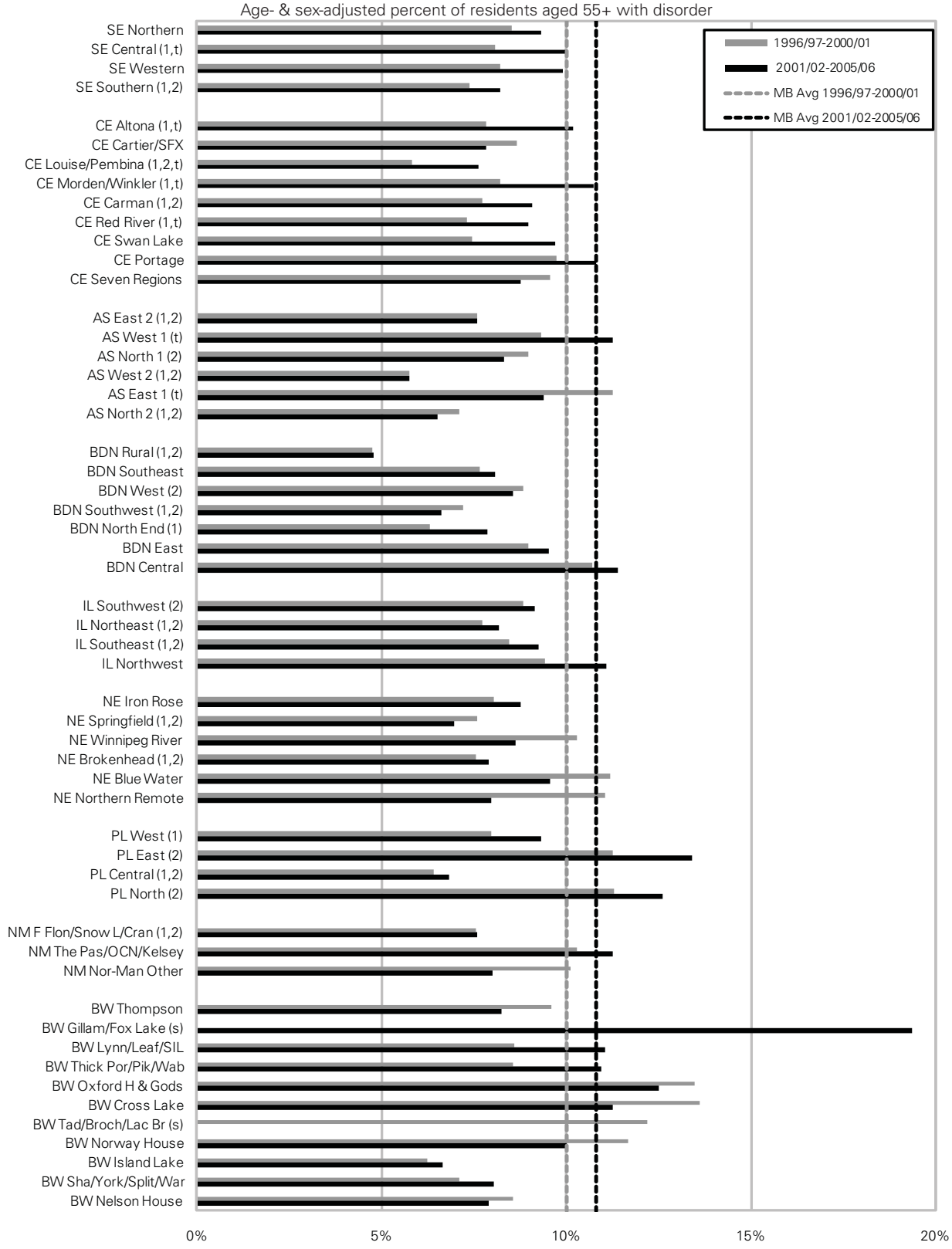



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 5.7.2: Prevalence of Dementia by District

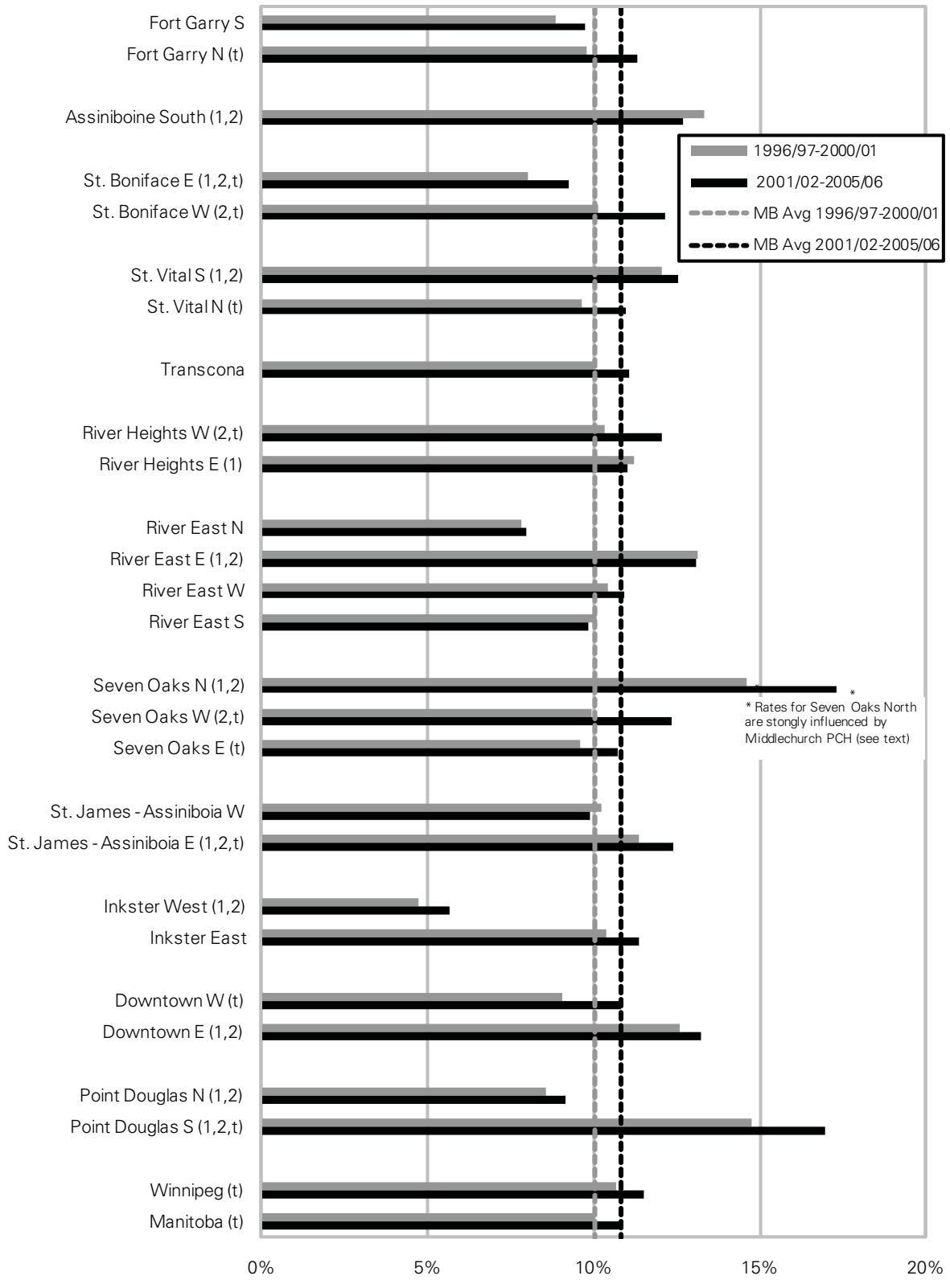
Age- & sex-adjusted percent of residents aged 55+ with disorder




Source: Manitoba Centre for Health Policy, 2009

**Figure 5.7.3: Prevalence of Dementia by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 55+ with disorder




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The prevalence of dementia has increased in Manitoba from 10.0% to 10.8% of residents age 55+. However, this increase was not reflected across all areas: prevalence increased in several RHAs, but was stable or decreased slightly in other RHAs.
- Dementia prevalence was not strongly related to health status at the RHA level. Values for Rural South, Mid, and Northern residents were similar, and all were below the provincial average.
- Prevalence was higher among Winnipeg residents, though this difference did not quite reach statistical significance. Prevalence also appeared particularly high in Churchill, but that difference was also not statistically significant.
- The high prevalence of dementia in the Winnipeg NC of Seven Oaks North is strongly affected by the Middlechurch Personal Care Home located in that area. An analysis excluding PCH residents produced much lower values: 7.44 in the first time period (versus 14.6 shown) and 9.46 in the second time period (versus 17.3 shown). These values suggest that dementia in Seven Oaks North is slightly (but not significantly) below the provincial average.
- Dementia prevalence was significantly related to income in urban areas, but not rural areas. Among urban residents, dementia prevalence was significantly higher among residents of lower income areas in both time periods (Appendix 2).

## Comparison to other findings:

- The prevalence values for Time 1 are slightly lower than those in the Mental Illness report, likely due to differences in data sources used (see Introduction).
- See the Mental Illness report for comparisons to other studies.

# Chapter 6: Physician Services

## Key Findings for Chapter 6

- The proportion of residents visiting a physician at least once in a year was 83%, a value which has been relatively stable since 1995/96.
- The average rate of 'ambulatory visits' was also stable, at just under five visits per resident per year in 2000/01 and 2005/06. Visit rates for Winnipeg and Brandon residents continue to be higher than those for residents of other RHAs.
- Access to specialist physicians also appears to be stable, as the 'ambulatory consultation' rates were similar in 2000/01 and 2005/06, at a rate slightly higher than that reported for 1995/96.
- Residents of Winnipeg RHA had slightly higher than average 'ambulatory consultation' rates, but significantly higher than average total visit rates to specialist physicians. Residents of most areas bordering on Winnipeg also had higher specialist visit rates.
- Continuity of care and diagnoses attributed during visits were very similar in 2000/01 and 2005/06.
- The age– and sex–specific rates of visits to physicians changed somewhat over time, with children and young adults getting slightly fewer visits and older adults getting more visits per year in 2005/06 than in 2000/01.
- The majority of visits to General and Family Practitioners continue to be provided relatively close to home, with visits to Specialists more often occurring in Winnipeg or Brandon.
- Rates of physician service use (access, visit rates, consult rates) do not appear to be strongly related to health status at the RHA level, though missing data (especially in the North) may affect this observation.
- There was no consistent relationship between physician service use and area–level income: some services were significantly related to income, but others were not.
- These latter two observations suggest that physician services may not be as responsive to population health status as other services (e.g., hospital use), but the issue of missing data (especially in the North) makes it impossible to draw firm conclusions from these results.
- The 'completeness' of data for physician services continues to be a concern, particularly among physicians working in rural areas, many of whom are paid by alternative payment systems (e.g., salary) and may not be completing 'shadow billing' claims for all services they provide.
- This issue also affects other indicators which depend on physician visit data: for example, prevalence of diseases and relationships with other variables.

## Introduction

This chapter provides a number of indicators of the use of physician services by residents of Manitoba. Service use is allocated to the area of residence of the patient, regardless of where the service was provided. For example, if a resident of Interlake RHA visits a physician in Winnipeg, that visit would be counted as a visit for an Interlake resident.

The term 'ambulatory visits' is used to describe the indicators in this chapter. The definition captures virtually all contacts with physicians, except during inpatient hospitalization. Ambulatory visits include regular office visits, walk–in clinics, home visits, nursing home visits, visits to outpatient departments of hospitals, and emergency room visits (where data are recorded). Excluded are services provided to patients while admitted to hospital and visits for prenatal care. MCHP has recently revised its definition of 'ambulatory visits' to improve its accuracy, so even for comparable time periods, rates shown in this report will be slightly different from those shown in previous reports.

'Ambulatory Consultations' are a subset of ambulatory visits which occur when one physician refers a patient to another physician (usually a specialist or surgeon) because of 'the complexity, obscurity or seriousness of the condition', or when the patient requests a second opinion. A consultation is the first visit to the specialist, after which the patient usually returns to their general or family practitioner (GP/FP) for continuing care. The consultation rate is used as an indicator of access to specialist care. The total specialist visit rate shows all use of specialists—whether by referral or not.

The indicators in this chapter include visits to all Medical Doctors for which claims were submitted to Manitoba Health and Healthy Living (fee–for–service and 'shadow' billing claims). Physicians working under Alternative Payment schemes (e.g., salary) are encouraged to submit shadow billing claims, but because these data are not complete, our results underestimate true visit rates. Analyses in another MCHP report (Katz et al., 2009) suggests that shadow billings appear to be missing for about 1/3 of visits provided by salaried physicians.

Care provided by Nurses or Nurse Practitioners were not included in the data system during the time periods included in this report. Data for services provided by 'Primary Care Nurses' began to be captured in medical claims as of July 2005.

### Note Regarding Burntwood and Churchill RHAs:

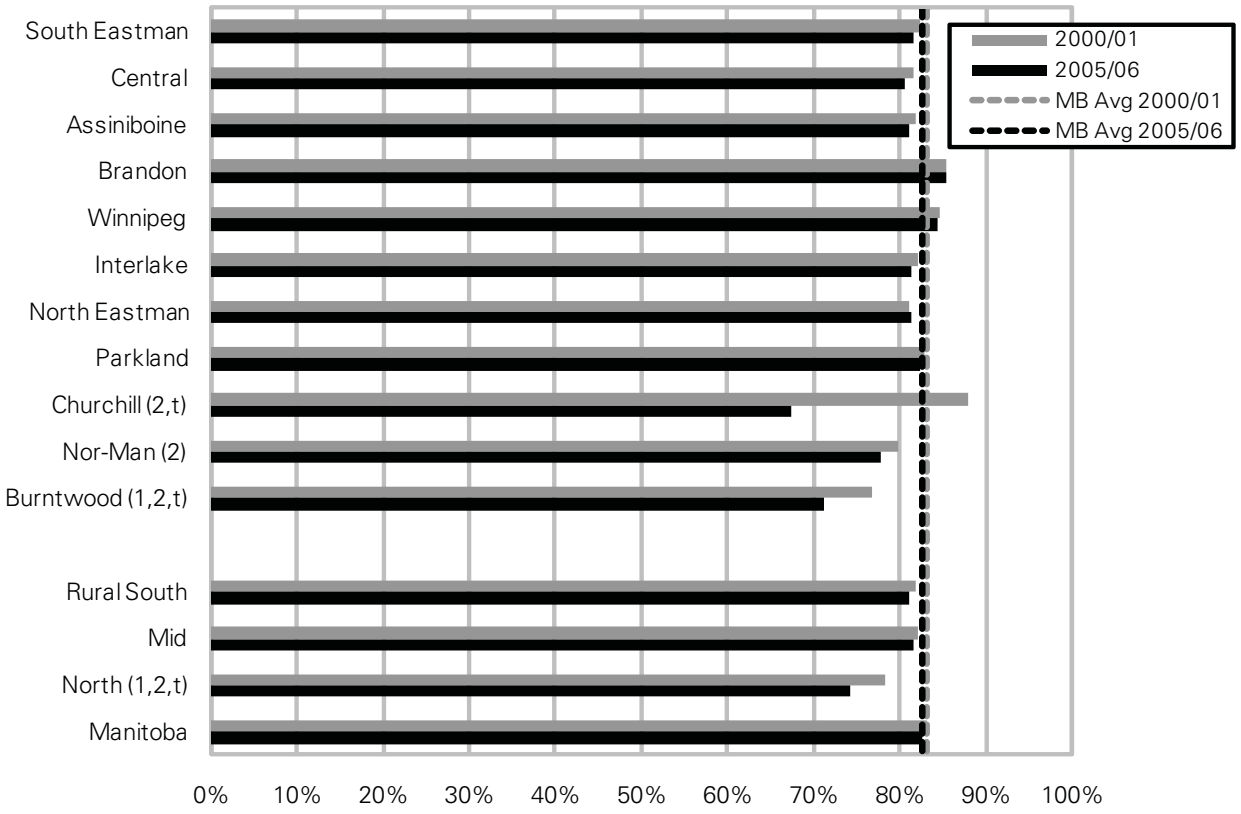
There were issues in the reporting of data for physician services provided to residents of Burntwood and Churchill during the time periods covered in this study. In Churchill, there was inconsistent reporting of physician visit data, so Churchill results are not shown for some indicators. In Burntwood, an increasing proportion of physicians are salaried, and shadow billing claims may not have been completed for all visits. Both RHAs have made changes to improve data reporting for physician services, so future analyses should provide more accurate values.

## 6.1 Use of Physicians

Definition: the proportion of area residents who received at least one ambulatory visit in a fiscal year. Ambulatory visits include virtually all contacts with physicians, except during inpatient hospitalization (see introduction). Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 6.1.1: Use of Physicians by RHA**

Age - & sex-adjusted percent of residents with at least one ambulatory visit per year (to any physician)

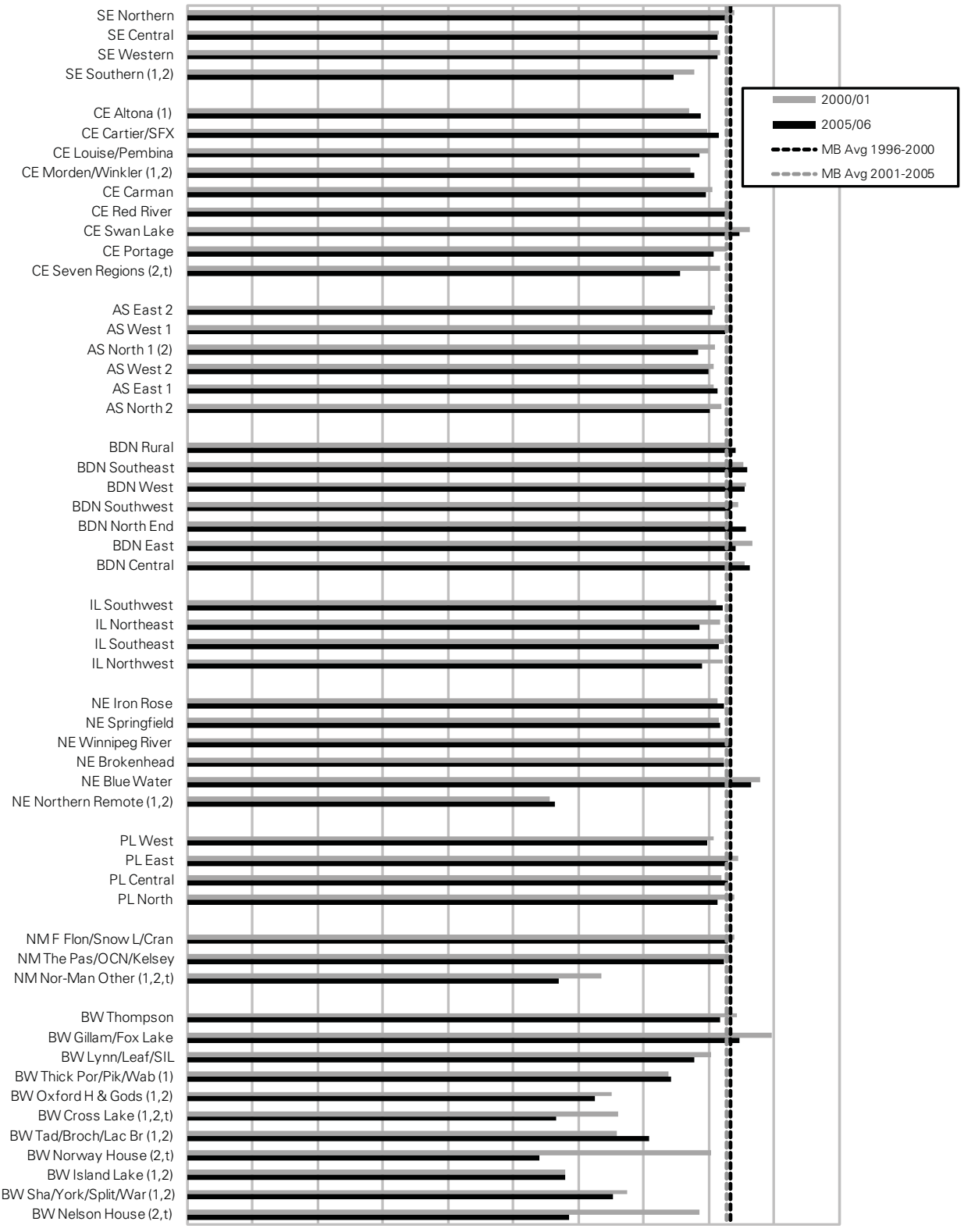



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

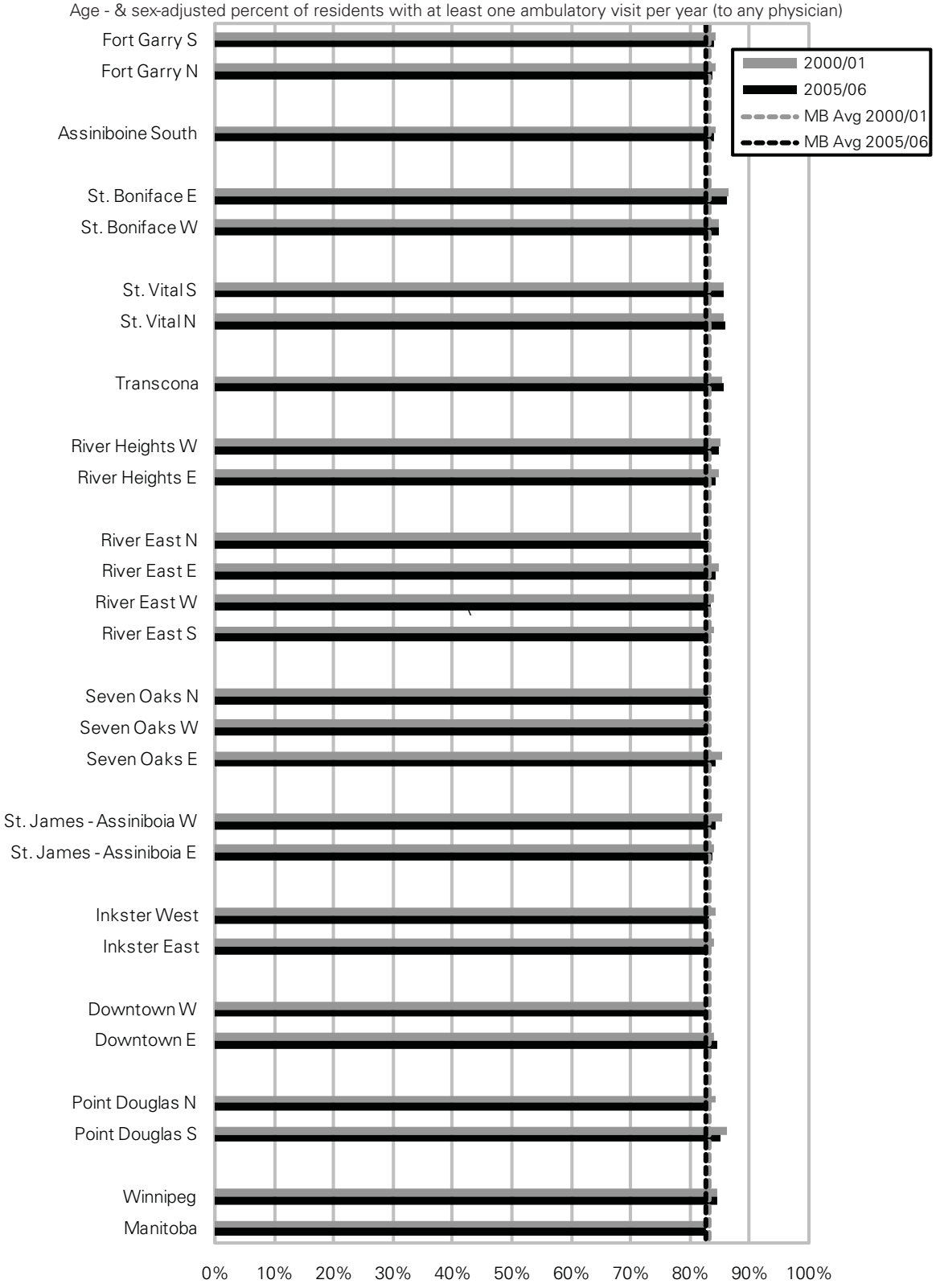
## Figure 6.1.2: Use of Physicians by District

Age - & sex-adjusted percent of residents with at least one ambulatory visit per year (to any physician)




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.1.3: Use of Physicians by Winnipeg Neighbourhood Clusters**




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of residents with at least one physician visit in a year was stable over time for most areas. The small decrease from 83.2% to 82.6% was not statistically significant.
- Physician use rates do not appear to be associated with premature mortality rates at the RHA level.
- Residents of the North appear to have rates which are lower than average and decreasing over time. However, these values are affected by data quality issues as explained in the introduction—especially regarding possible missing data for visits provided by salaried physicians. Therefore, these results must be interpreted with caution.
- Use of physicians was significantly related to income in rural areas, but not urban areas. Among rural areas, the proportion of residents with at least one visit was lower for residents of lower income areas, although the trend did not reach statistical significance in the first time period (Appendix 2).

## Comparison to other studies:

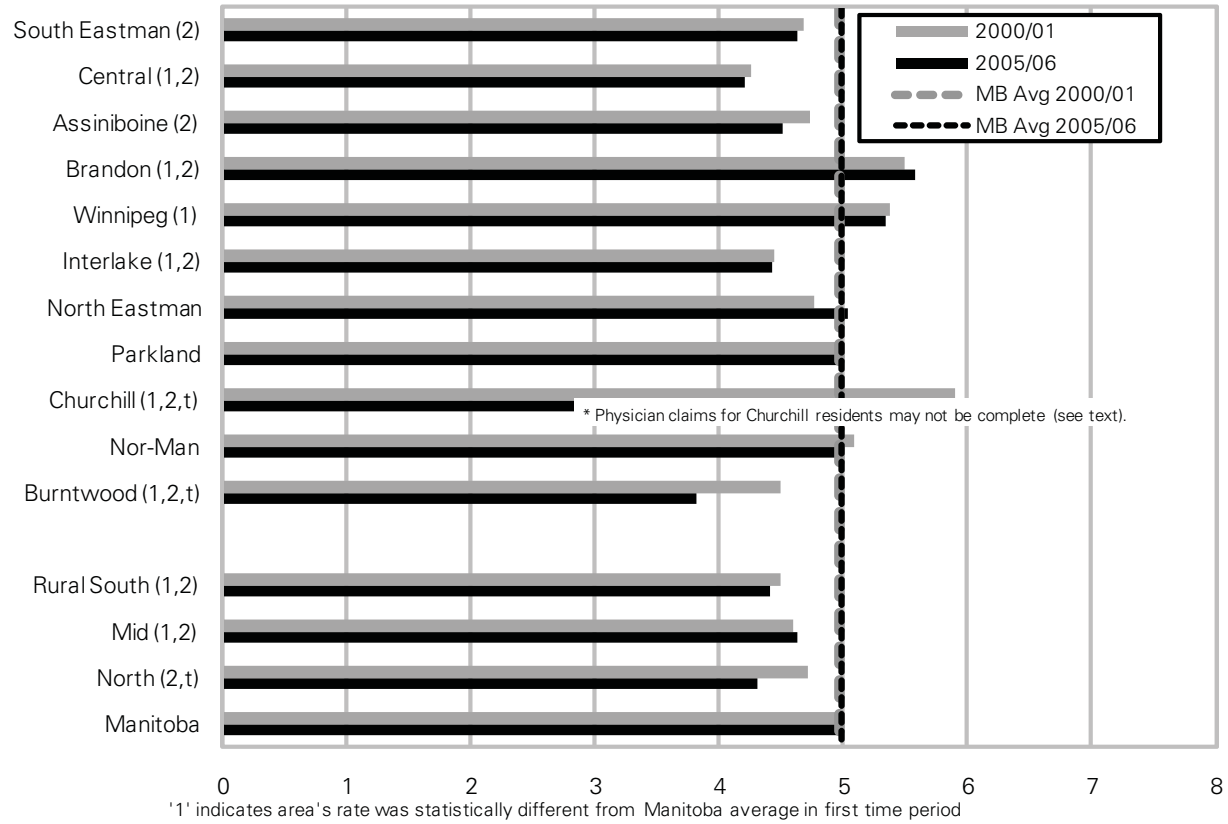
- These results are consistent with those shown in the 2003 Atlas, which reported a small decrease from 83.8% in 1995/96 to 82.4% in 2000/01. Results in this report suggest that rates have stabilized. The difference in rates for 2000/01 in the two reports (83.2% vs. 82.4%) is related to the change in the definition of ambulatory visits.
- These values are slightly lower than those reported for Canada in survey results reported by van Doorslaer, Masseria, and Koolman (2006). Their results suggested closer to 87% of Canadians reported seeing a doctor at least once in the previous 12 months (Note: this would include salaried physicians).

## 6.2 Ambulatory Visit Rates

Definition: the average number of visits to physicians per resident per year. Ambulatory visits include almost all contacts with physicians (general and family practitioners and specialists): office visits, walk–in clinics, home visits, nursing home visits, visits to outpatient departments, and some emergency room visits (where data are recorded). Excluded are services provided to patients while admitted to hospital and visits for prenatal care. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 6.2.1: Ambulatory Visit Rates by RHA**

Age- & sex-adjusted annual rate of ambulatory visits to all physicians, per resident

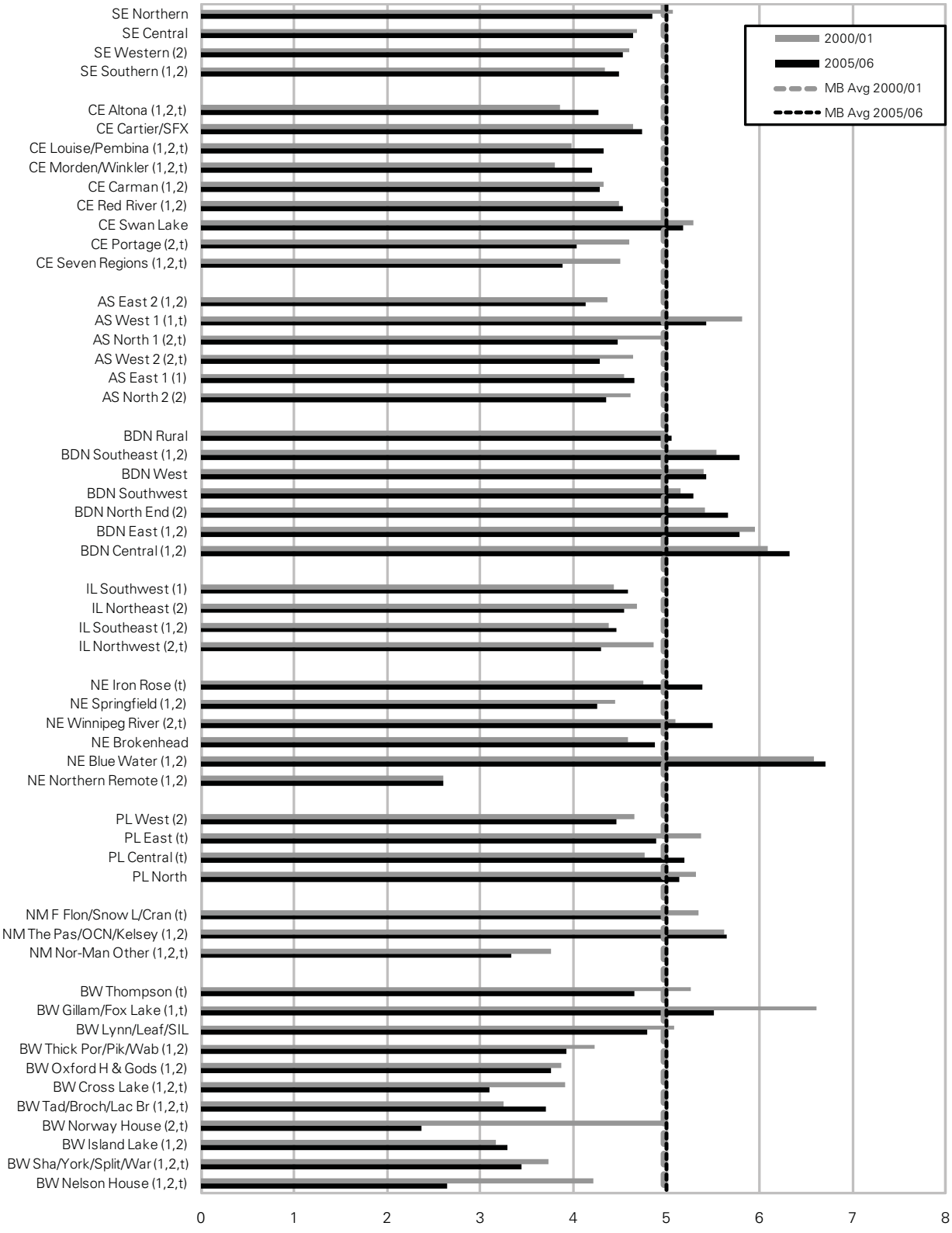



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.2.2: Ambulatory Visit Rates by District

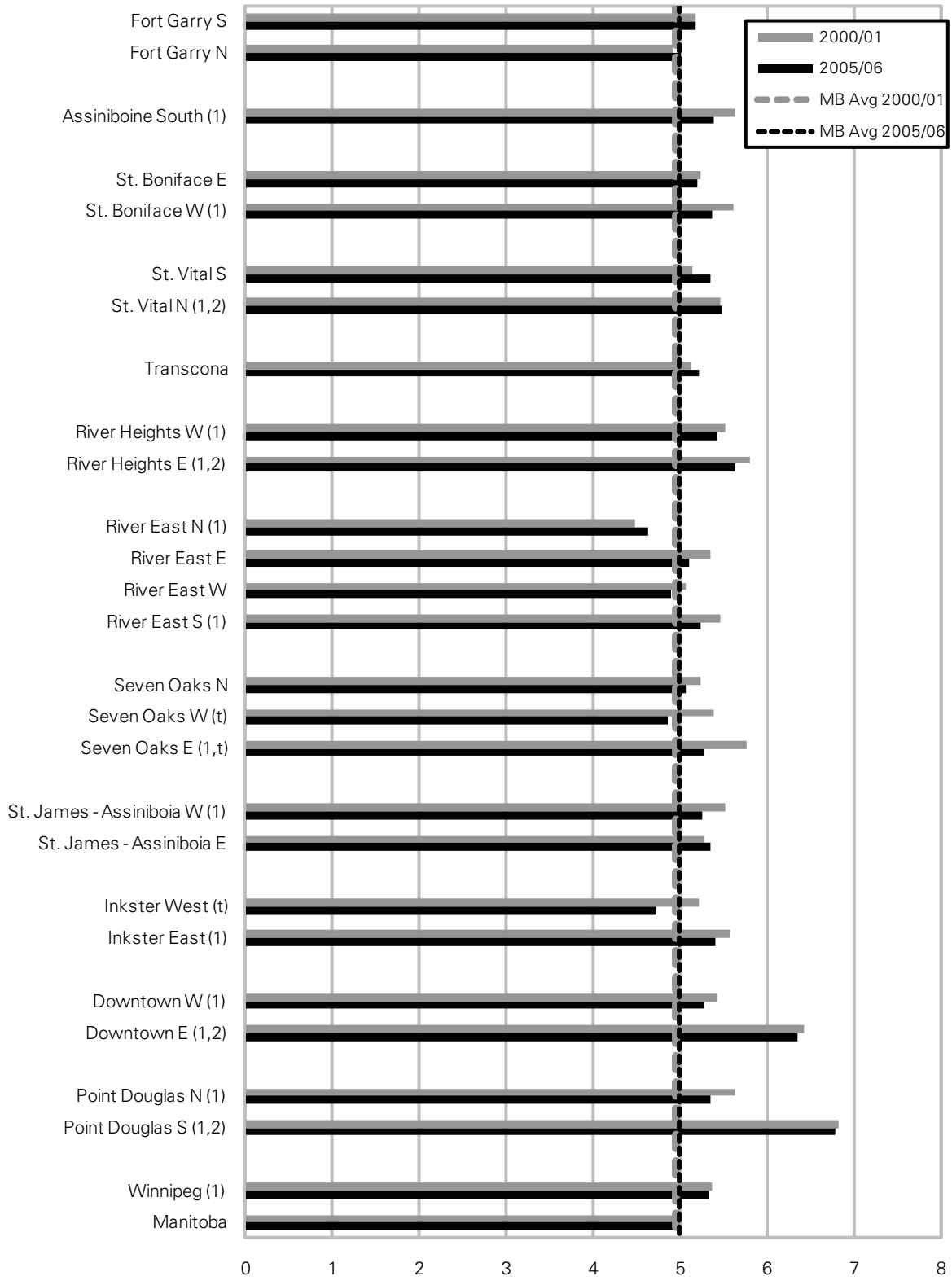
Age- & sex-adjusted annual rate of ambulatory visits to all physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.2.3: Ambulatory Visit Rates by Winnipeg Neighbourhood Clusters**

Age- & sex -adjusted annual rate of ambulatory visits to all physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The adjusted rate of ambulatory visits per resident per year was stable over time for most areas: average 4.97 in 2000/01 and 4.99 in 2005/06.
- Visit rates do not appear to be associated with premature mortality rates at the RHA level, though missing data issues may affect this observation (more below).
- Residents of Brandon and Winnipeg had higher than average rates, whereas residents of several other RHAs had lower than average rates.
- As noted in the introduction to this chapter, there were issues in the reporting of data for physician services provided to residents of Burntwood and Churchill during the time periods covered in this study. Therefore, at least some of the apparent decrease in visit rates shown is related to data reporting issues. Results for these RHAs must be interpreted with caution.
- Among Winnipeg NCs, residents of Downtown East and Point Douglas South both had higher than average visit rates. This may reflect appropriate use, as residents of these areas have relatively poor health status (Chapter 3).
- Ambulatory visit rates were significantly related to income in urban but not rural areas. Among urban areas, ambulatory visit rates were higher for residents of lower income areas, and this was seen in both time periods (Appendix 2).

## Comparison to other studies:

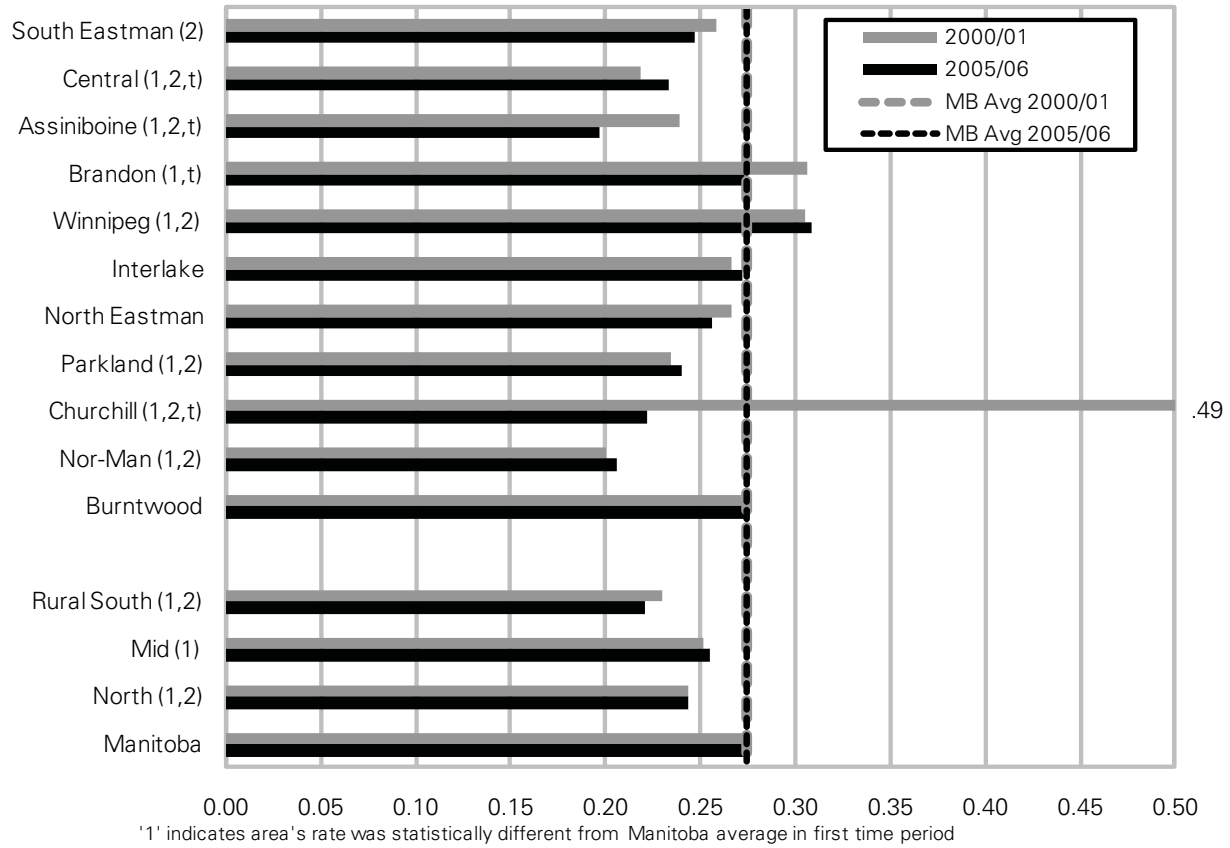
- The visit rates shown here are slightly higher than those in the 2003 Atlas, though some of this difference is due to a change in how 'ambulatory visits' were defined in MCHP data. Applying the current definition to all three years shows that visit rates were 4.81 in 1995/96, 4.97 in 2000/01, and 4.99 in 2005/06.
- These values are also higher than those reported by CIHI for Manitoba: 4.84 in 00/01 and 4.78 in 05/06 (2003, 2008). Some difference would be expected because of differences in definitions and coding and because these CIHI reports only include fee–for–service billings, whereas MCHP data also includes 'shadow billing' claims submitted by salaried and other physicians.
    - In those reports, visit rates for Manitoba were consistently lower than the Canadian averages of 5.88 in 00/01 and 5.55 in 05/06 (after removing 'hospital care days' to improve comparability).
- All of these values are slightly higher than survey results for Canada suggesting about 4.3 visits per year in 2000 (van Doorslaer et al., 2006), suggesting that survey results may not be as reliable as administrative data for physician visit counts.

## 6.3 Ambulatory Consultation Rates

Definition: the average number of ambulatory consultations per resident per year. 'Consultations' are a subset of ambulatory visits: they occur when one physician refers a patient to another physician (usually a specialist or surgeon) because of the complexity, obscurity, or seriousness of the condition, or when the patient requests a second opinion. The consult rate is the best indicator of access to specialist care. See Glossary for tariff codes used. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 6.3.1: Ambulatory Consultation Rates by RHA**

Age- & sex-adjusted annual rate of consults per resident (first referral)

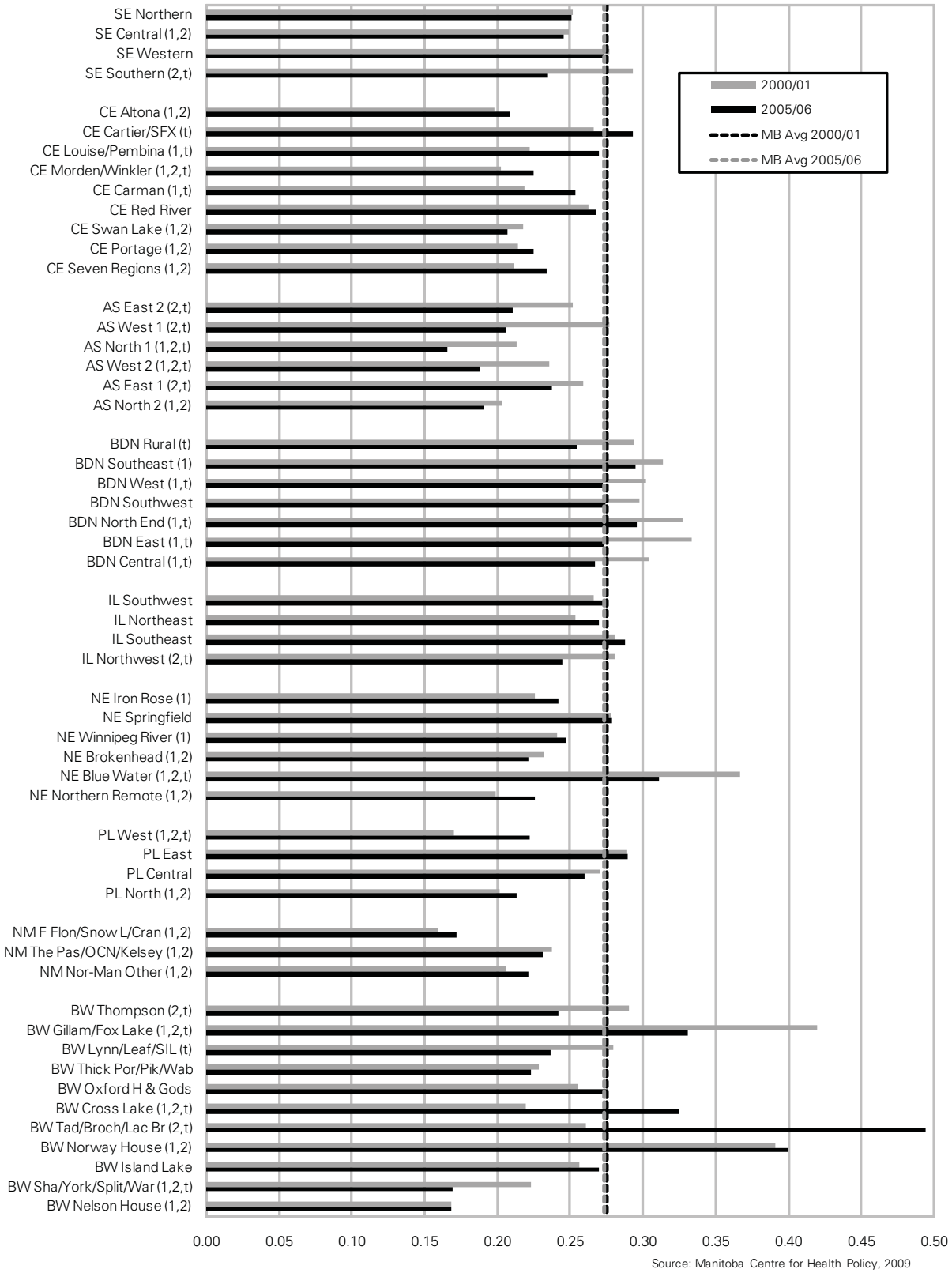



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.3.2: Ambulatory Consultation Rates by Districts

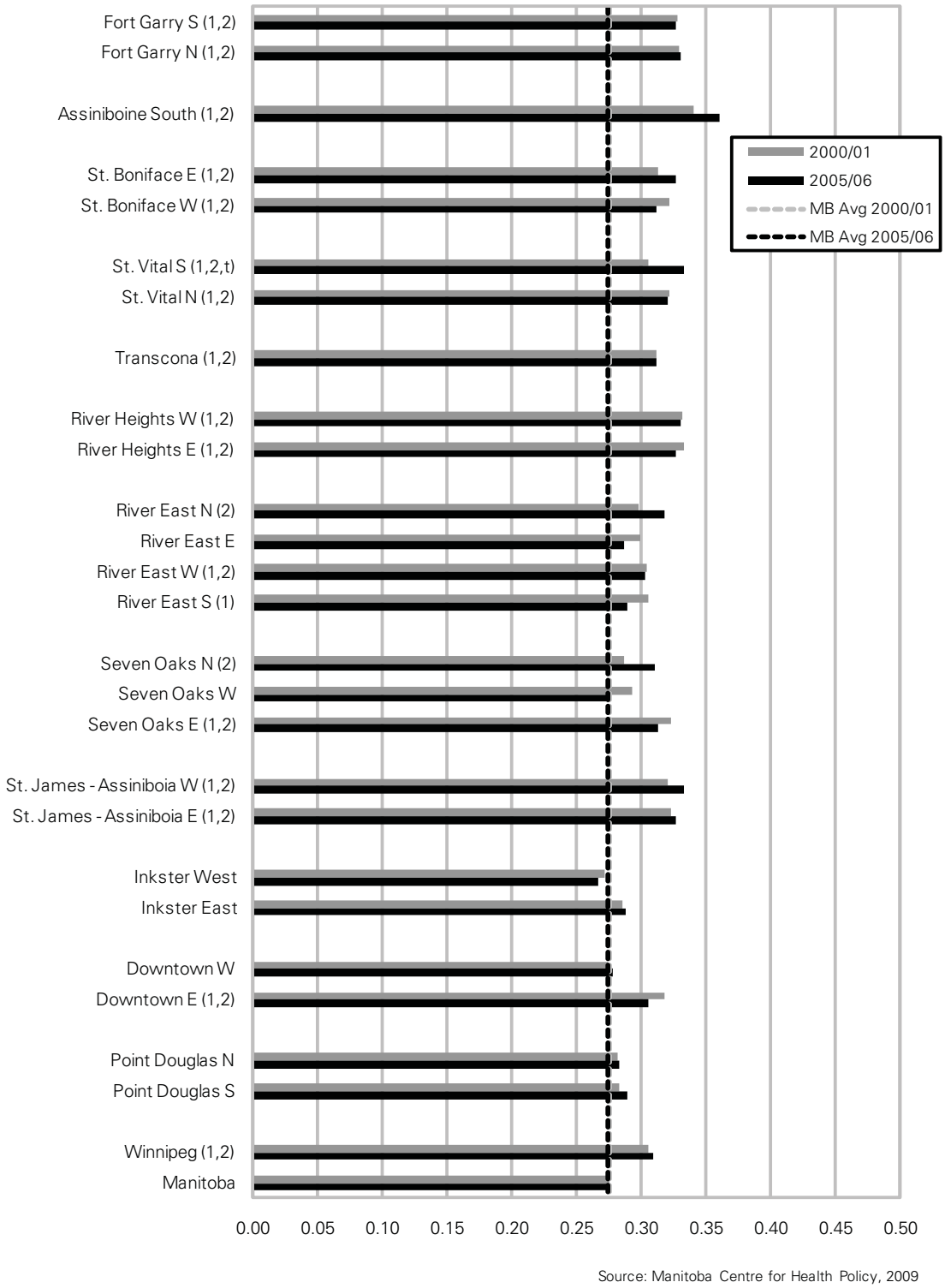
Age- & sex-adjusted annual rate of consults per resident (first referral)




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.3.3: Ambulatory Consultation Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rate of consults per resident (first referral)




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The average number of consultations per resident per year was unchanged over time: 0.275 in 2000/01 and 0.274 in 2005/06, though rates increased in some RHAs and decreased in others.
- Consult rates do not appear to be associated with premature mortality rates at the RHA level.
- Winnipeg residents had higher than average rates in both years, whereas residents of several other RHAs had consistently lower than average rates.
- Consultation rates were significantly related to income in rural but not urban areas, though rates for all urban income quintile groups were higher than those for rural residents. Among rural areas, consultation rates were generally lower for residents of lower income areas, though the rate among residents of the lowest rural income quintile group were slightly higher than a linear trend would have predicted (Appendix 2).

### Comparison to other studies:

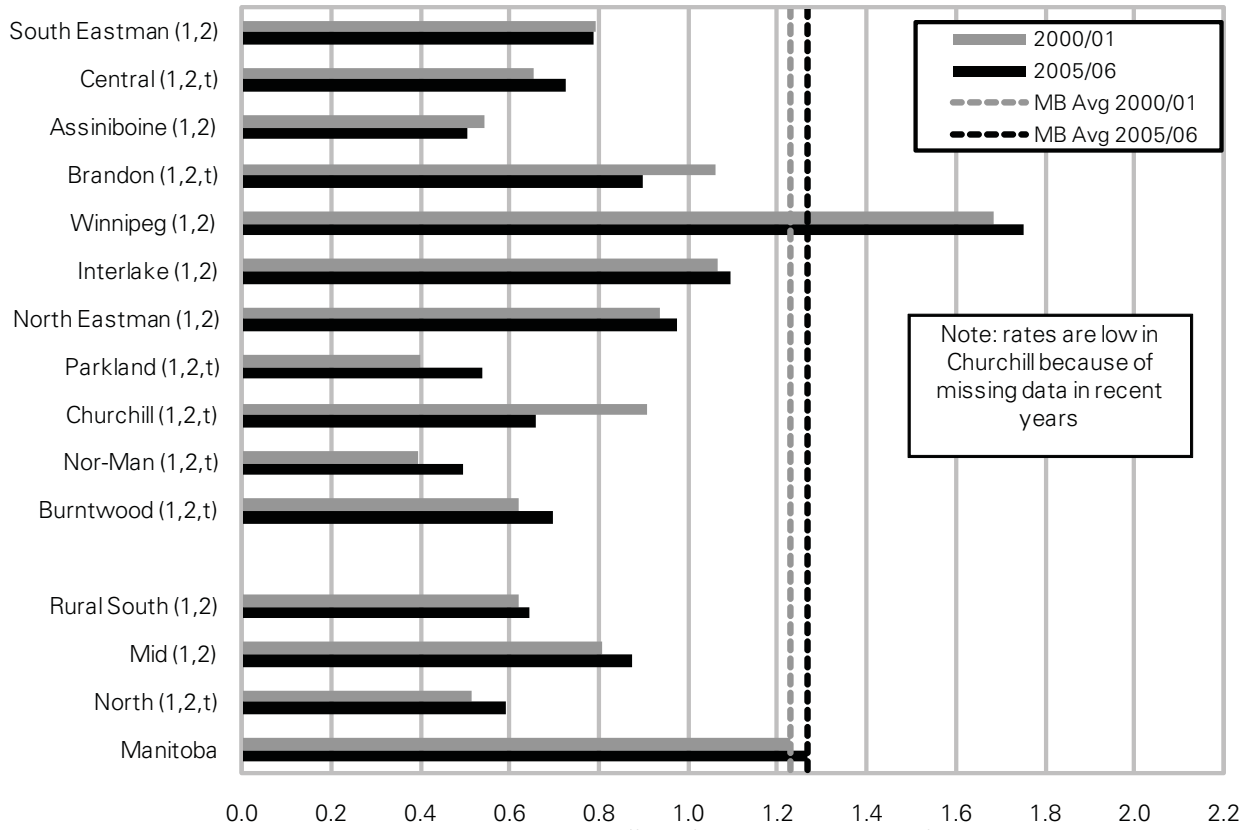
- The consult rates shown here are slightly different from those in the 2003 Atlas, though most of this difference is due to a change in how 'ambulatory visits' were defined in MCHP data. Applying the current definition to all three years shows that consult rates were 0.254 in 1995/96, 0.275 in 2000/01, and 0.274 in 05/06.
- These values are somewhat lower than those reported by CIHI for Manitoba: 0.286 in 00/01 and 0.305 in 05/06 (2003, 2008). Some difference would be expected because of differences in definitions and coding details. (Note that because most consultations are to Specialist physicians, and most Specialists are fee–for–service providers, there should be no 'missing data' as in Section 6.2.)
    - In reports, consult rates for Manitoba were consistently lower than the Canadian averages of 0.453 in 00/01 and 0.472 in 05/06.
- Note that in both CIHI and MCHP data systems, Family Medicine practitioners (i.e., not just Specialists) can bill for Consultations. In Manitoba, these are often foreign–trained specialists who are not 'Board Certified' specialists in Manitoba and are therefore registered as GP/FPs, but can function as specialists.

## 6.4 Ambulatory Visits to Specialists

Definition: the average number of ambulatory visits (including consultations) made to specialist physicians per resident per year. Specialist physicians include all internal medicine specialists, pediatricians, psychiatrists, obstetricians & gynecologists, and surgeons. (See also Sections 6.2 and 6.3.) Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 6.4.1: Ambulatory Visits to Specialists by RHA**

Age- & sex-adjusted annual rate of visits to specialist physicians, per resident

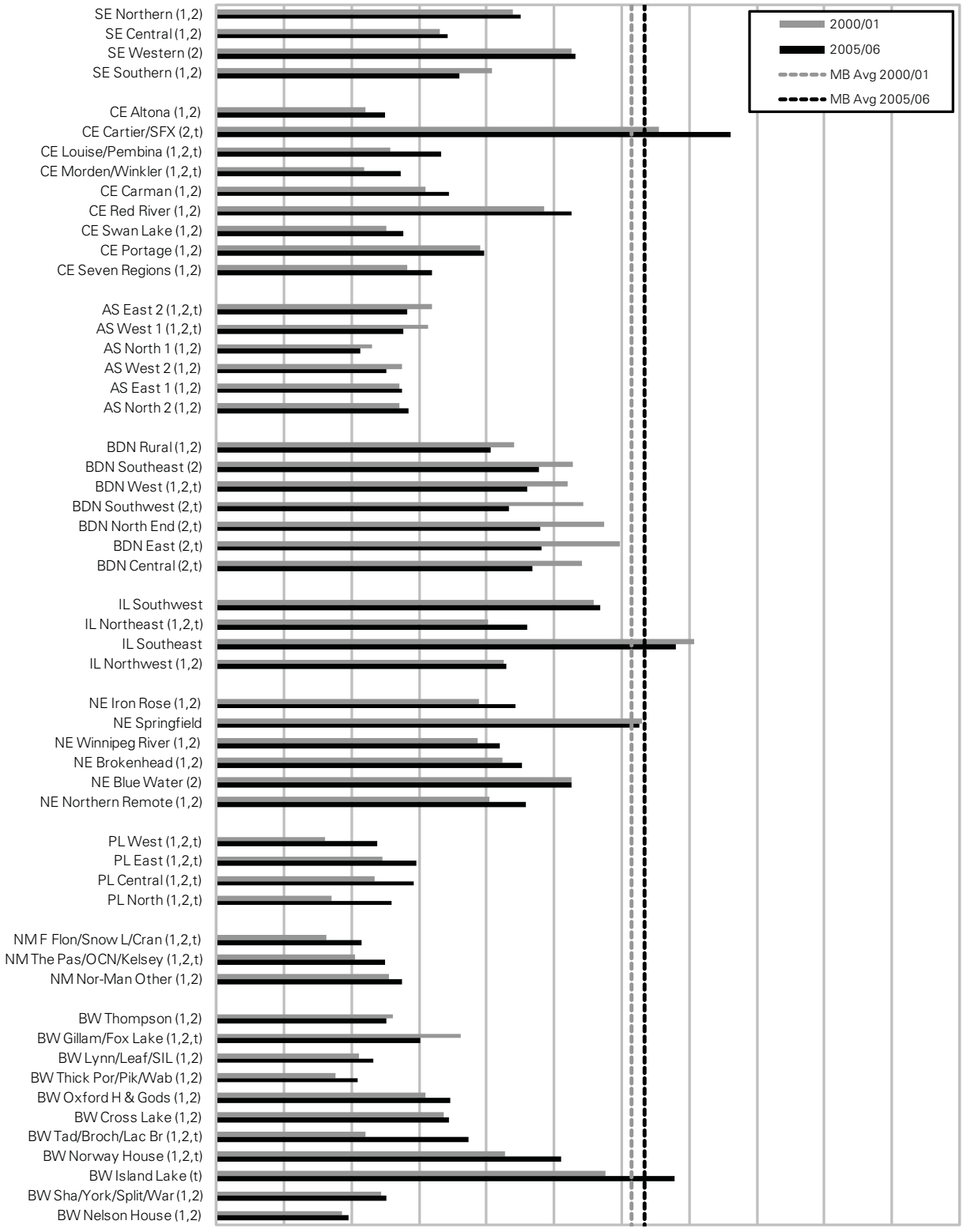



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.4.2: Ambulatory Visits to Specialists by District

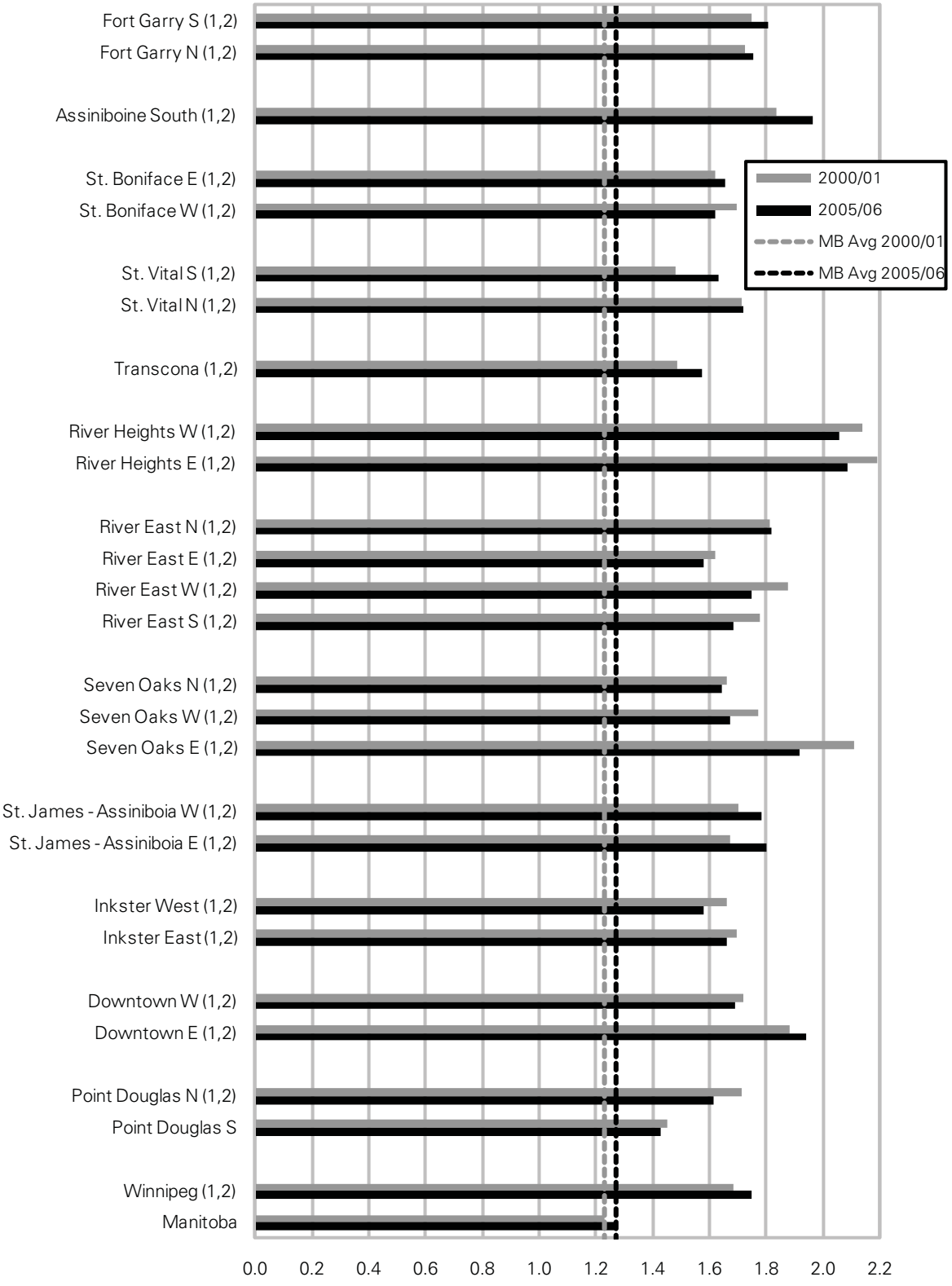
Age- & sex-adjusted annual rate of visits to specialist physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.4.3: Ambulatory Visits to Specialists by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rate of visits to specialist physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The provincial average number of ambulatory visits to specialists per resident per year was stable over time (1.23 in 2000/01 and 1.27 in 2005/06). However, there were large differences in rates across RHAs. Some RHAs had increasing rates, while others had decreasing rates.
- Specialist visit rates do not appear to be associated with premature mortality rates at the RHA level.
- Specialist visit rates were considerably higher in Winnipeg RHA than any other area. This finding is likely related to the fact that Winnipeg contains the highest number of specialist physicians in the province.
- The high rates for Winnipeg strongly affect the provincial average, such that all other RHAs have statistically lower than average rates. For this indicator, most RHAs may find it more insightful to compare to the rates for the Rural South, Mid, and North aggregate areas, rather than the provincial average.
- Among RHAs outside of Winnipeg, residents of Brandon had relatively high rates, as did Interlake and North Eastman—both of which are located close to Winnipeg.
- The 'proximity to Winnipeg' effect was also evident at the district level, as most districts bordering on Winnipeg had rates higher than more distant districts.
- Specialist visit rates were significantly related to income in rural but not urban areas, though rates for all urban income quintile groups were much higher than those for rural residents. Among rural areas, specialist visit rates were generally lower for residents of lower income areas, though the rate among residents of the lowest rural income quintile group were higher than a linear trend would have predicted (Appendix 2).

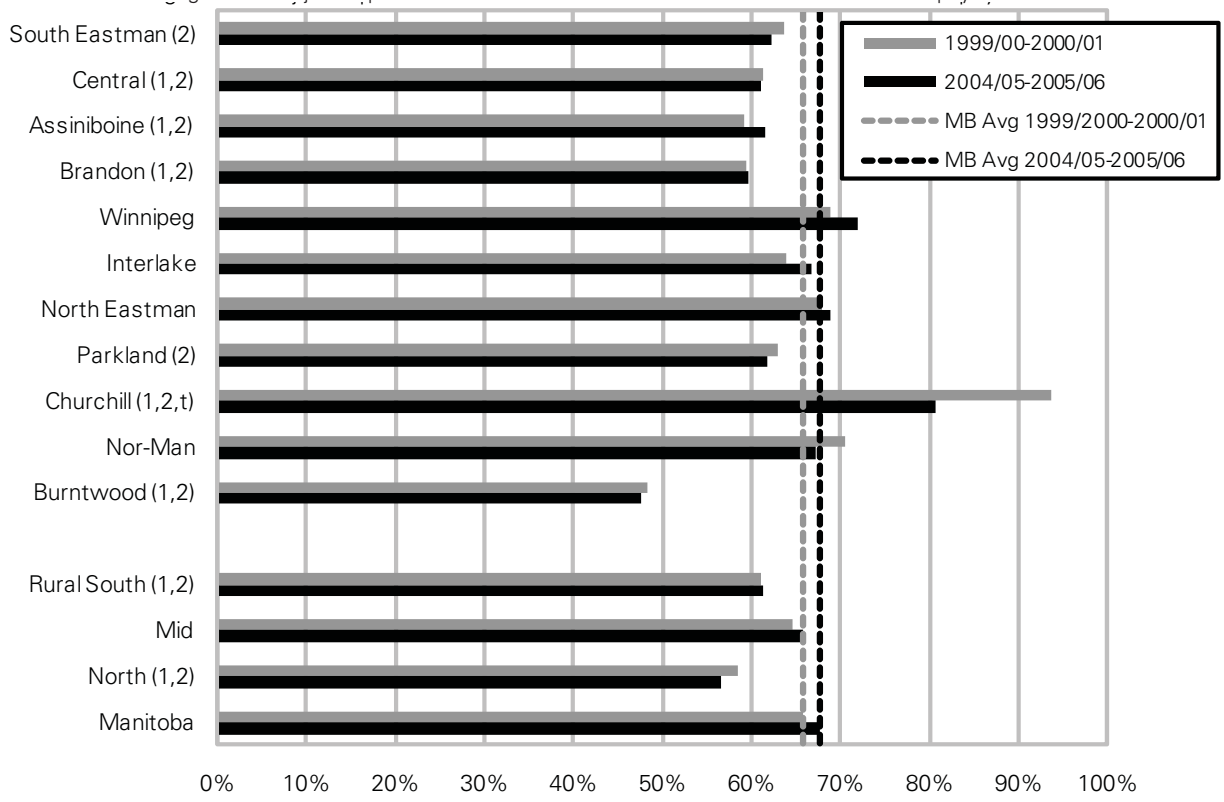
## Comparison to other findings:

- This indicator was not included in the 2003 Atlas report. However, the What Works report showed that the average visit rate to specialists was stable from 1990/01 through 2005/06, at about 1.2 visits per resident per year.
- These values are lower than those reported by CIHI for Manitoba (1.45 in 00/01 and 1.42 in 05/06) (2003, 2008). Some difference would be expected because of differences in definitions and coding details. (Note that because most Specialists are fee–for–service providers, there should be no 'missing data' as in Section 6.2.)
    - In CIHI reports, visit rates to specialists for Manitoba were consistently lower than the Canadian averages of 1.69 in 00/01 and 1.62 in 05/06 (after removing 'hospital care days' to improve comparability).

## 6.5 Continuity of Care

Definition: The percentage of residents receiving at least 50% of their ambulatory visits over a two–year period from the same physician. For children 0 to 14, it could be a GP/FP or a Pediatrician; for those 15 to 59, only GP/FPs were used; for those 60+, it could be a GP/FP or an Internal Medicine specialist. Residents with less than three ambulatory visits over the two–year period were excluded. Values were calculated for two 2–year periods, 1999/00–2000/01 and 2004/05–2005/06, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 6.5.1: Continuity of Care Rates by RHA**

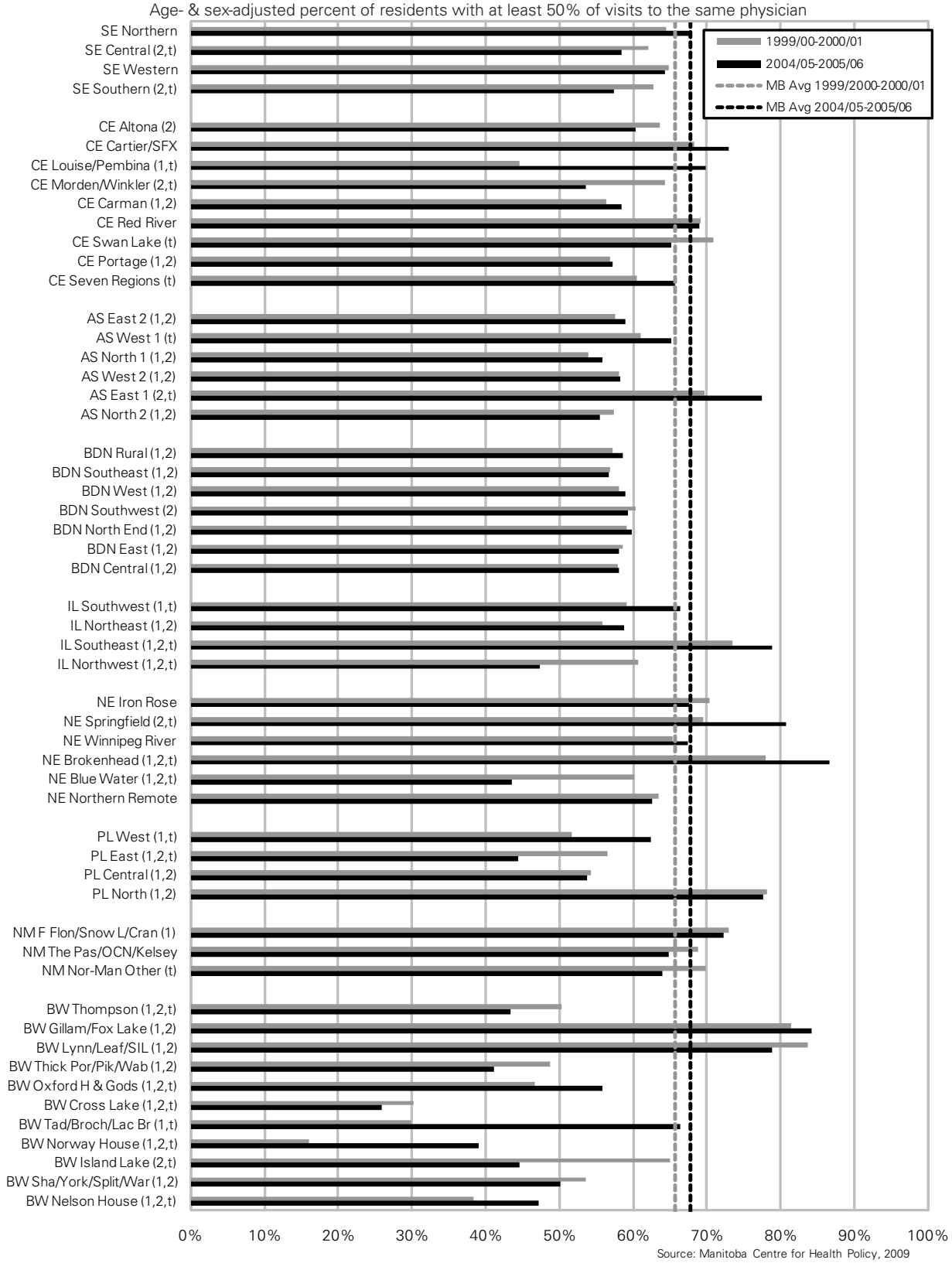



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.5.2: Continuity of Care Rates by District

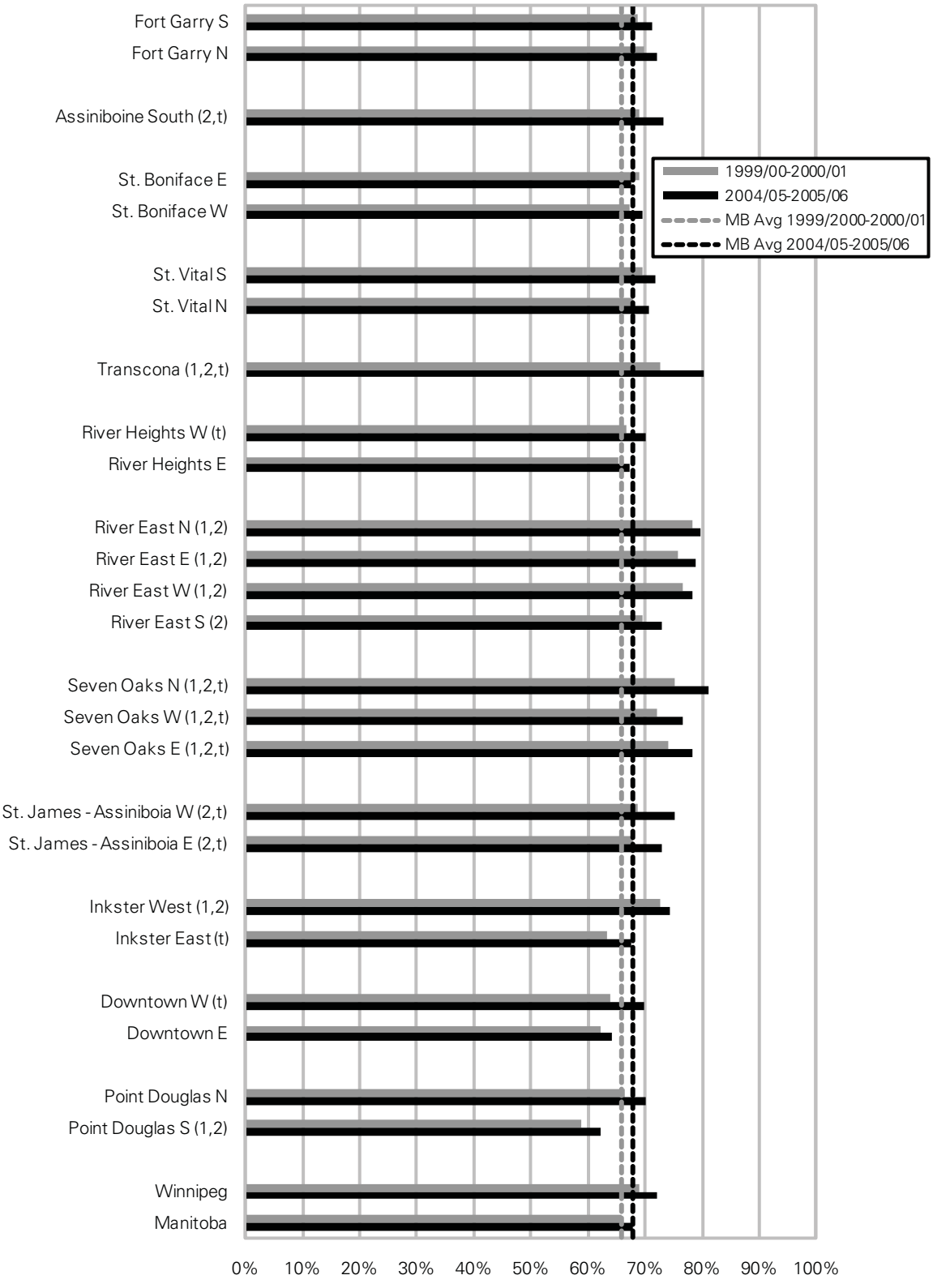
Age- & sex-adjusted percent of residents with at least 50% of visits to the same physician




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.5.3: Continuity of Care Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents with at least 50% of visits to the same physician




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of residents receiving at least 50% of their visits from the same physician was stable over time (65.7% in 1999/00–2000/01 and 67.7% in 2004/05–2005/06). Rates in most RHAs were stable with most having values at or above 60%, except Burntwood.
- Continuity of care rates do not appear to be associated with premature mortality rates at the RHA level.
- Continuity of care rates were significantly related to income in urban and rural areas in both time periods: residents of lower income areas had lower continuity of care (Appendix 2).

## Comparison to other findings:

- This indicator was not included in the 2003 Atlas. The values shown here are lower than those reported in the Sex Differences report (approximately 72%). It analyzed a different two–year period in between the periods shown here, so this difference may reflect 'normal' variation over time.
- Comparison to other studies is difficult, because there are a number of different definitions used to measure continuity of care.

## 6.6 Visit Rates by Age and Sex

Definition: the crude (i.e., not adjusted) rate of ambulatory visits to physicians made by residents in each five–year age group. Rates for males and females are shown separately. Graphs are shown for each of the aggregate areas, plus Winnipeg and Manitoba.

### Key findings:

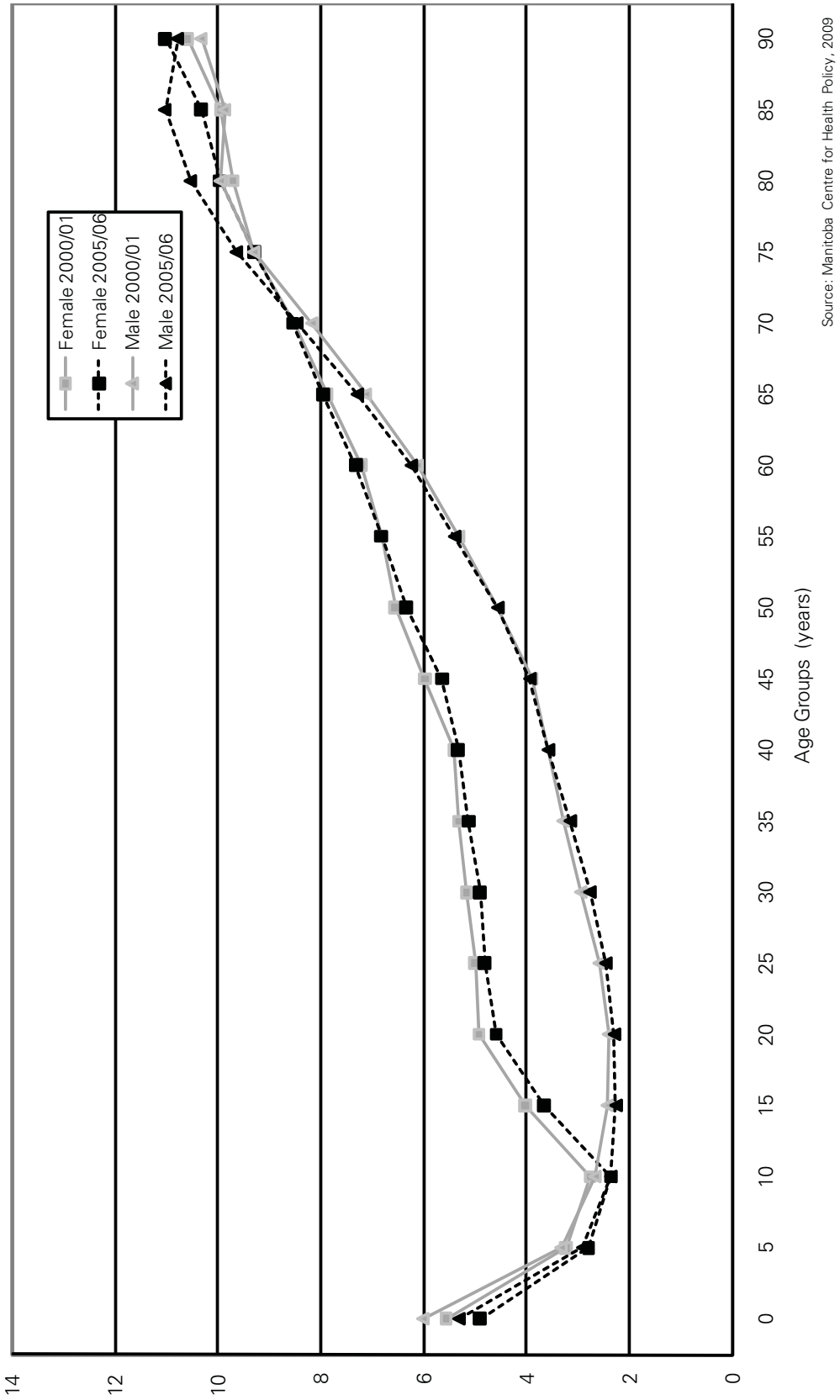
- For both sexes, the patterns were similar over time with two noticeable changes.
  - Visit rates for children and young adults were slightly lower in 2005/06 than in 2000/01, whereas those among the oldest residents (especially males) were higher.
  - Although these differences appear small in the Figure, they should not be underestimated, as these are visit rates per person, and therefore, represent many visits each year. For example:
    - Among 0–4 year old males, the visit rate decreased from 6.0 to 5.3, which translates into 25,666 fewer visits among 37,000 children.
    - Among 80–84 year old males, the visit rate increased from 9.9 to 10.5, which translates into 5,378 more visits among 9,000 people.
- The basic patterns by age were similar for all aggregate areas, including the difference in patterns for males and females:
  - For males: infants have relatively high visit rates, which decline sharply through childhood and youth, then rise gradually through adulthood. The highest visit rates are seen among the oldest residents.
  - For females: infants have relatively high visit rates, which decline sharply in early childhood, but then rise quickly again in adolescence and then rise gradually throughout adulthood. The highest visit rates are seen among the oldest residents.

### Comparison to other findings:

- The main patterns shown here are virtually identical to those shown in the 2003 Atlas and the Sex Differences report.

**Figure 6.6.1: Ambulatory Visit Rates by Age and Sex, Manitoba**

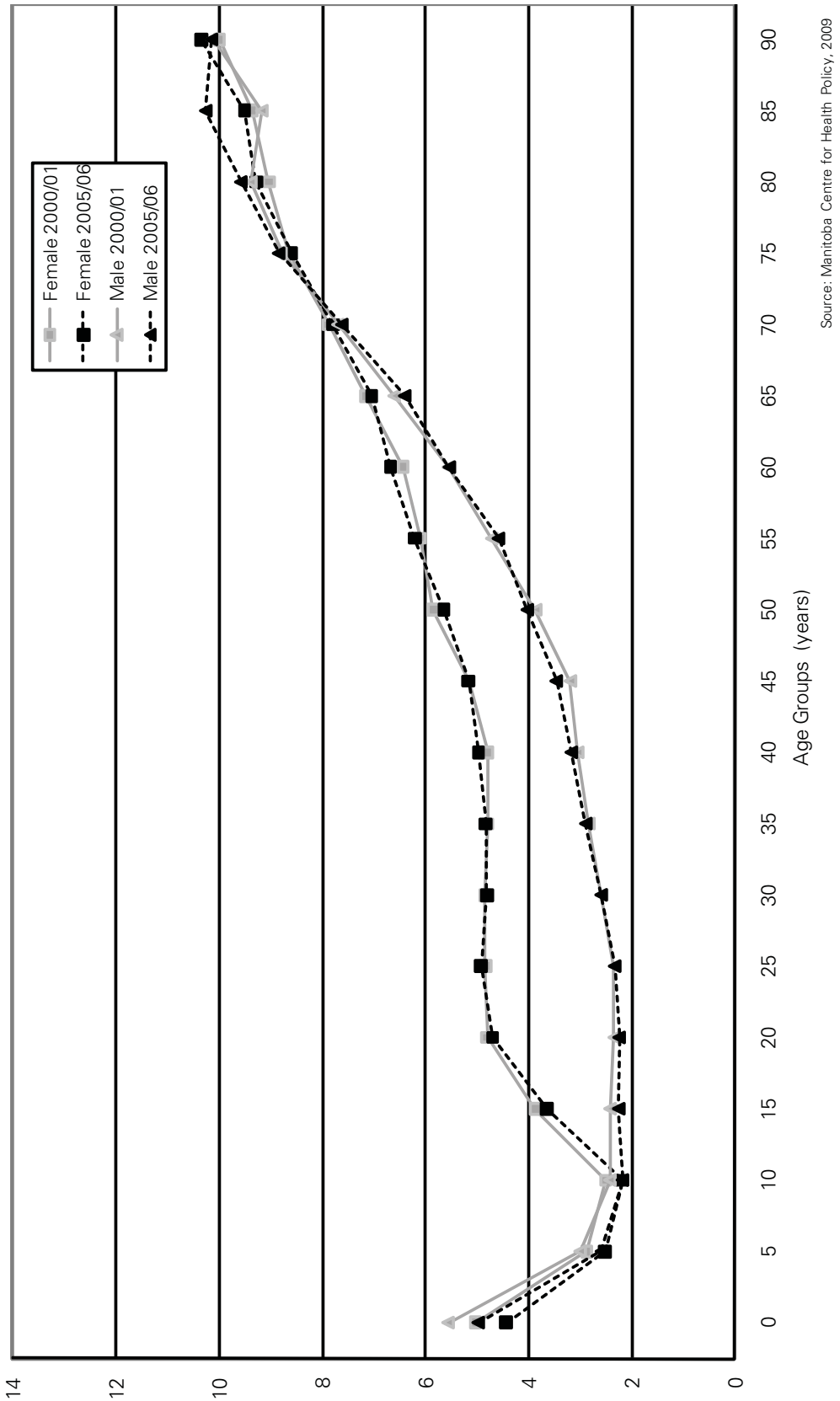
Crude average annual number of visits to all physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.6.2: Ambulatory Visit Rates by Age and Sex, Rural South & Brandon**

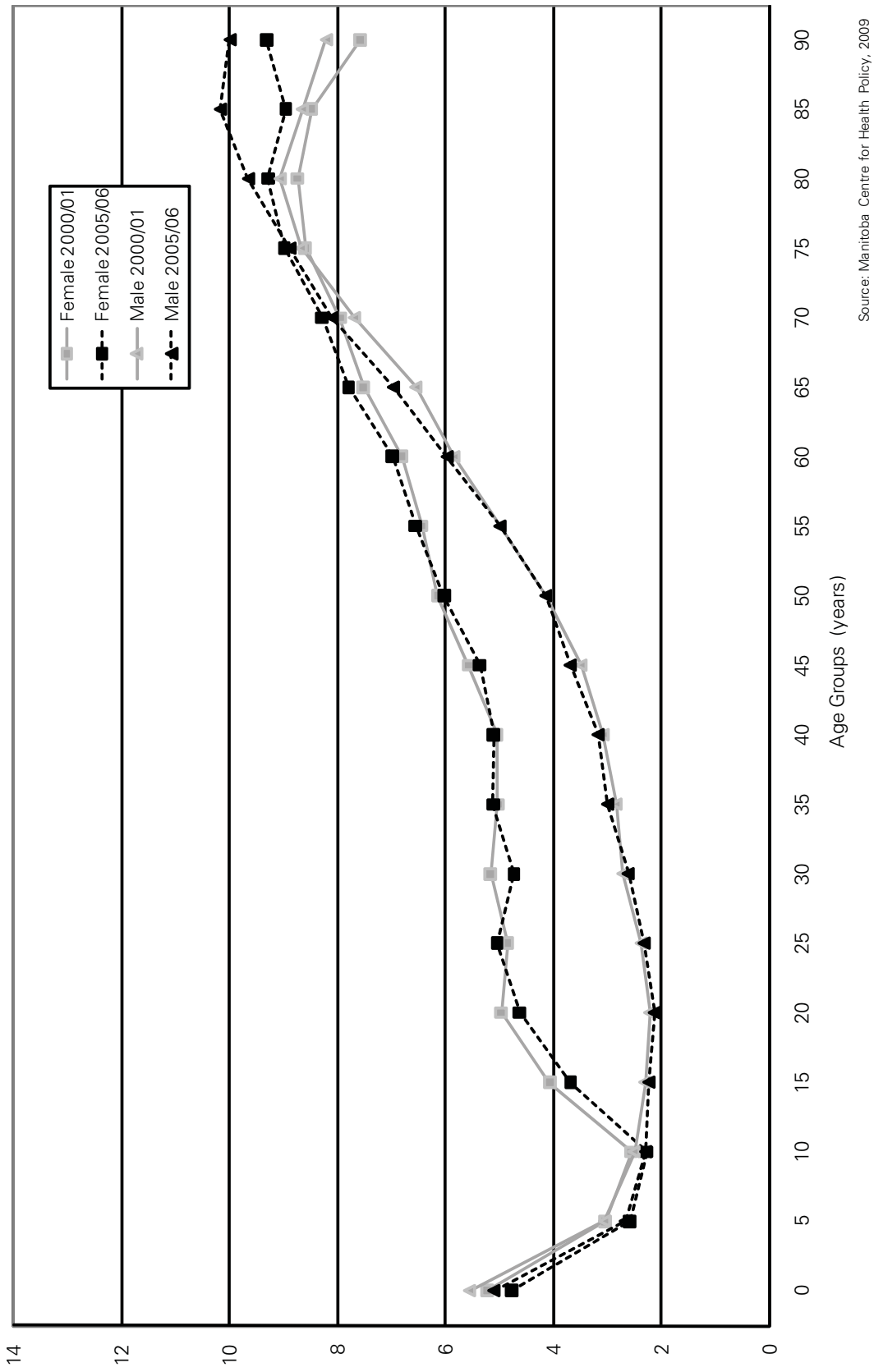
Crude average annual number of visits to all physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

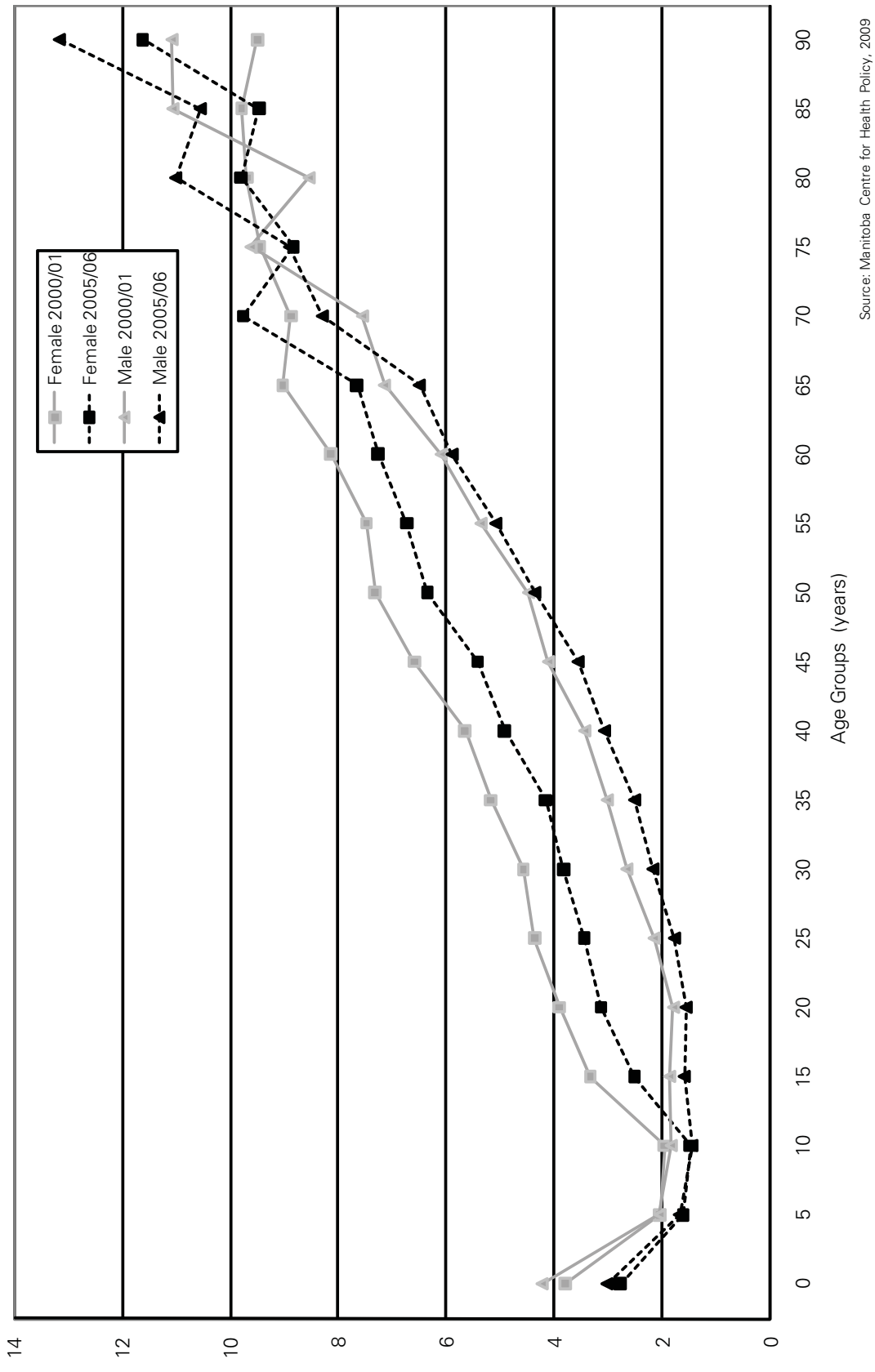
**Figure 6.6.3: Ambulatory Visit Rates by Age and Sex, Mid**

Crude average annual number of visits to all physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

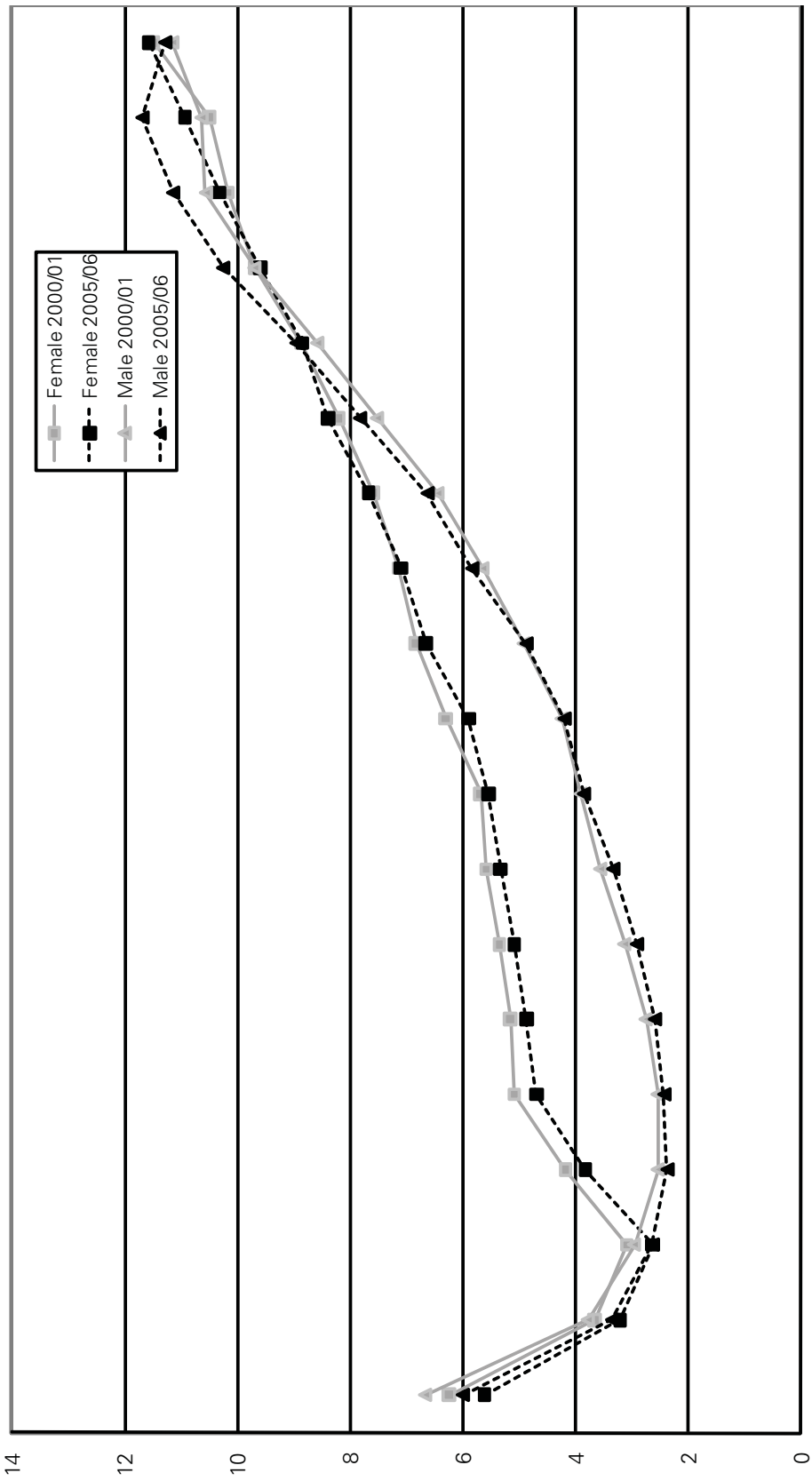
**Figure 6.6.4: Ambulatory Visit Rates by Age and Sex, North**
Crude average annual number of visits to all physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.6.5: Ambulatory Visit Rates by Age and Sex, Winnipeg**

Crude average annual number of visits to all physicians, per resident




Source: Manitoba Centre for Health Policy, 2009

## 6.7 Location of Visits to General and Family Practitioners

Definition: the proportion of visits to General and Family Practitioners (GPs/FPs) which took place within the resident's District, elsewhere in their RHA, in another RHA, or in Winnipeg. In Winnipeg and Brandon, all visits within the RHA were considered 'in District.' Churchill results are not shown because of incomplete data for physician claims (see Introduction). A table of district level results is available in the Data Extras for this report on the MCHP website.

**Table 6.7.1: Location of Visits to GP/FPs by RHA, 2000/01 & 2005/06**

| RHA | % In District | % Elsewhere in RHA | % To Other RHA | % To Winnipeg |
|---|---|---|---|---|
| South Eastman 00/01 | 59.1% | 15.5% | 3.1% | 22.4% |
| South Eastman 05/06 | 57.8% | 17.5% | 3.1% | 21.6% |
| Central 00/01 | 66.5% | 11.6% | 4.8% | 17.1% |
| Central 05/06 | 67.3% | 12.7% | 4.6% | 15.3% |
| Assiniboine 00/01 | 75.3% | 7.7% | 14.1% | 2.9% |
| Assiniboine 05/06 | 72.5% | 7.8% | 17.3% | 2.3% |
| Brandon 00/01 * | 91.2% | . | 6.5% | 2.3% |
| Brandon 05/06 * | 92.7% | . | 5.3% | 1.9% |
| Winnipeg 00/01 * | 98.0% | . | 2.0% | . |
| Winnipeg 05/06 * | 97.8% | . | 2.2% | . |
| Interlake 00/01 | 59.8% | 4.3% | 2.9% | 33.0% |
| Interlake 05/06 | 58.7% | 6.0% | 3.5% | 31.8% |
| North Eastman 00/01 | 53.2% | 11.3% | 6.7% | 28.9% |
| North Eastman 05/06 | 58.7% | 9.1% | 6.4% | 25.8% |
| Parkland 00/01 | 80.1% | 12.0% | 4.9% | 3.0% |
| Parkland 05/06 | 78.8% | 13.2% | 5.1% | 2.8% |
| Nor-Man 00/01 | 80.9% | 9.8% | 5.3% | 3.9% |
| Nor-Man 00 | 82.6% | 10.2% | 3.8% | 3.5% |
| Burntwood 00/01 | 68.7% | 16.3% | 5.4% | 9.5% |
| Burntwood | 67.4% | 16.8% | 5.4% | 10.4% |
| Rural South 00/01 | 68.1% | 11.1% | 7.8% | 13.1% |
| Rural South 05/06 | 66.7% | 12.3% | 8.5% | 12.6% |
| Mid 00/01 | 65.3% | 8.7% | 4.5% | 21.6% |
| Mid 05/06 | 65.2% | 9.1% | 4.8% | 20.9% |
| North 00/01 | 74.2% | 13.3% | 5.4% | 7.1% |
| North 00 05/06 | 74.3% | 13.6% | 4.9% | 7.2% |
| Manitoba 00/01 | 85.8% | 4.2% | 3.9% | 6.1% |
| Manitoba 05/06 | 85.6% | 4.4% | 4.1% | 5.9% |

Source: Manitoba Centre for Health Policy, 2009

* For Winnipeg and Brandon residents, visits to physicians anywhere within their RHA are considered 'In District'

'.' denotes suppression due to small numbers

## Figure 6.7.1: Where RHA Residents Went for Visits to GP/FPs


Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Over time, there was very little change in the location of visits to GP/FPs.
    - North Eastman had the most substantial change: a higher proportion of visits took place within residents' home Districts in 2005/06 than in 2000/01. The proportion taking place in Winnipeg showed a corresponding decrease.
    - Conversely, residents of Assiniboine RHA received slightly fewer of their visits within their District, and more in Other RHAs (most likely Brandon) in 2005/06 than in 2000/01.
- Winnipeg appears to strongly affect rates for North Eastman and Interlake, as well as South Eastman and Central RHAs (though to a lesser degree).

### Comparison to other findings:

- The results shown here are virtually identical to those shown in the 2003 Atlas.

## 6.8 Location of Visits to Specialists

Definition: the proportion of visits to Specialist physicians which took place within the resident's District, elsewhere in their RHA, in another RHA, or in Winnipeg. In Winnipeg and Brandon, all visits within the RHA were considered 'in District.' Churchill results are not shown because of incomplete data for physician claims (see Introduction). A table of district level results is available in the Data Extras for this report on the MCHP website.

**Table 6.8.1: Location of Visits to Specialists by RHA, 2000/01 & 2005/06**

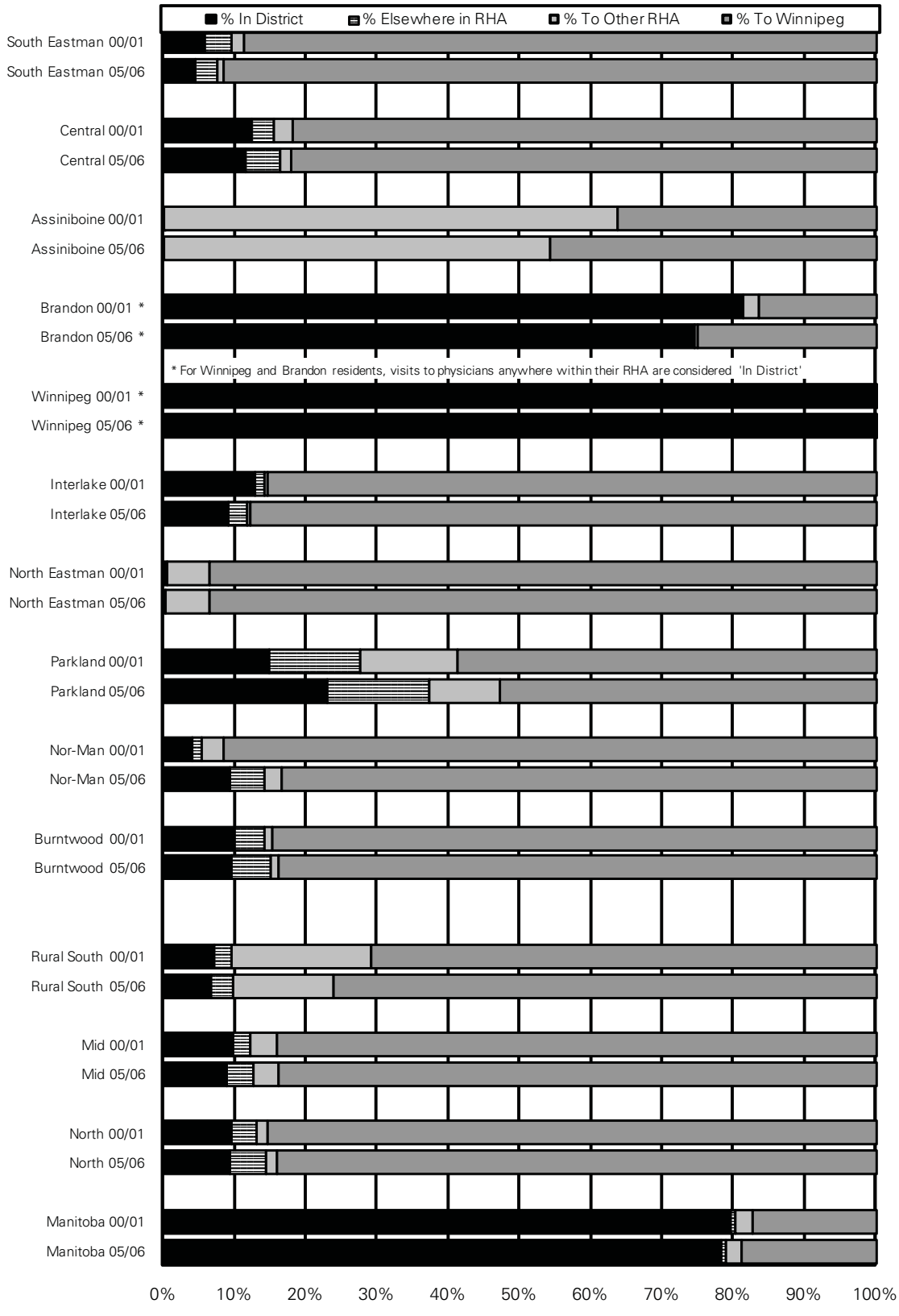
| RHA | % In District | % Elsewhere in RHA | % To Other RHA | % To Winnipeg |
|---|---|---|---|---|
| South Eastman 00/01 | 5.90% | 3.70% | 1.80% | 88.6% |
| South Eastman 05/06 | 4.50% | 3.00% | 0.90% | 91.6% |
| Central 00/01 | 12.40% | 3.10% | 2.60% | 81.9% |
| Central 05/06 | 11.50% | 4.80% | 1.70% | 81.9% |
| Assiniboine 00/01 | 0.10% | 0.10% | 63.70% | 36.2% |
| Assiniboine 05/06 | 0.00% | 0.00% | 54.40% | 45.6% |
| Brandon 00/01 * | 81.50% | . | 2.10% | 16.4% |
| Brandon 05/06 * | 74.60% | . | 0.50% | 24.9% |
| Winnipeg 00/01 * | 99.80% | . | 0.20% | . |
| Winnipeg 05/06 * | 99.80% | . | 0.20% | . |
| Interlake 00/01 | 12.80% | 1.40% | 0.40% | 85.3% |
| Interlake 05/06 | 9.10% | 2.60% | 0.60% | 87.6% |
| North Eastman 00/01 | 0.60% | 0.00% | 6.00% | 93.4% |
| North Eastman 05/06 | 0.30% | 0.00% | 6.10% | 93.6% |
| Parkland 00/01 | 14.90% | 12.70% | 13.80% | 58.7% |
| Parkland 05/06 | 22.90% | 14.40% | 9.90% | 52.7% |
| Nor-Man 00/01 | 4.00% | 1.50% | 3.00% | 91.4% |
| Nor-Man 00 | 9.30% | 4.90% | 2.40% | 83.4% |
| Burntwood 00/01 | 10.10% | 4.10% | 1.20% | 84.6% |
| Burntwood | 9.60% | 5.40% | 1.30% | 83.8% |
| Rural South 00/01 | 6.70% | 3.10% | 14.10% | 76.1% |
| Rural South 05/06 | 0.00% | 0.00% | 0.00% | 0.0% |
| Mid 00/01 | 8.90% | 3.80% | 3.60% | 83.7% |
| Mid 05/06 | 0.00% | 0.00% | 0.00% | 0.0% |
| North 00/01 | 9.30% | 5.10% | 1.60% | 83.9% |
| North 00 05/06 | 0.00% | 0.00% | 0.00% | 0.0% |
| Manitoba 00/01 | 78.20% | 0.80% | 2.00% | 18.9% |
| Manitoba 05/06 | 0.00% | 0.00% | 0.00% | 0.0% |

Source: Manitoba Centre for Health Policy, 2009

* For Winnipeg and Brandon residents, visits to physicians anywhere within their RHA are considered 'In District'

'.' denotes suppression due to small numbers

## Figure 6.8.1: Where RHA Residents Went for Visits to Specialists




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Winnipeg and Brandon dominate this analysis, as the majority of specialists physicians are located in these two cities (and thus the Manitoba average is heavily influenced by them)
- Over time, there were a few changes in the location of visits to Specialists:
  - Brandon and Assiniboine RHAs show a decrease in specialist visits taking place within residents' Districts and an increase in visits to Winnipeg.
  - Parkland and NOR–MAN RHAs show an increase in the proportion of visits taking place within residents' District and RHA and a decrease in visits to Winnipeg and to Other RHAs.
- District–level results could not fit onto a single–page graph, so the results are shown in Table form, in Appendix 2.

### Comparison to other findings:

- The results shown here are virtually identical to those shown in the 2003 Atlas.

## 6.9 Causes of Physician Visits

Definition: the distribution of diagnoses attributed during ambulatory visits (each visit has one diagnosis code attributed). Visits are grouped according to the 19 chapters of the International Classification of Diseases system (ICD–9–CM), and the top 10 causes are shown for each time period by aggregate area.

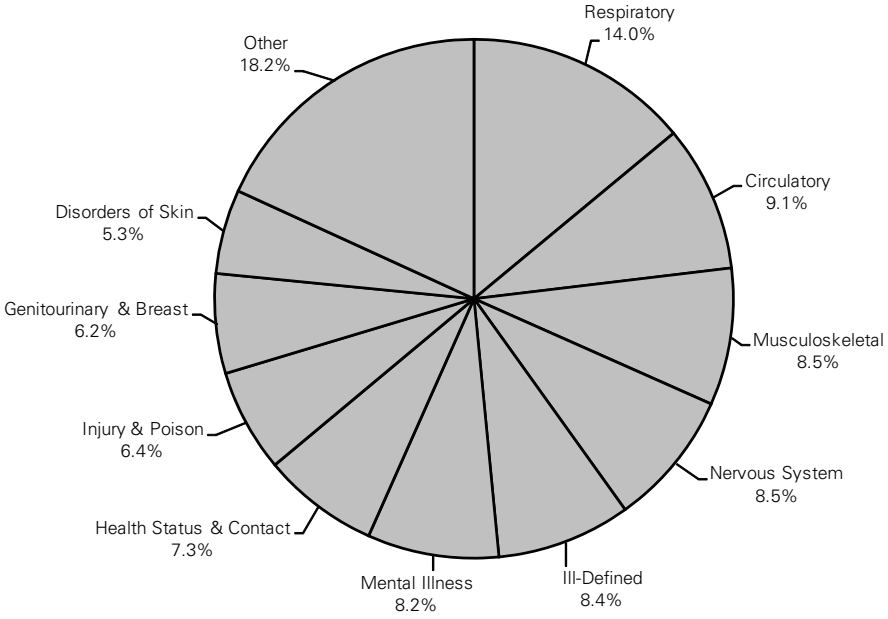
### Key findings:

- The diagnoses attributed during physician visits were spread across many diseases and organ systems.
- Respiratory disease was the most frequent diagnosis group for all aggregate areas, in both time periods.
- There are differences across areas in the order of subsequent causes. However, the proportions attributed to subsequent causes are often very close to each other, so results need to be interpreted carefully.
- Injury and Poisoning was the second leading cause for physician visits in the North; whereas in all other areas, it was no higher than eighth most frequent.
- Mental illness was the second leading cause among Winnipeg residents, but no higher than seventh in all other areas.

### Comparison to other findings:

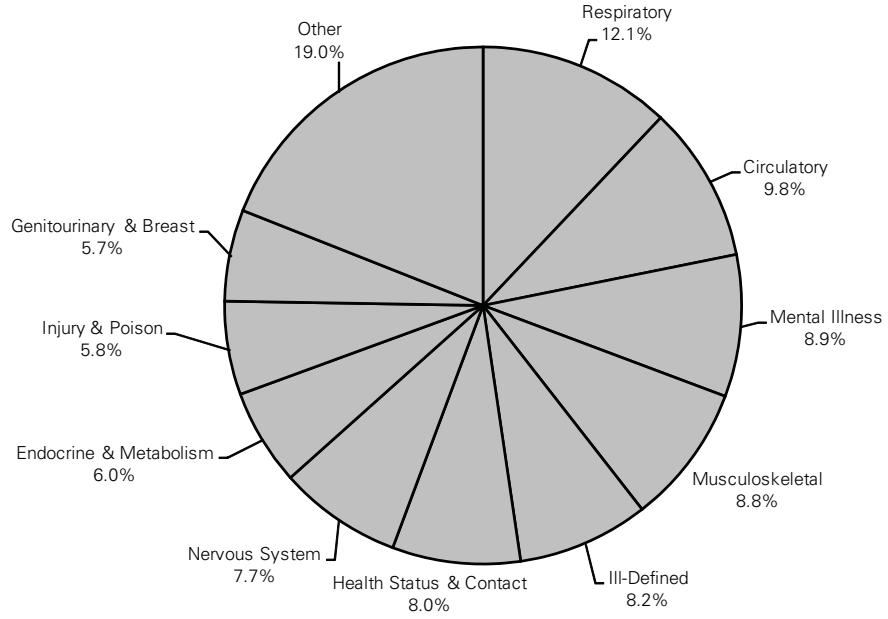
- These results are largely similar to those in the 2003 Atlas, though with some differences which are likely attributable to the change in the definition of Ambulatory visits.
- These results are also consistent with the Sex Differences report, though there are differences in the ordering of disease groups. This is due to the age–adjustment used in the Sex Differences report (but not here or in the 2003 Atlas).

**Figure 6.9.1: Physician Visits by Cause, Manitoba, 2000/01**



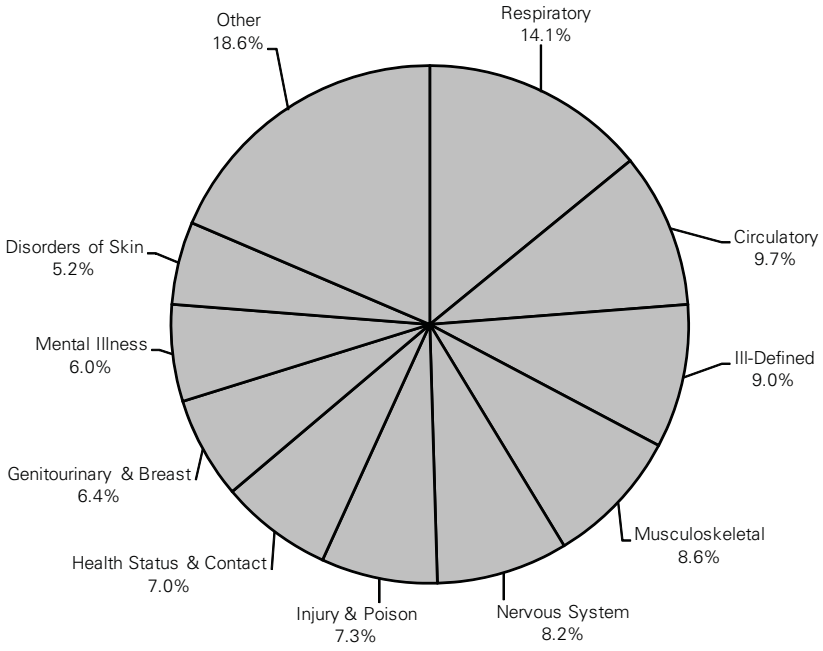

Source: Manitoba Centre for Health Policy, 2009

**Figure 6.9.2: Physician Visits by Cause, Manitoba, 2005/06**



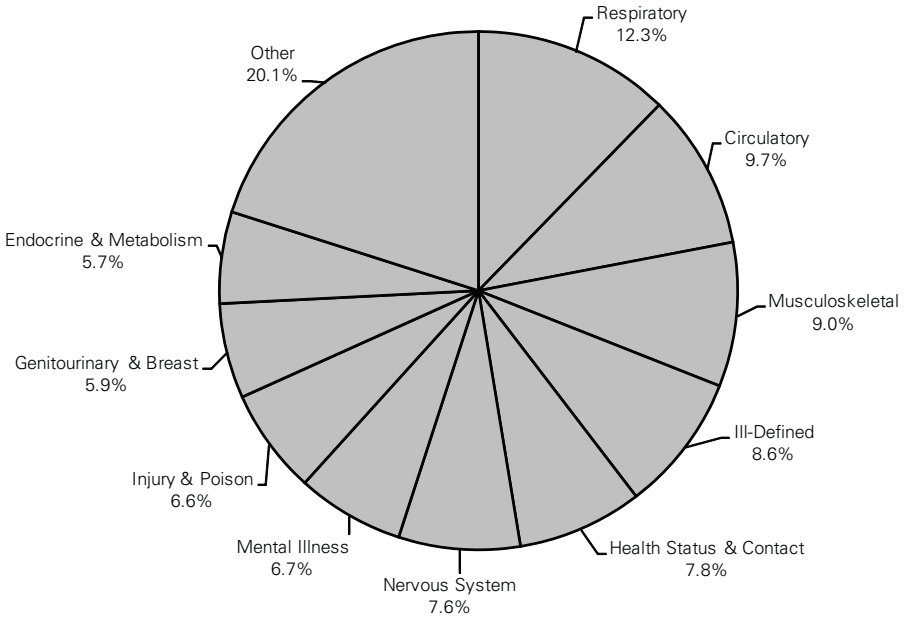

Source: Manitoba Centre for Health Policy, 2009

**Figure 6.9.3: Physician Visits by Cause, Rural South and Brandon, 2000/01**



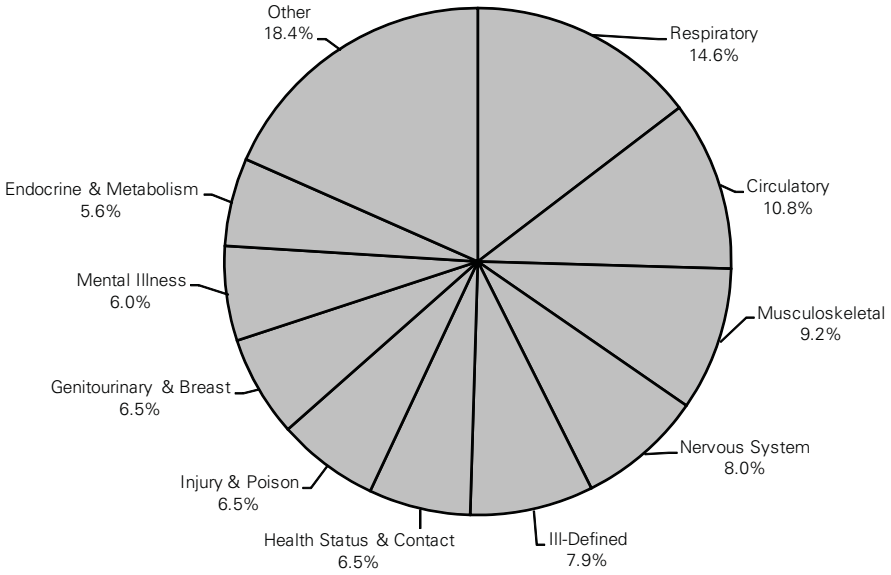

Source: Manitoba Centre for Health Policy, 2009

**Figure 6.9.4: Physician Visits by Cause, Rural South and Brandon, 2005/06**



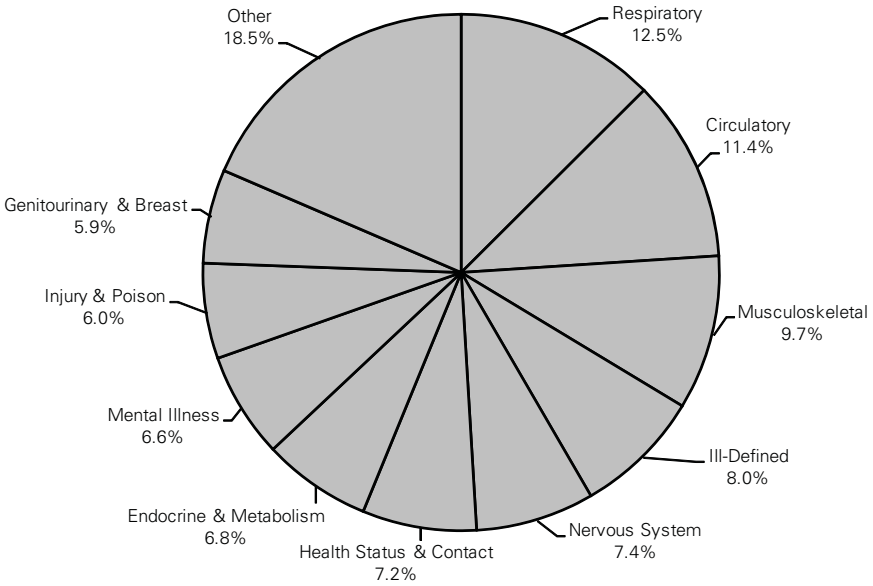

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.9.5: Physician Visits by Cause, Mid, 2000/01



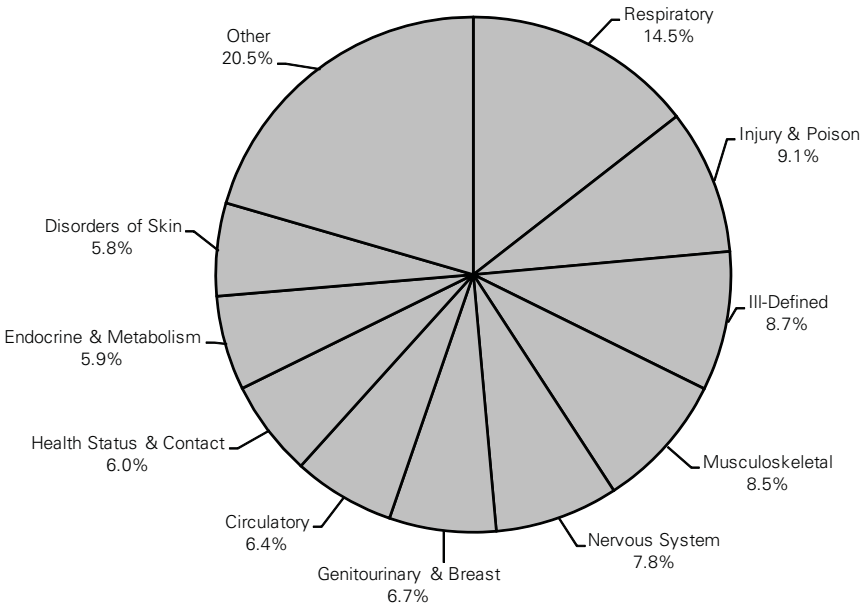

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.9.6: Physician Visits by Cause, Mid, 2005/06



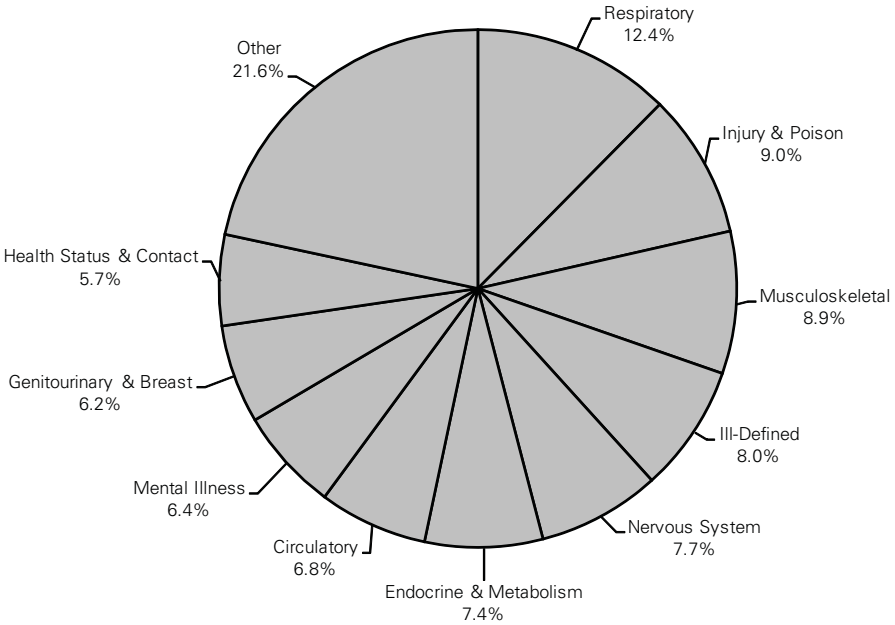

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.9.7: Physician Visits by Cause, North, 2000/01



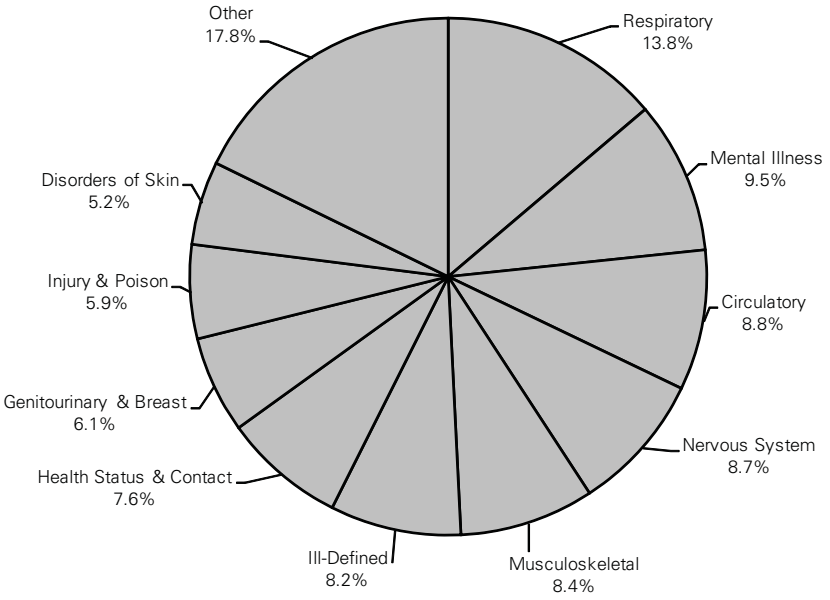

Source: Manitoba Centre for Health Policy, 2009

## Figure 6.9.8: Physician Visits by Cause, North, 2005/06



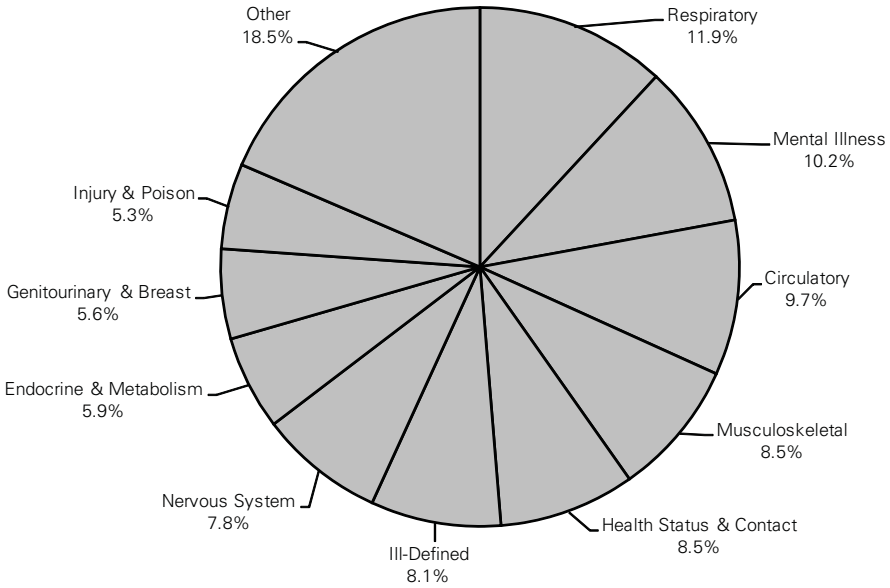

Source: Manitoba Centre for Health Policy, 2009

**Figure 6.9.9: Physician Visits by Cause, Winnipeg, 2000/01**




Source: Manitoba Centre for Health Policy, 2009

**Figure 6.9.10: Physician Visits by Cause, Winnipeg, 2005/06**




Source: Manitoba Centre for Health Policy, 2009

# Chapter 7: Hospital Services

## Key Findings for Chapter 7

- The supply of hospital beds per capita continues to decrease slowly over time, as do most of the (age and sex adjusted) indicators of hospital use rates.
- The proportion of area residents admitted to a hospital at least once in a year was stable over time, but varied significantly by RHA, from 5.8% of Winnipeg residents to 14.6% of Burntwood residents. Some portion of this difference is likely explained by geographic distances and access to hospitals.
- Most other indicators also showed that hospital use was lower for Winnipeggers than residents of any other RHA.
- Total hospital separation rates and rates of days used for short and for long hospital stays decreased over time, though these changes did not reach statistical significance. These decreases reflect a continuation of trends seen in previous reports, though they suggest that rates of hospital use may be stabilizing rather than continuing to decrease significantly.
- Most indicators of hospital care were related to population health status at the RHA and/or aggregate area level, which suggests that hospital care continues to be responsive to the health needs of local populations. This is reinforced by the consistently strong relationships between hospital use and area–level income.
- Causes of hospitalization were stable over time, with Pregnancy and Birth continuing to be the leading cause of hospital admission. However, the ranking of top causes varied by aggregate area (e.g., Injuries were more prominent in the North).
- Among hospitalizations for Injury, accidental falls continued to be the dominant cause accounting for more than 40% of all injury–related hospitalizations.
- Patterns of the location of hospitalization for RHA residents and of the catchment areas served by RHA hospitals were stable over time. For all RHAs, most hospitalizations provided were used predominantly by residents of that RHA, though Winnipeg and Brandon were notable exceptions (along with Churchill, which serves many non–Manitoba residents).

## Introduction

This chapter provides a number of indicators of the use of hospital services by residents of Manitoba. Service use is allocated to the area of residence of the patient, regardless of the location of the hospital. For example, if a resident of NOR–MAN RHA uses a Winnipeg hospital, it would be counted as a hospitalization for a NOR–MAN resident.

Most of the indicators in this chapter are based on information taken from hospital discharge abstracts which are created for every admission to hospital (inpatients) and for selected day surgery procedures (outpatients). Some analyses exclude day surgery, because this represents a different kind of use of a hospital—which usually does not involve an overnight stay.

The analyses in this chapter exclude admissions to Personal Care Homes and long term care facilities (e.g., Deer Lodge Centre and Riverview Health Centre).

## Coding Change: April 2001

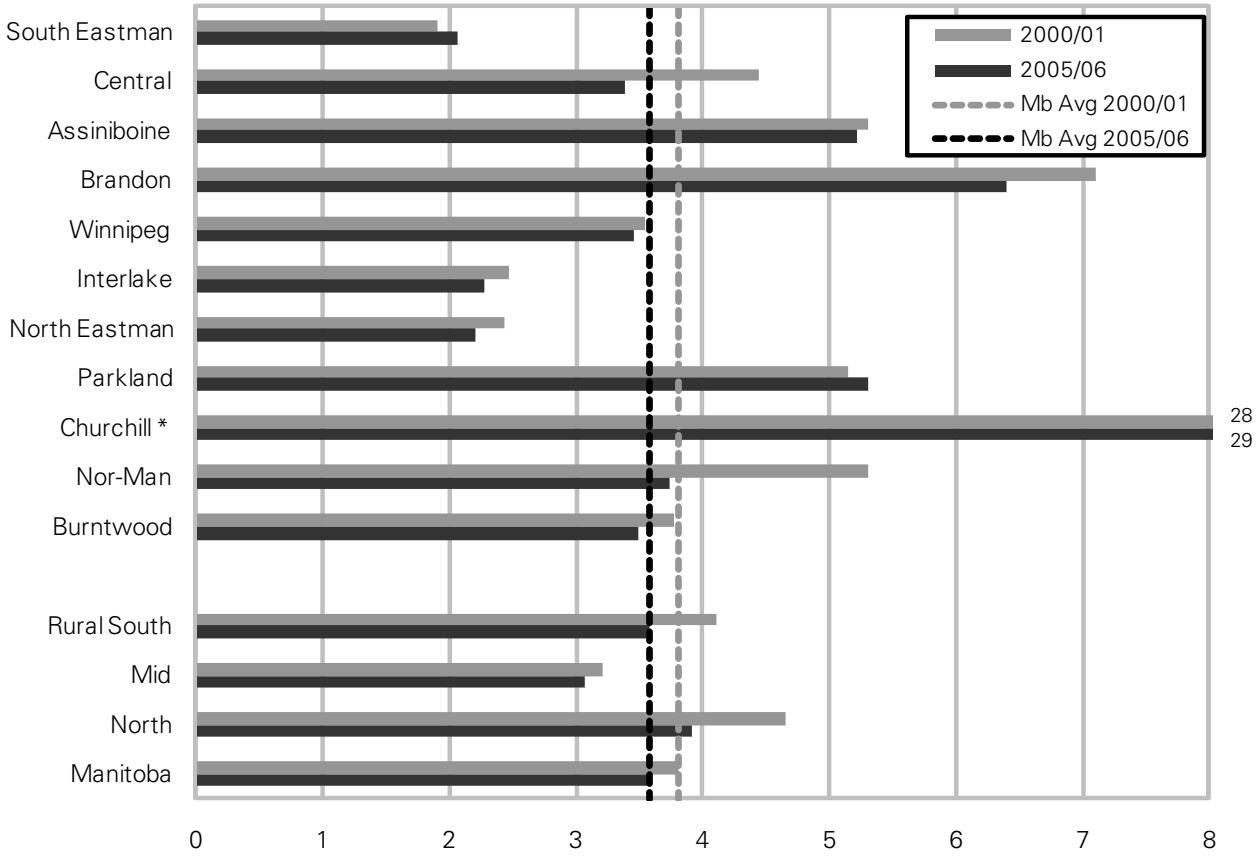
Data collection requirements for outpatient procedures changed on April 1, 2001, such that hospital discharge abstracts were no longer required for a number of common 'low–intensity' procedures (biopsies and treatment of skin lesions). In 2000/01, there were 15,292 of these in Manitoba—representing 7.8% of all hospital separations. For this report, these procedures were removed from 2000/01 records to ensure rates could be fairly compared to those in 2005/06. As a result, separation rates for the year 2000/01 in this report appear lower than in previous reports (e.g., the 2003 Atlas) in which those procedures were still included.

## 7.1 Hospital Bed Supply

Definition: The number of beds in acute care hospitals within each RHA, divided by the population of the RHA. The bed counts come from the 'Setup Beds' data kept by Manitoba Health and Healthy Living for 2000/01 and 2005/06. These values need to be interpreted with caution because the actual number of beds in use in each hospital varies through the year and beds can be used for 'non–acute' care. The values are shown to provide an overall indication of the relative supply of beds across the province, and to track major changes over time.

**Figure 7.1.1: Hospital Bed Supply by RHA**

Number of 'Setup Beds' per 1,000 residents




* The Churchill Regional Health Centre also serves other Northern areas, including Nunavut.

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The provincial supply of hospital beds per capita decreased from 3.82 beds per 1,000 residents to 3.57. Values in most RHAs reflected this decrease, related to a combination of changes in the number of beds and regional populations.
- NOR–MAN and Central RHAs had the largest relative decreases among RHAs.
- Churchill appears to have a much higher hospital bed supply than all other RHAs. However, much of the capacity of the Churchill Regional Health Centre is used by non–Churchill residents, especially residents of Nunavut.
- Brandon had the next highest bed supply among RHAs, though much of that resource is used by residents of other RHAs, particularly Assiniboine (see Sections 7.7–7.10).
- Among other RHAs, Assiniboine and Parkland had relatively high hospital bed supply per capita.
- South Eastman, North Eastman, and Interlake had the lowest, and their residents use Winnipeg hospitals more often—see Sections 7.7 and 7.8.
- Hospital bed supply does not appear to be related to population health status at the RHA or aggregate levels.

## Comparison to other findings:

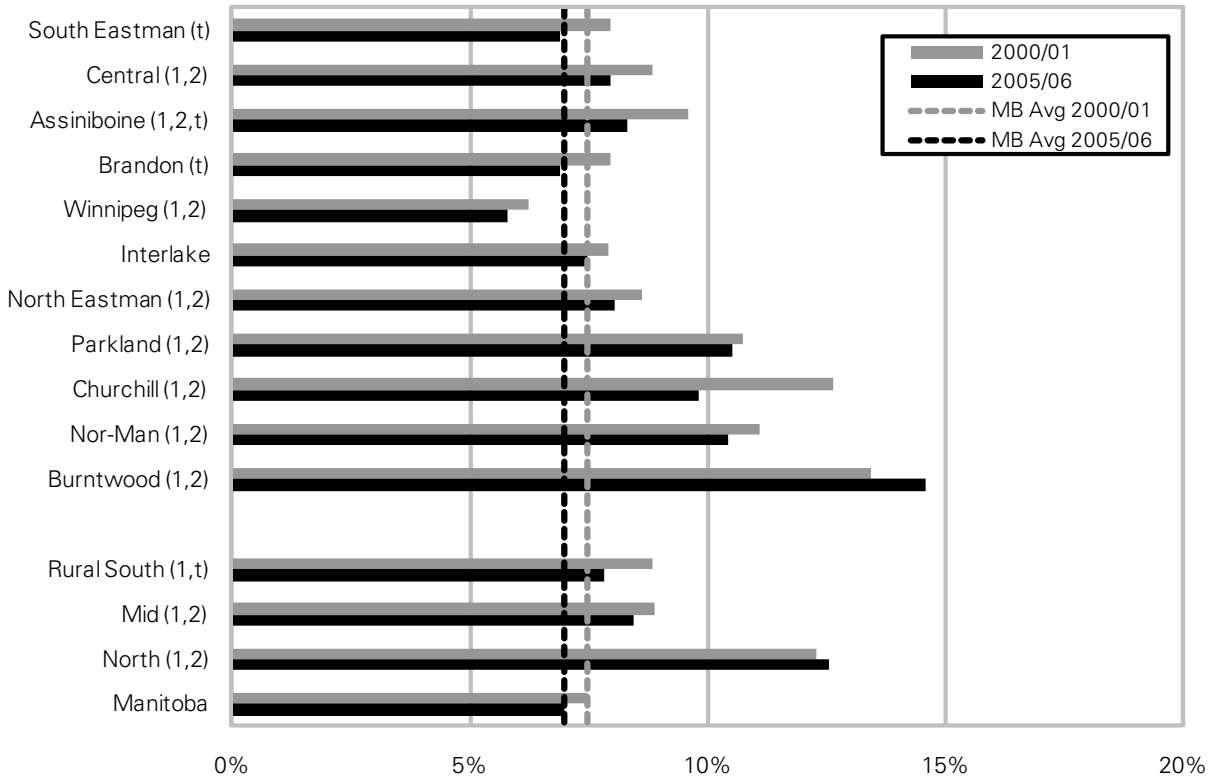
- The values shown here align with those in the 2003 Atlas, though that report documented a larger reduction in bed supply over time. Taken together, results from these reports suggest that bed supply per capita continues to decrease, but at a slower rate than in earlier years.
- Comparable data for Canada are not readily available.

## 7.2 Use of Hospitals

Definition: the proportion of area residents who were admitted to an acute care hospital at least once in a fiscal year. All inpatient hospitalizations of area residents were included, regardless of the location of the hospital; outpatient services were excluded. Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 7.2.1: Use of Hospitals by RHA**

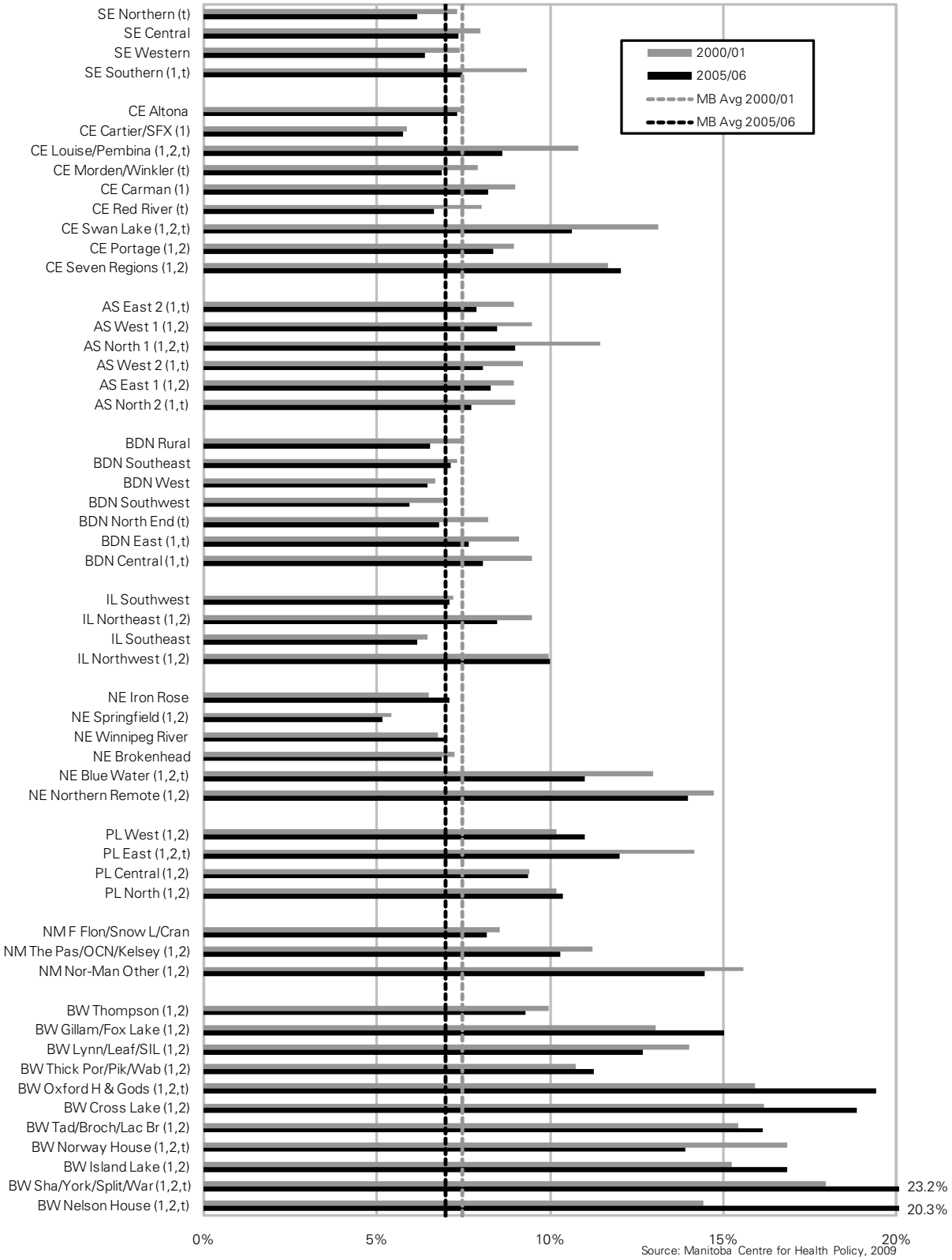
Age - & sex-adjusted percent of residents with at least one inpatient hospital stay per year




'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area

## Figure 7.2.2: Use of Hospitals by District

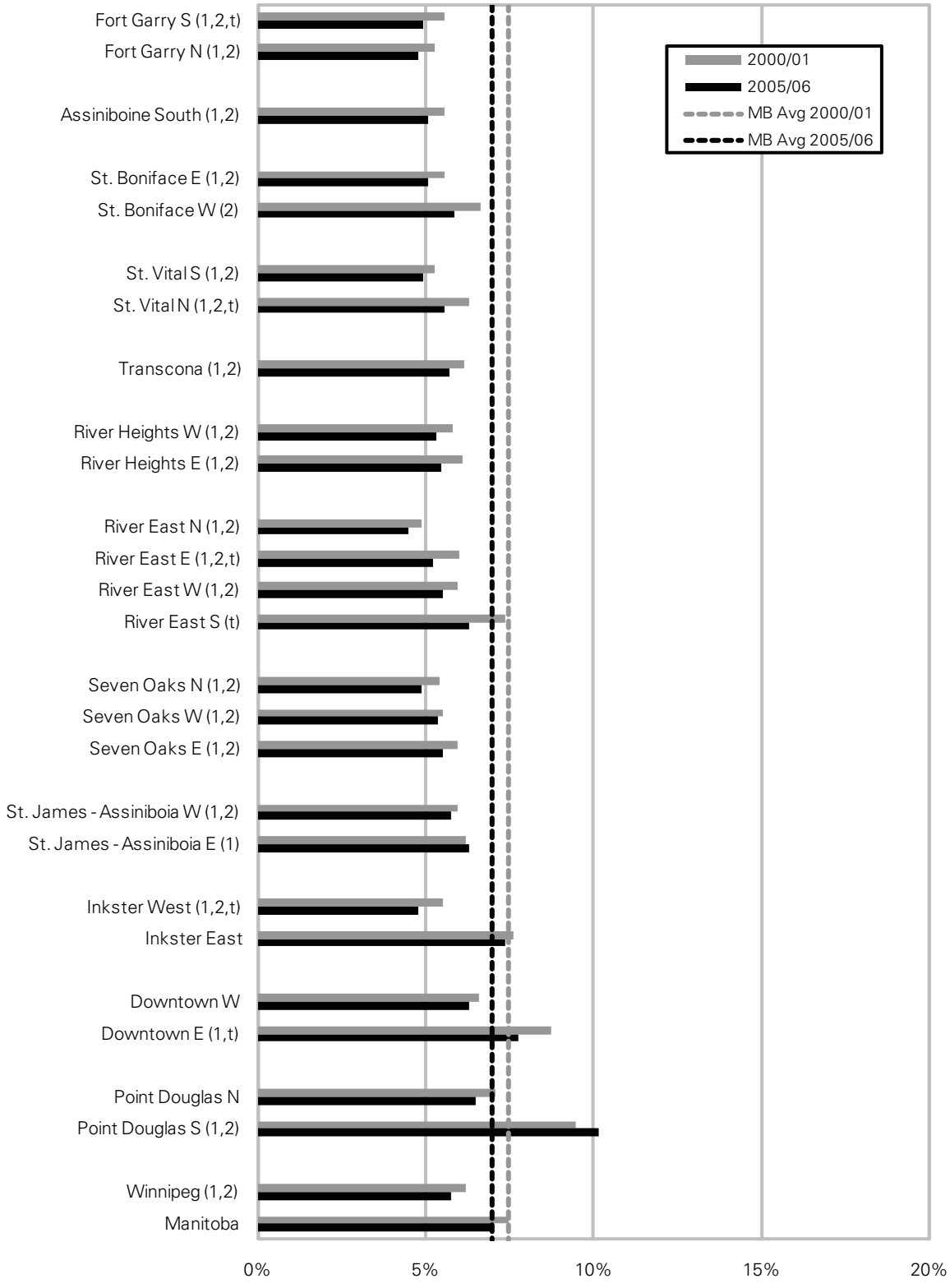
Age - & sex-adjusted percent of residents with at least one inpatient hospital stay per year




Source: Manitoba Centre for Health Policy, 2009

**Figure 7.2.3: Use of Hospitals by Winnipeg Neighbourhood Clusters**

Age - & sex-adjusted percent of residents with at least one inpatient hospital stay per year




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of residents hospitalized at least once in a given year decreased slightly, but not significantly, from 7.5% to 7.0%.
- Most RHAs reflected this decrease, except Burntwood, which showed a slight (non–significant) increase.
- There were large differences across RHAs, ranging from 5.8% of Winnipeg residents to 14.6% of Burntwood residents (in 2005/06).
- Hospital use rates appear to be related to health status at the aggregate level, in that a higher proportion of Northern residents were hospitalized than Mid, Rural South or Urban residents.
    - It is likely that geography and transportation systems also play a role: more residents of the North live in remote areas without ready access to hospitals, so they are more likely to be admitted to (and kept in) hospitals than those with better access to acute care facilities. This issue was addressed directly in MCHP's Sex Differences report.
    - In addition, a higher proportion of hospital separations for Winnipeg and Brandon residents were outpatient services–so they used the hospital, but were not admitted (for overnight stay).
- Hospital use rates were strongly related to income in urban and rural areas in both time periods: a higher proportion of residents of lower income areas were hospitalized at least once (Appendix 2).

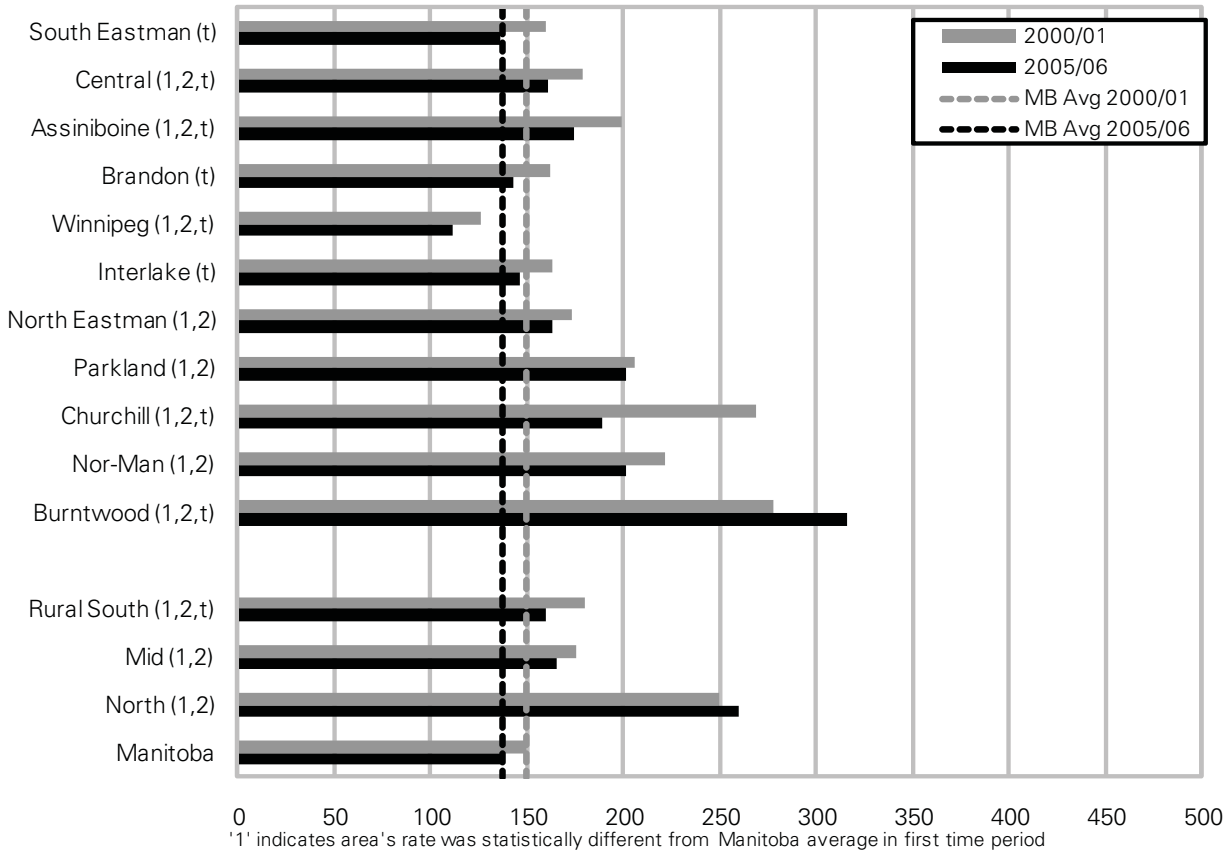
## Comparison to other findings:

- This indicator was not included in previous MCHP reports.
- The values shown here are comparable to a 2005 report from CIHI which stated that in 2003, 8% of Canadian teens and adults were hospitalized, and that this rate had been stable since 1994/95 (CIHI, 2005).

## 7.3 Hospital Separation Rates

Definition: The total number of inpatient and outpatient hospital separations of area residents, per 1,000 residents per year. In any given period, a resident could be hospitalized more than once, so this indicator shows the total number of separations from acute care facilities by all residents of the area. See the Glossary for more details. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 7.3.1: Hospital Separation Rates by RHA**
Age- & sex-adjusted rate of hospital separations, per 1,000 residents

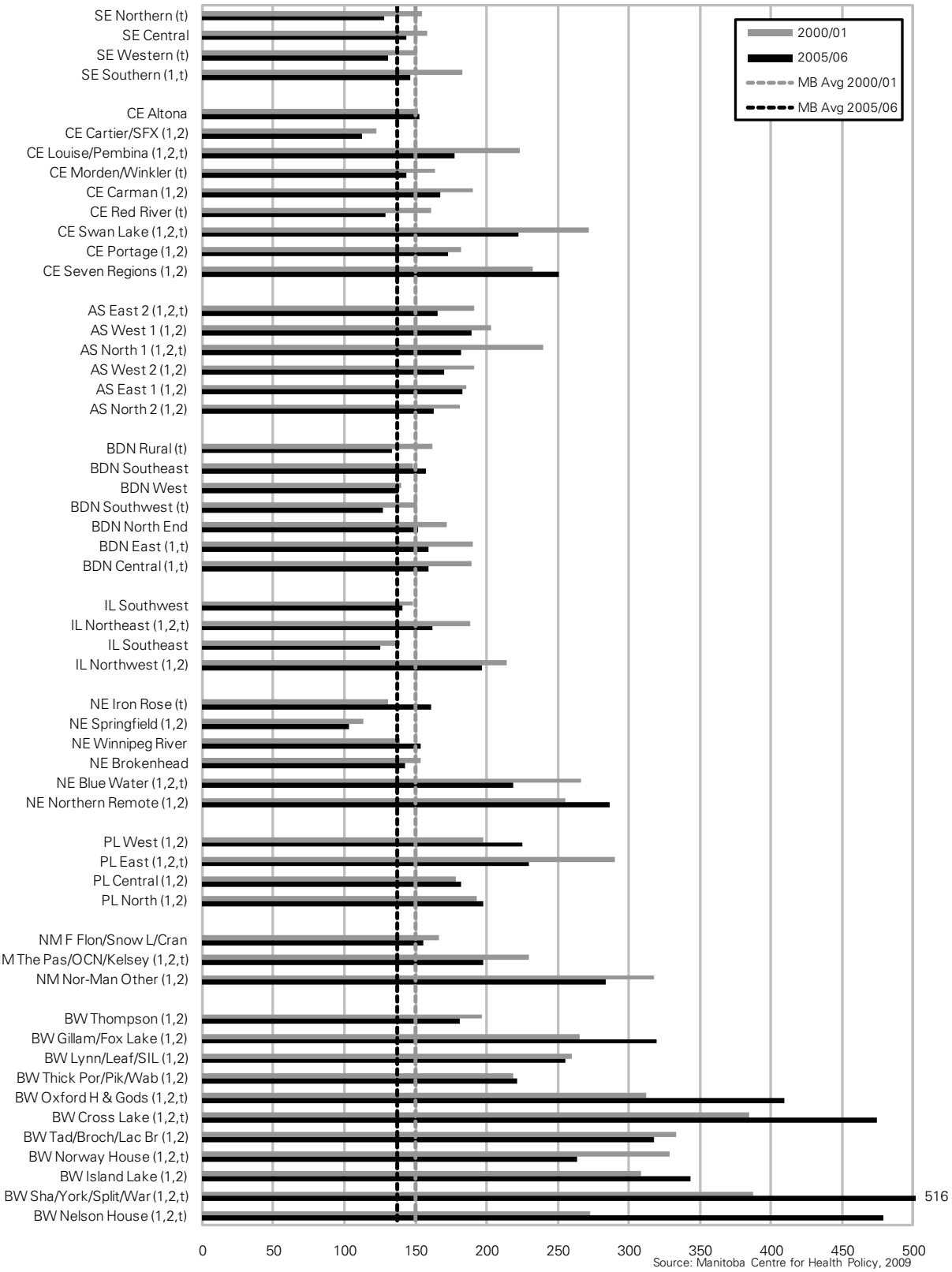



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 7.3.2: Hospital Separation Rates by District

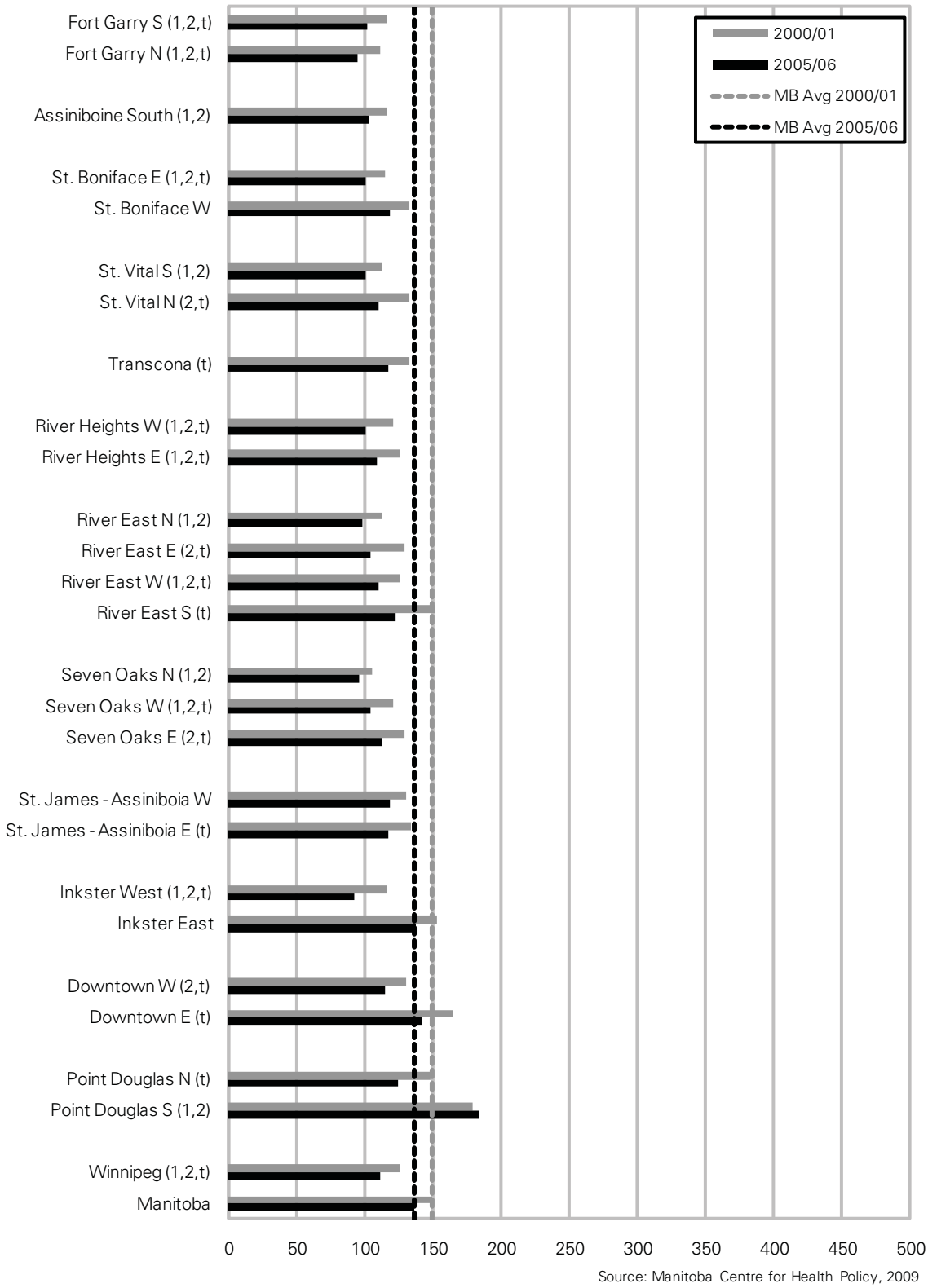
Age- & sex-adjusted rate of hospital separations, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

**Figure 7.3.3: Hospital Separation Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted rate of hospital separations, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The overall hospital separation rate decreased from 150 to 137 per 1,000 residents. Statistically, this decrease was only marginally significant (p=0.059 instead of being below 0.05 as usual), though it did reach significance in many RHAs. However, this decrease is likely significant from both a clinical perspective and a health policy perspective.
- Separation rates were higher for residents of the North than the Rural South, Mid, and Urban areas, though there was not a direct relationship with health status.
- Winnipeg residents had substantially lower separation rates than residents of any other RHA, and rates were remarkably similar across all 25 NCs within Winnipeg, except that residents of Point Douglas South had higher rates.
- Hospital separation rates were strongly related to income in urban and rural areas in both time periods: residents of lower income areas had separation rates almost 50% higher than those from higher income areas (Appendix 2).

## Comparison to other findings:

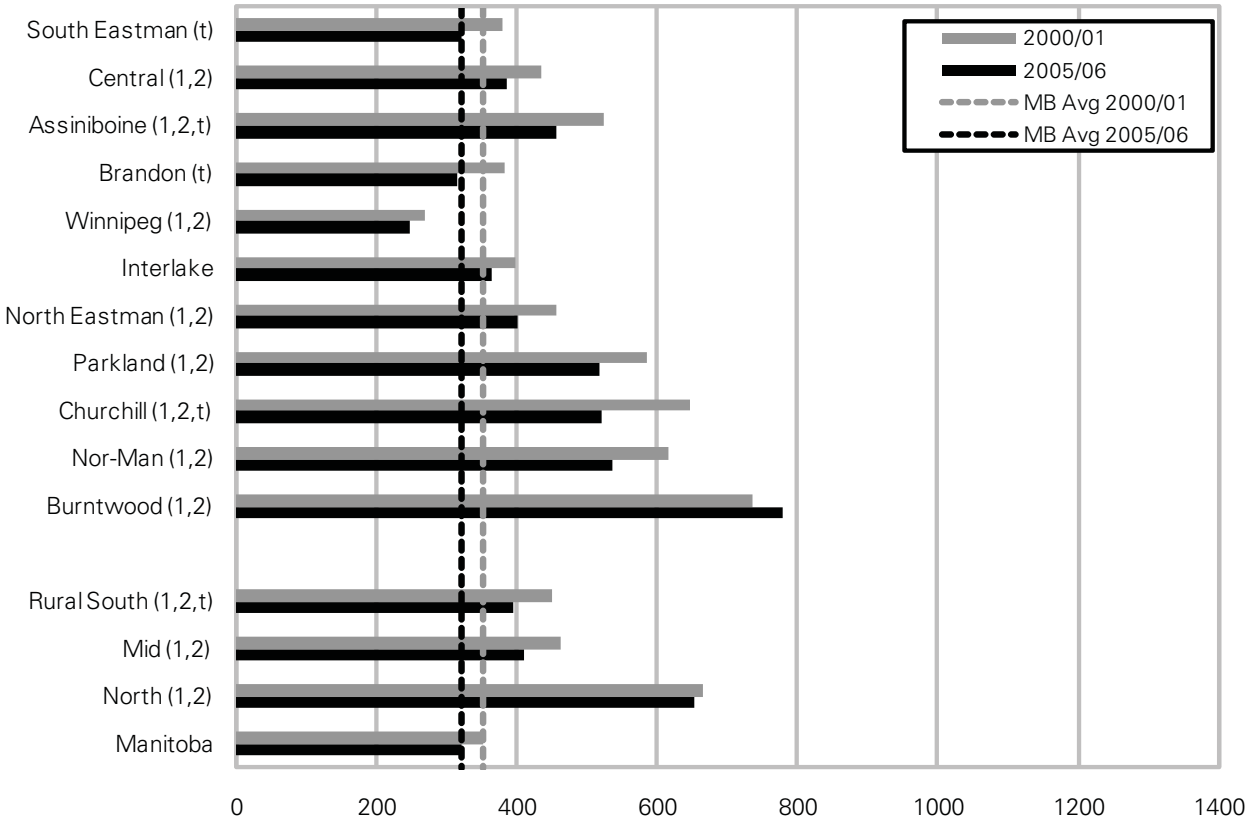
- The values shown here are consistent with those in the 2003 Atlas after accounting for the April 1, 2001 coding change (see Introduction). Taken together, these reports suggest that hospitalization rates continue to decrease over time, though the rate of decrease may be slowing down.
- Manitoba has consistently had a higher than average hospitalization rate compared to other provinces (CIHI, 2009), though the numbers are all lower than those shown here as they only included inpatient stays, whereas MCHP data also include outpatient separations.

## 7.4 Hospital Days Used in Short Stays (1–13 days)

Definition: The number of hospital days used in short stays (less than 14 days), per 1,000 area residents per year. If a resident had more than one short hospitalization in the period, then the days used in all short hospitalizations were summed. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 7.4.1: Hospital Days Used in Short Stays by RHA**

Age- & sex-adjusted rate of hospital days used in stays of less than 14 days, per 1,000 residents

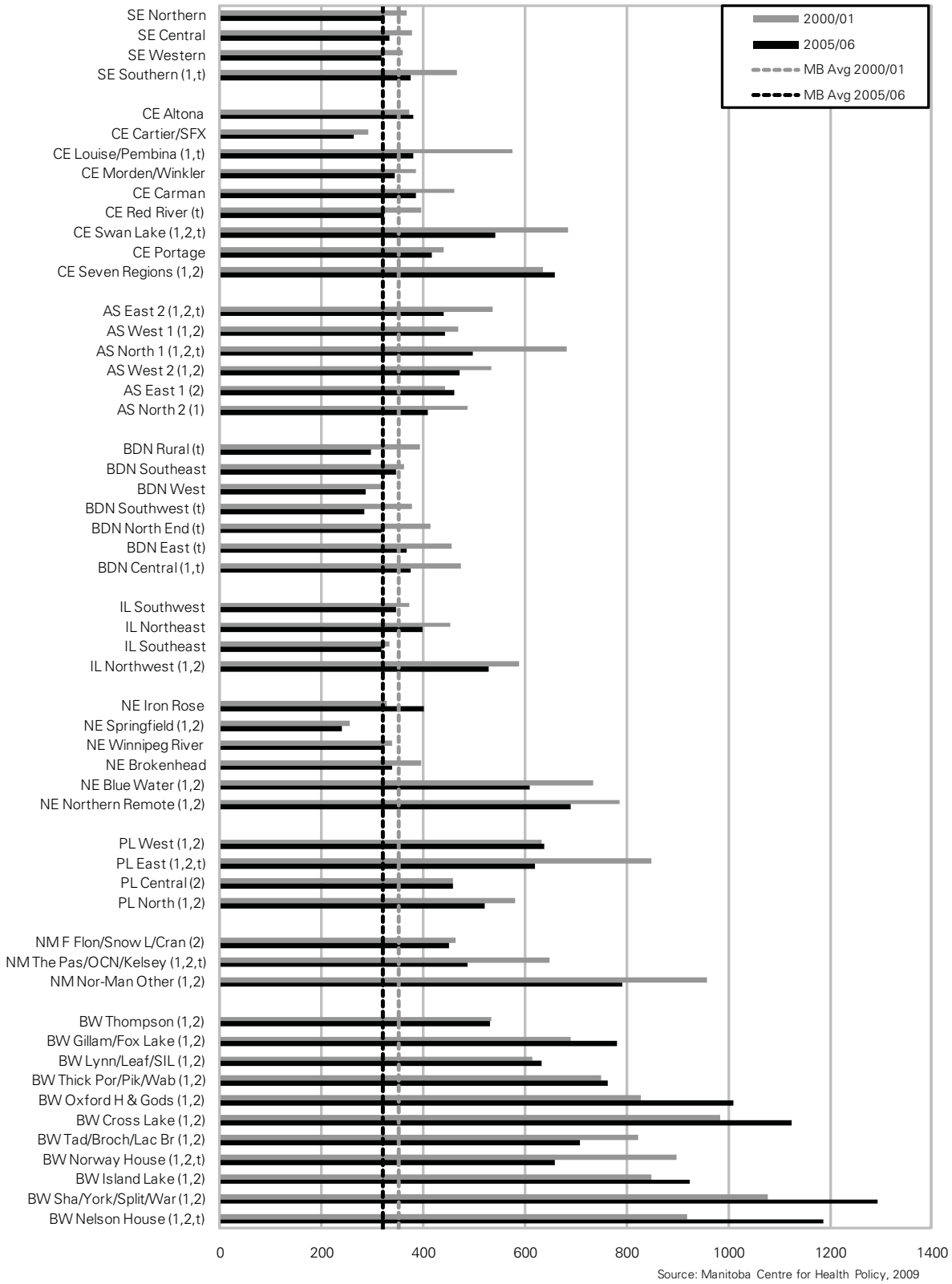



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 7.4.2: Hospital Days Used in Short Stays by District

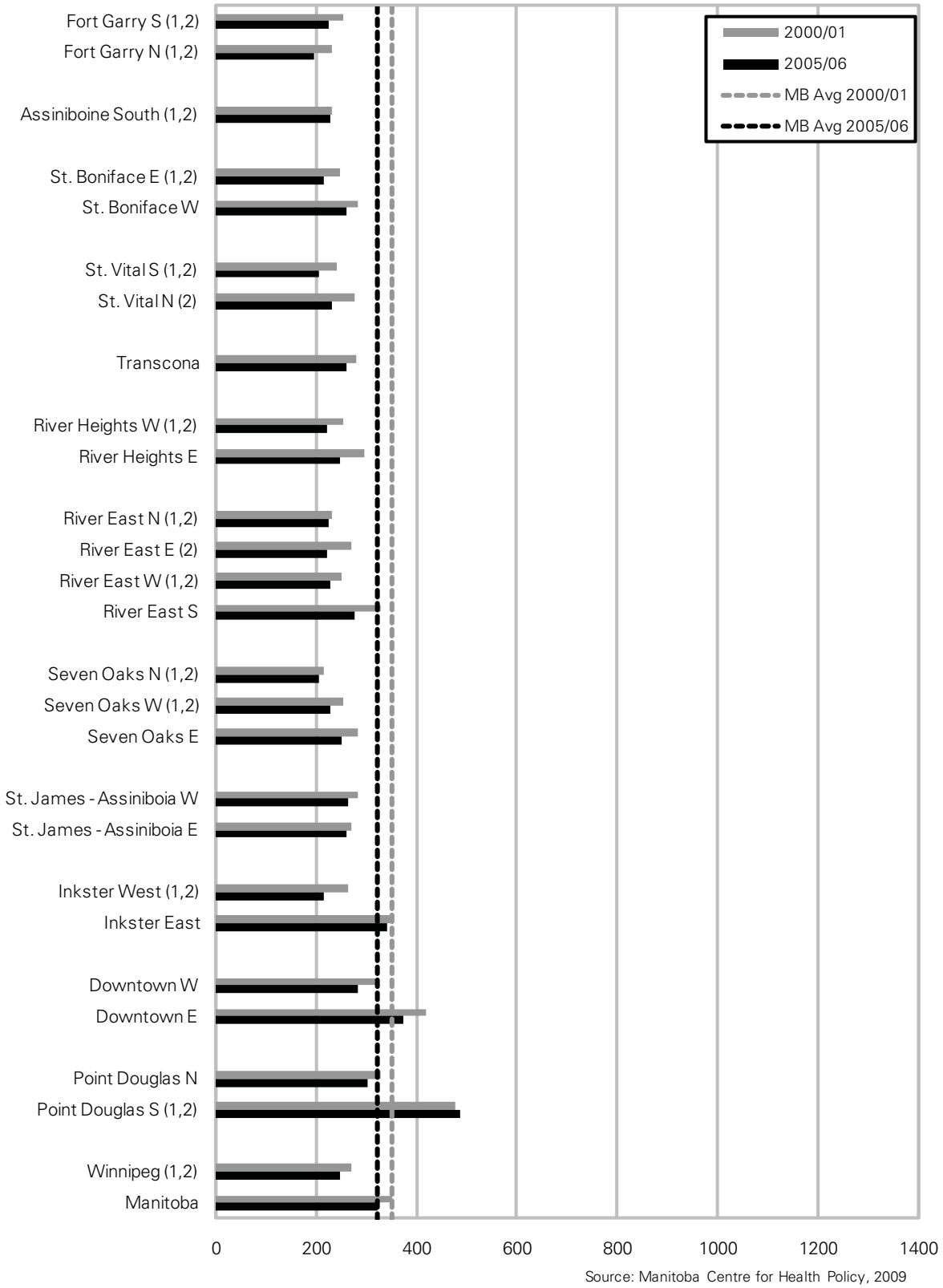
Age- & sex-adjusted rate of hospital days used in stays of less than 14 days, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

**Figure 7.4.3: Hospital Days Used in Short Stays by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted rate of hospital days used in stays of less than 14 days, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The number of days used in short stays decreased from 352 per 1,000 residents in 2000/01 to 322 in 2005/06, but the difference was not statistically significant.
    - As with the hospital separation rate analysis above, this difference is likely relevant from clinical and health policy perspectives, even though it did not reach statistical significance.
- There appears to be a relationship between short stay days and health status across several RHAs—though Winnipeg (along with Interlake and North Eastman, which are significant users of Winnipeg hospitals—see Section 7.7) and Brandon are exceptions.
- Short stay days used in Burntwood were higher than all other RHAs and did not decrease over time. However, Burntwood also has the highest premature mortality rate among RHAs (which did not decrease over time), so this higher rate may indicate service use was consistent with need.
- Rates varied substantially among RHA Districts and Winnipeg NCs, though rates among Winnipeg NCs were generally lower. Point Douglas South and Downtown East had the highest values within the city.
- Days used in short stays were strongly related to income in urban and rural areas in both time periods: short stay days used among residents of lower income areas were almost double those in higher income areas (Appendix 2).

### Comparison to other findings:

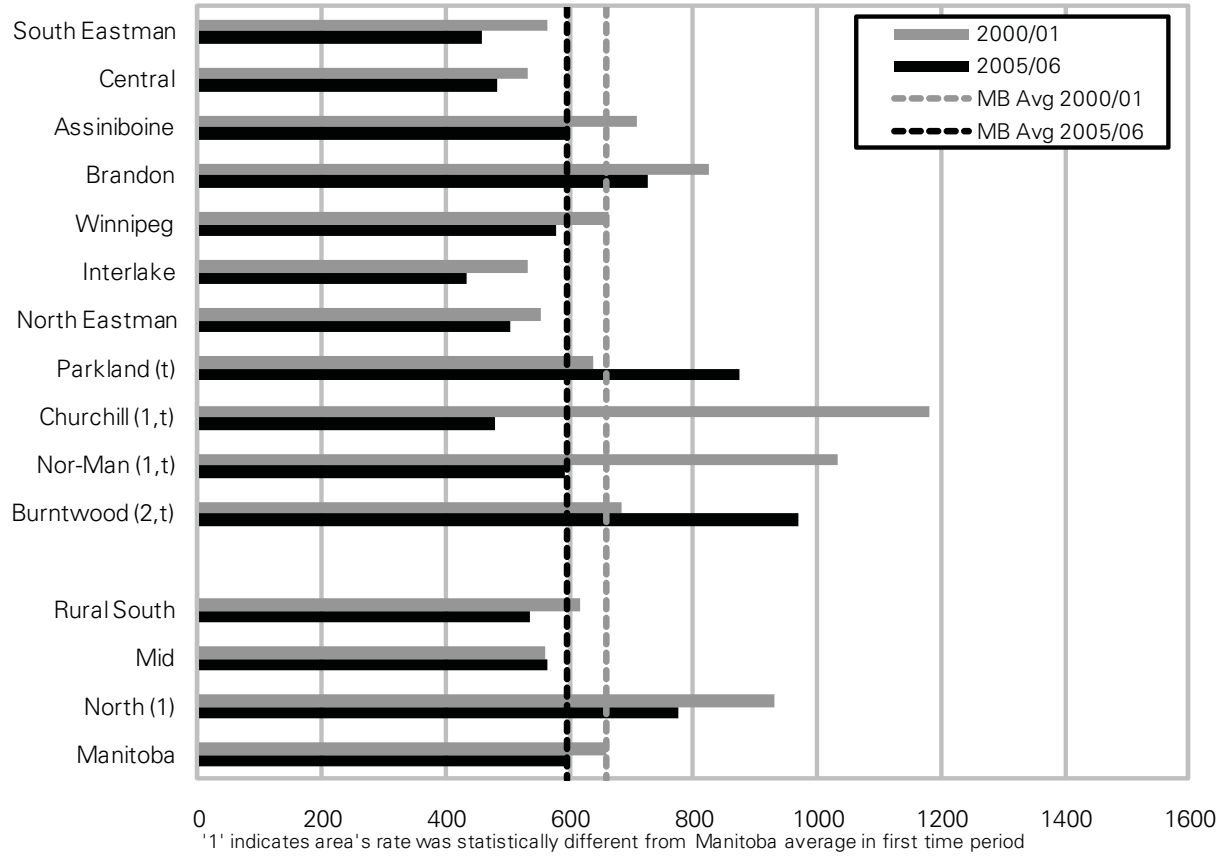
- These results are consistent with those in the 2003 Atlas, though the values here are lower because this report used 14 days as the cutoff for 'short' stays, whereas the 2003 Atlas used 30 days. The 2003 Atlas reported a significant decrease over time (from 1994/95–1995/96 to 1999/2000–2000/01), whereas the decrease shown in this report did not reach statistical significance. For direct comparison, the current years of data were re–analyzed using the 30–day cutoff, and this analysis also revealed the decrease was not significant.
- Taken together, these results suggest a continuing decrease in the number of days used in short stay hospitalizations, but that the rate of decrease may be declining over time.

## 7.5 Hospital Days Used in Long Stays (14+ days)

Definition: The number of hospital days used in long stays (14 or more days), per 1,000 area residents per year. If a resident had more than one long hospitalization in the period, then the days used in all long hospitalizations were summed. Each hospitalization was limited to 365 days maximum length of stay. Hospitalizations in long term care facilities were excluded (e.g., Deer Lodge and Riverview). Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 7.5.1: Hospital Days Used in Long Stays by RHA**

Age- and sex-adjusted rate of hospital days used in stays of 14 days or more, per 1,000 residents

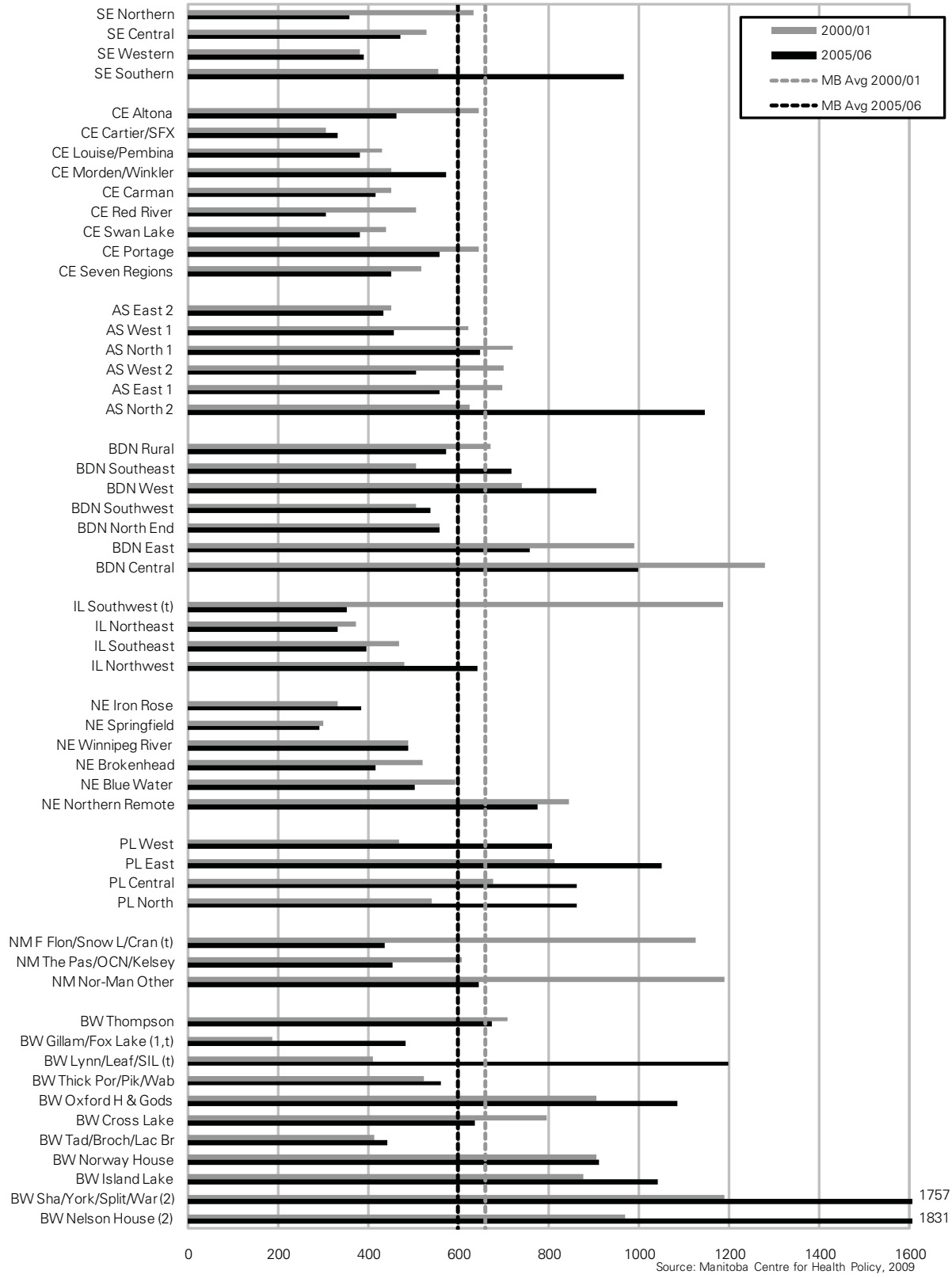



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 7.5.2: Hospital Days Used in Long Stays by District

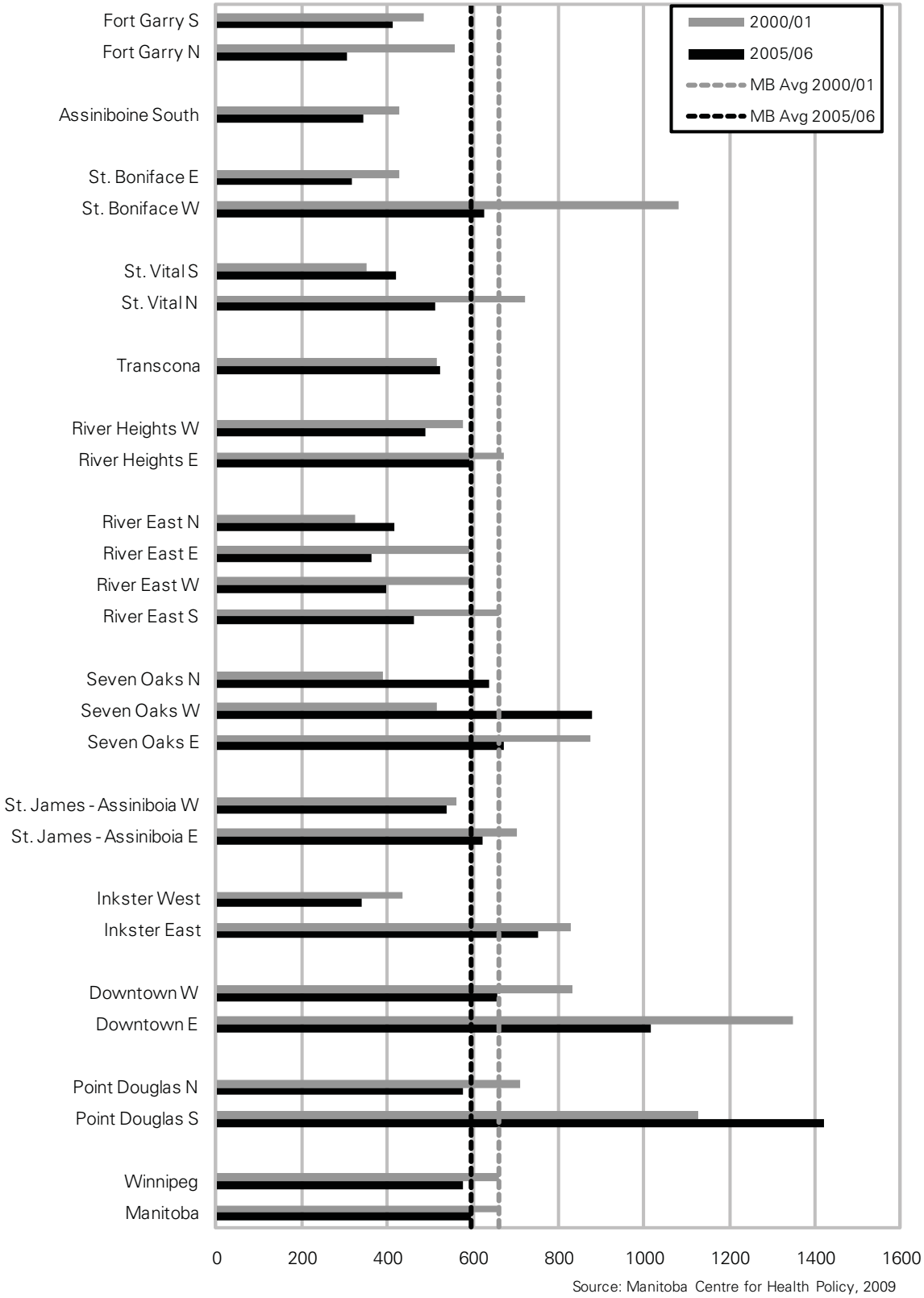
Age- and sex-adjusted rate of hospital days used in stays of 14 days or more, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

**Figure 7.5.3: Hospital Days Used in Long Stays by Winnipeg Neighbourhood Clusters**

Age- and sex-adjusted rate of hospital days used in stays of 14 days or more, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The number of days used in long stays decreased from 659 per 1,000 residents in 2000/01 to 597 in 2005/06, but the difference was not statistically significant.
- There does not appear to be a strong association between long stay days used and population health status, although residents of the North had the highest rate of long stay days used.
- Dramatic decreases were seen in Churchill and NOR–MAN RHAs. Churchill's decrease is related to small numbers; in NOR–MAN, the changes seen are consistent with major changes in hospital and long–term care facilities around that time.
- Rates varied substantially among RHA Districts and across Winnipeg NCs.
- Days used in long stays were significantly related to income in urban and rural areas in both time periods: residents of lower income areas used more days in long stays than residents of higher income areas (Appendix 2).

## Comparison to other findings:

- These results are consistent with those in the 2003 Atlas, though the rates are higher because this report uses 14 or more days for 'long stays', whereas the 2003 Atlas used 30 days. The 2003 Atlas reported a significant decrease over time (from 1994/95–1995/96 to 1999/2000–2000/01), whereas the decrease shown in this report did not reach statistical significance. For direct comparison, the current years of data were re–analyzed using 30 days as the cutoff, and this analysis also revealed the decrease was not significant.
- Taken together, these results suggest a continuing decrease in the number of days used in long stay hospitalizations, but that the rate of decrease may be declining over time.

## 7.6 Causes of Hospitalization

Definition: the distribution of 'Most Responsible' diagnoses attributed during inpatient hospitalizations, grouped according to the International Classification of Diseases (ICD) system. Data for 2005/06 were originally coded in ICD–10–CA, so were converted to ICD–9–CM equivalents (using the CIHI conversion) for comparison with 2000/01 results. The top 10 causes are shown for each time period, for each aggregate area. Hospitalizations for injury and poisoning are analyzed in detail in Section 7.12. "Health Status and Contact" contains a variety of cases such as convalescence and aftercare following surgery, rehabilitation procedures and physical therapy, sterilization, and palliative care.

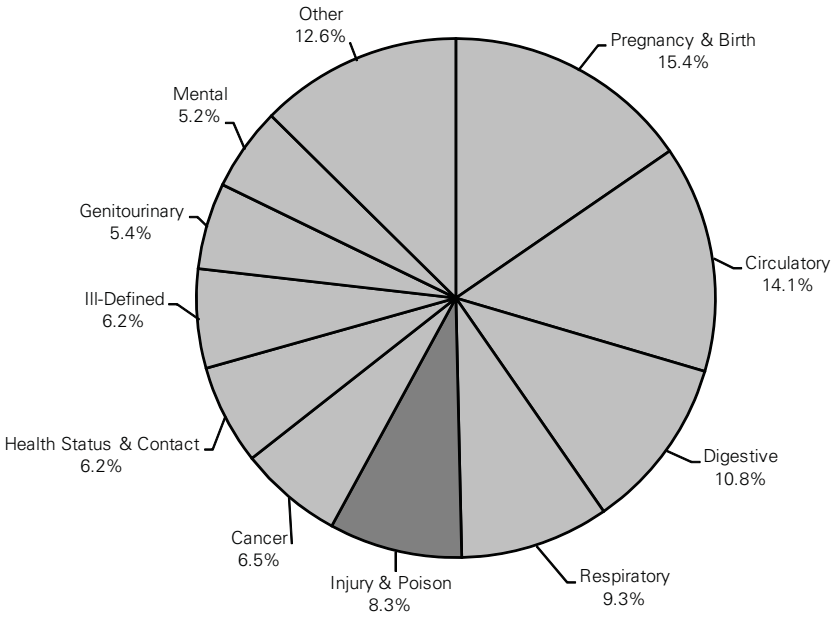
### Key findings:

- Note: The diagnoses coded as Most Responsible for hospitalizations were spread across many diseases and organ systems. Therefore, results must be interpreted carefully, as the exact ranking can exaggerate small differences between adjacent categories/diseases.
- Overall, the leading causes of hospitalization have been consistent over time; the top five were: pregnancy and birth, circulatory, digestive, injury and poisoning, and respiratory. The top causes differed across areas.
- In the North, pregnancy and birth accounted for 22.7% of all hospitalizations; injury and poisoning was second at 13.5%. Both of these values are considerably higher than those for other aggregate areas.

### Comparison with other findings:

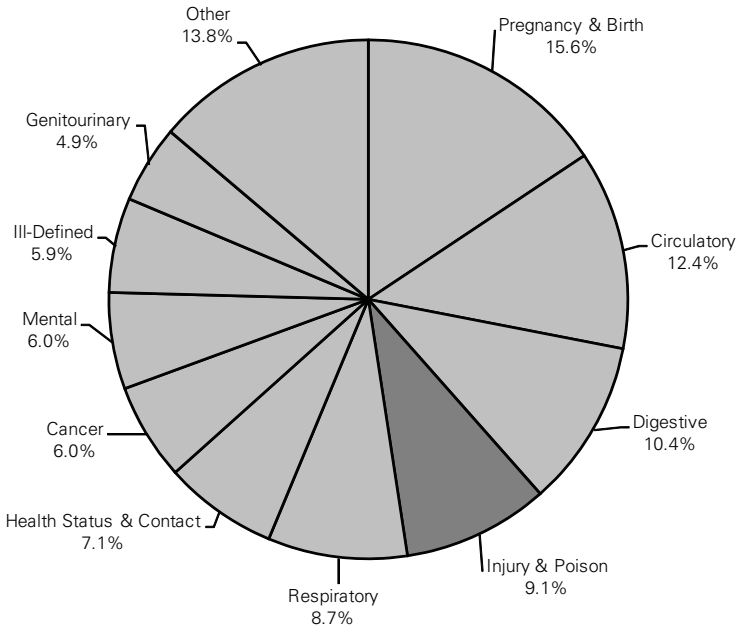
- These results are largely consistent with those shown in the 2003 Atlas, with one important exception: cancer appears to have dropped from third to seventh most frequent cause of hospitalization in Manitoba. However, this difference is actually an artifact of the change in coding of outpatient procedures noted in the Introduction of this chapter.
- The revised rankings shown here use only Inpatient separations and indicate that cancer was the sixth most frequent cause of hospitalization in 2000/01 and seventh in 2005/06.
- Almost half of the 'now–excluded' outpatient separations were for cancer biopsies, which substantially increased the number of hospital abstracts with cancer as the most responsible diagnosis in the years before the coding change. The 'new' data show that in 2000/01, there were 8,088 inpatient hospitalizations coded with cancer (6.5% of total), and in 2005/06, there were 7,189 (6.0%).

**Figure 7.6.1: Causes of Hospitalization, Manitoba, 2000/01**



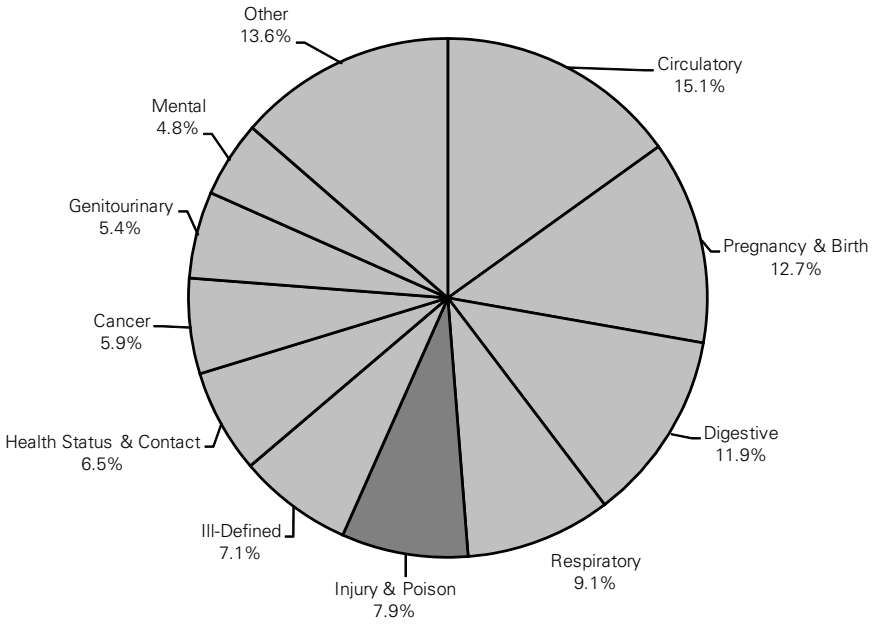

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.6.2: Causes of Hospitalization, Manitoba, 2005/06**



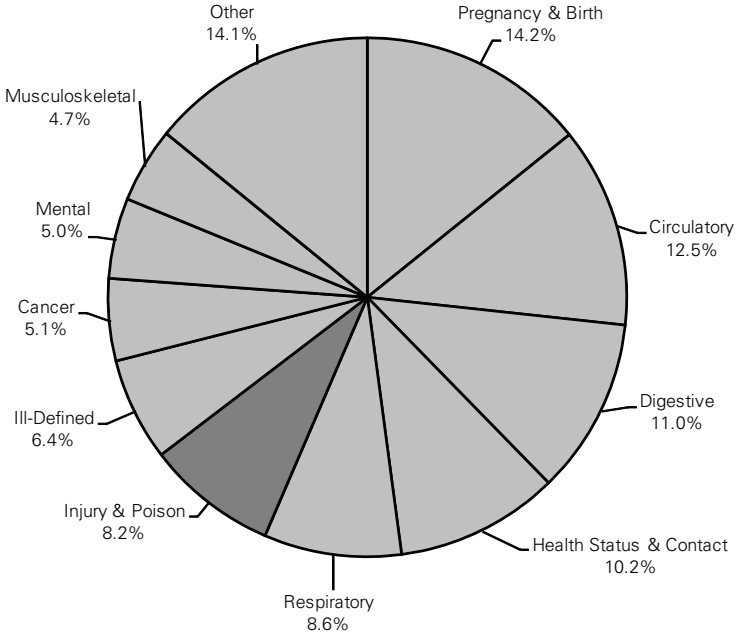

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.6.3: Causes of Hospitalization, Rural South and Brandon, 2000/01**



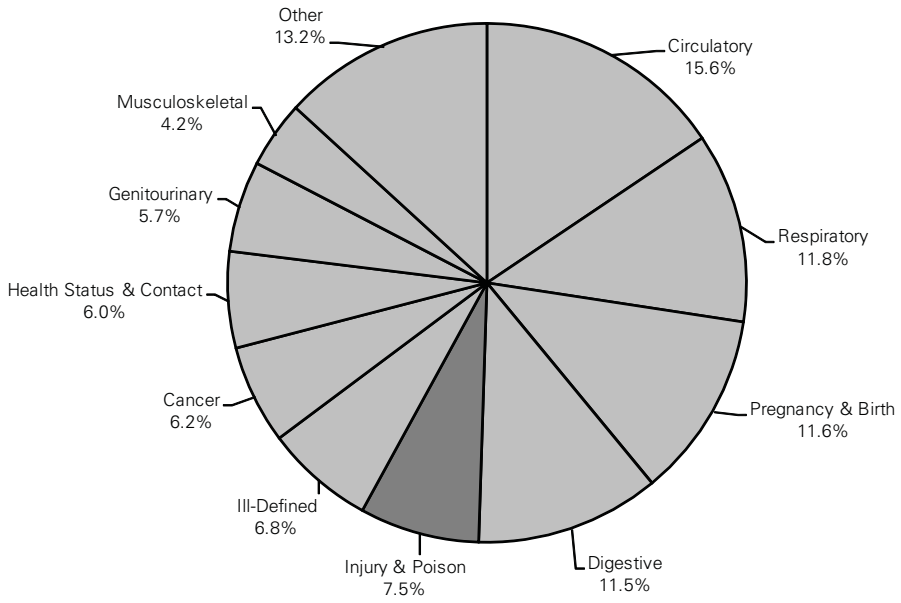

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.6.4: Causes of Hospitalization, Rural South and Brandon, 2005/06**



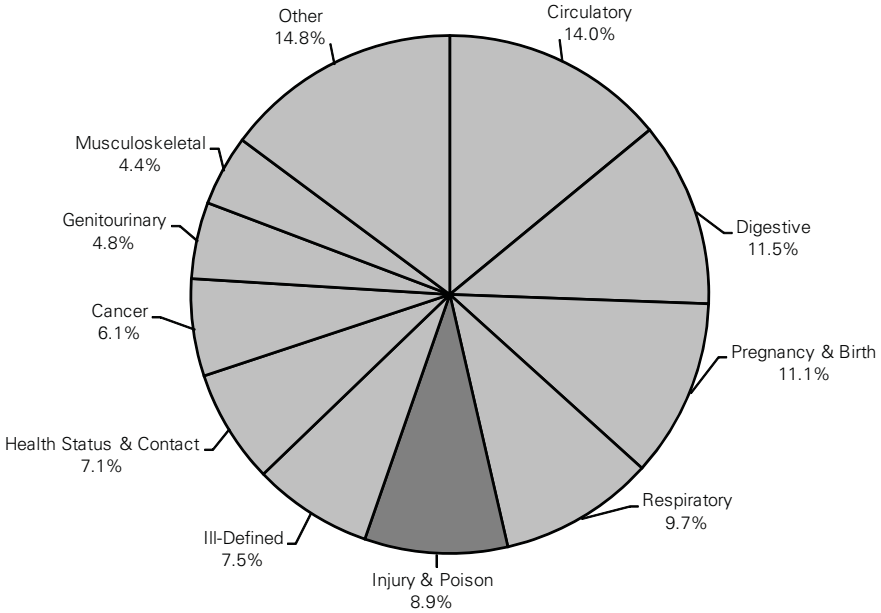

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.6.5: Causes of Hospitalization, Mid, 2000/01**



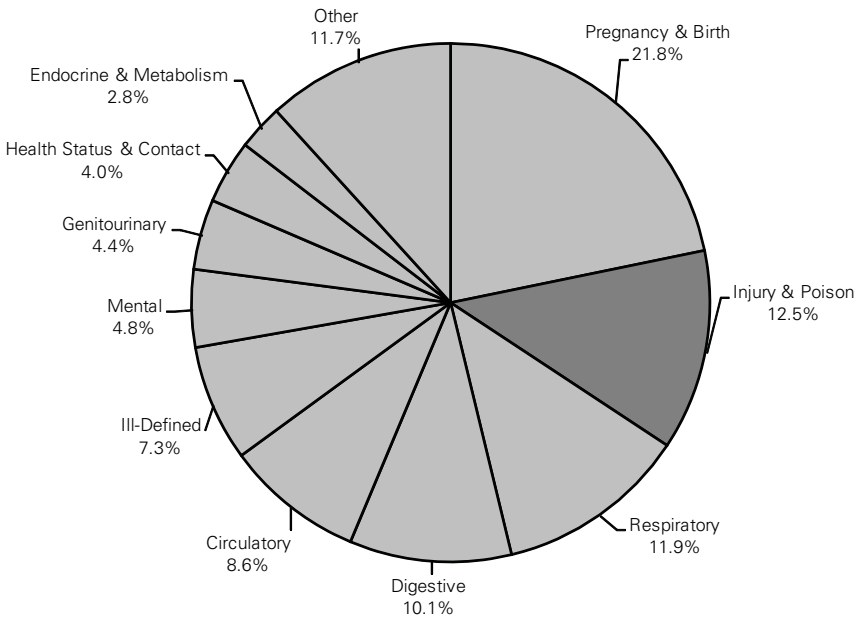

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.6.6: Causes of Hospitalization, Mid, 2005/06**



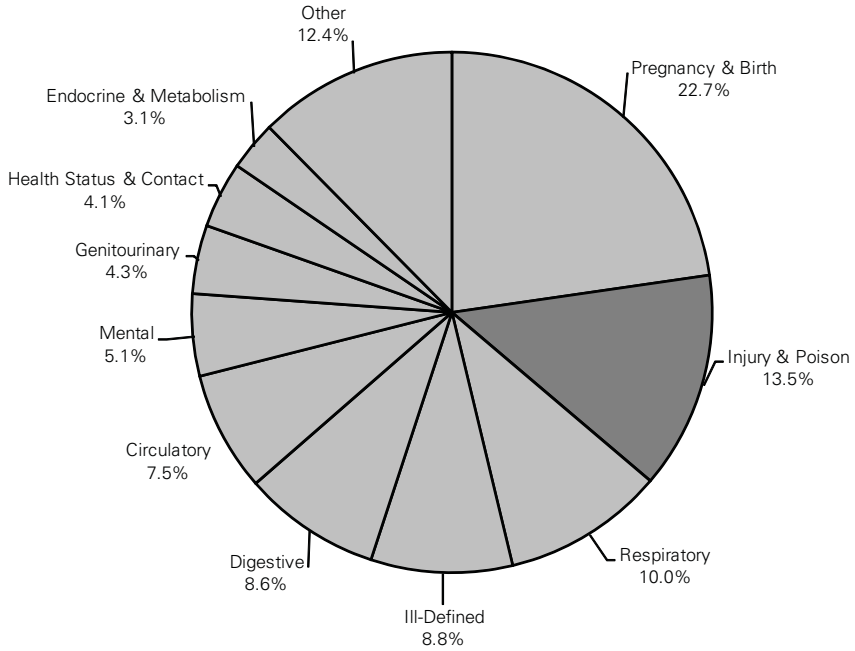

Source: Manitoba Centre for Health Policy, 2009

## Figure 7.6.7: Causes of Hospitalization, North, 2000/01



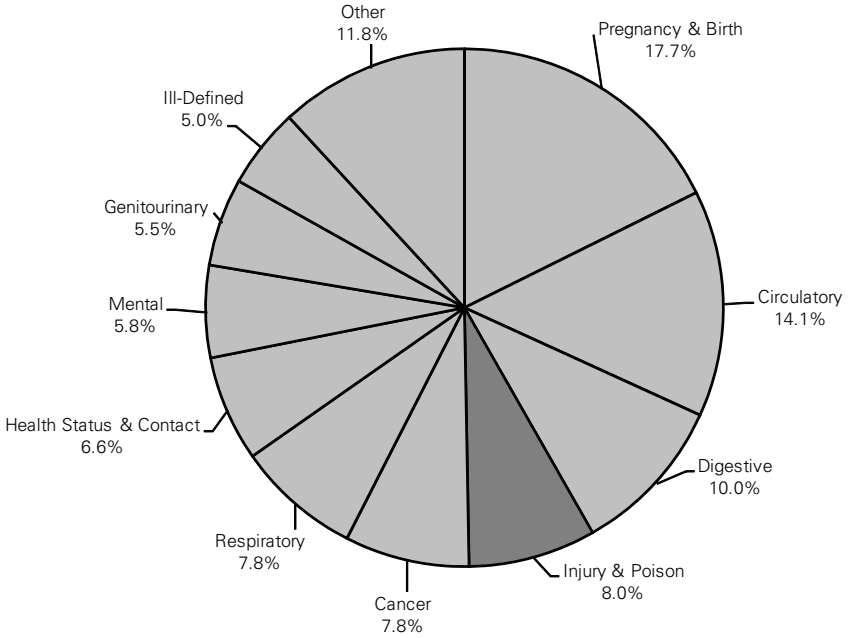

Source: Manitoba Centre for Health Policy, 2009

## Figure 7.6.8: Causes of Hospitalization, North, 2005/06



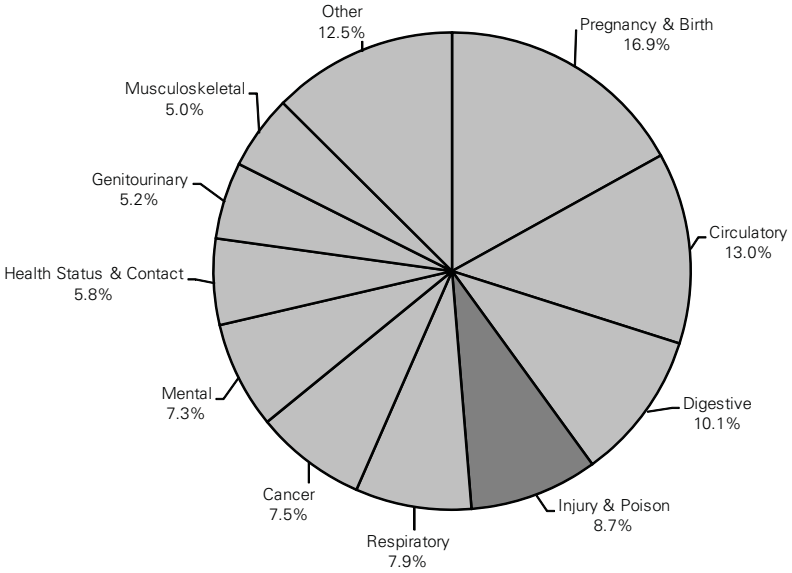

Source: Manitoba Centre for Health Policy, 2009

## Figure 7.6.9: Causes of Hospitalization, Winnipeg, 2000/01




Source: Manitoba Centre for Health Policy, 2009

## Figure 7.6.10: Causes of Hospitalization, Winnipeg, 2005/06




Source: Manitoba Centre for Health Policy, 2009

## 7.7 Hospital Location: Where RHA Residents were Hospitalized —Separations

Definition: Of all hospitalizations of area residents, this is the proportion of separations that occurred in a hospital within the RHA, in another RHA, in Winnipeg, or out of province. If a patient is transferred between hospitals, each stay is counted as a separate event and is attributed to the appropriate location.

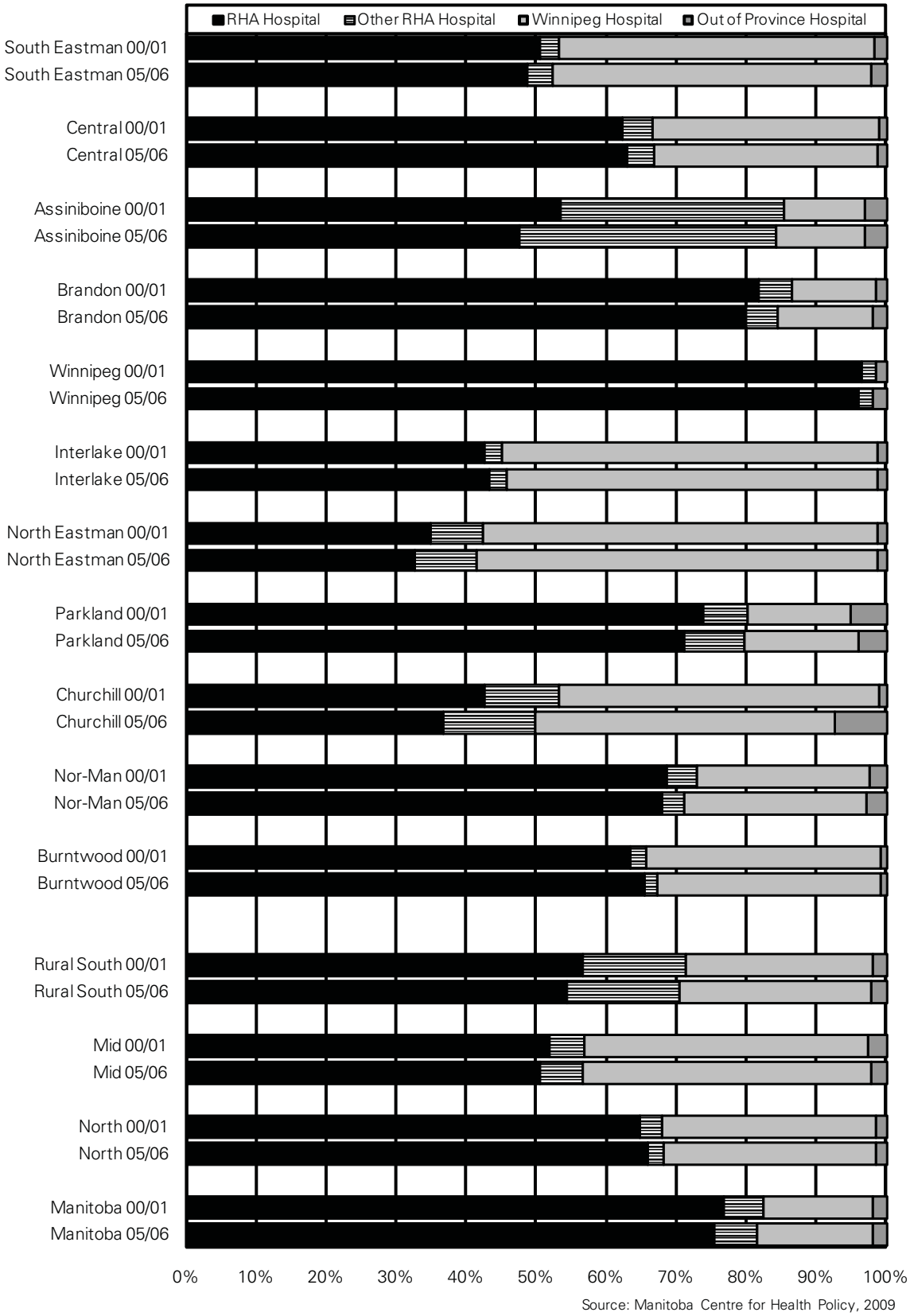
### Table 7.7.1: Where RHA Residents Went for Hospital Separations, 2000/01 & 2005/06

| RHA | Total Separations Used by RHA Residents | RHA Hospital | Other RHA Hospital | Winnipeg Hospital | Out of Province Hospital |
|---|---|---|---|---|---|
| South Eastman 00/01 | 7,678 | 50.7% | 2.6% | 45.1% | 1.6% |
| South Eastman 05/06 | 7,458 | 48.8% | 3.7% | 45.5% | 2.0% |
| Central 00/01 | 16,679 | 62.4% | 4.2% | 32.4% | 1.0% |
| Central 05/06 | 15,813 | 63.0% | 3.9% | 32.0% | 1.1% |
| Assiniboine 00/01 | 15,718 | 53.6% | 31.9% | 11.5% | 3.0% |
| Assiniboine 05/06 | 13,644 | 47.7% | 36.6% | 12.6% | 3.0% |
| Brandon 00/01 | 7,612 | 81.7% | 4.8% | 11.9% | 1.5% |
| Brandon 05/06 | 7,337 | 80.0% | 4.6% | 13.6% | 1.8% |
| Winnipeg 00/01 | 82,440 | 96.5% | 1.9% | . | 1.5% |
| Winnipeg 05/06 | 75,515 | 96.1% | 2.0% | . | 1.8% |
| Interlake 00/01 | 11,812 | 42.6% | 2.5% | 53.7% | 1.1% |
| Interlake 05/06 | 11,289 | 43.3% | 2.5% | 53.0% | 1.2% |
| North Eastman 00/01 | 6,103 | 35.0% | 7.5% | 56.3% | 1.3% |
| North Eastman 05/06 | 6,213 | 32.7% | 8.9% | 57.3% | 1.1% |
| Parkland 00/01 | 9,703 | 73.9% | 6.5% | 14.7% | 5.0% |
| Parkland 05/06 | 9,353 | 71.2% | 8.5% | 16.4% | 3.9% |
| Churchill 00/01 | 218 | 42.7% | 10.6% | 45.9% | 0.9% |
| Churchill 05/06 | 152 | 36.8% | 13.2% | 42.8% | 7.2% |
| Nor-Man 00/01 | 4,659 | 68.6% | 4.4% | 24.7% | 2.3% |
| Nor-Man 05/06 | 4,237 | 68.0% | 3.3% | 26.0% | 2.8% |
| Burntwood 00/01 | 8,903 | 63.5% | 2.3% | 33.3% | 0.8% |
| Burntwood 05/06 | 10,319 | 65.6% | 1.8% | 32.0% | 0.7% |
| Rural South 00/01 | 40,075 | 56.7% | 14.8% | 26.6% | 1.9% |
| Rural South 05/06 | 36,915 | 54.5% | 16.0% | 27.6% | 2.0% |
| Mid 00/01 | 27,618 | 51.9% | 5.0% | 40.6% | 2.5% |
| Mid 05/06 | 26,855 | 50.6% | 6.1% | 41.2% | 2.1% |
| North 00/01 | 13,780 | 64.9% | 3.1% | 30.6% | 1.3% |
| North 05/06 | 14,708 | 66.0% | 2.3% | 30.3% | 1.4% |
| Manitoba 00/01 | 171,525 | 76.9% | 5.6% | 15.7% | 1.8% |
| Manitoba 05/06 | 161,330 | 75.5% | 6.0% | 16.6% | 1.9% |

Source: Manitoba Centre for Health Policy, 2009

'.' denotes suppression due to small numbers

**Figure 7.7.1: Where RHA Residents Went for Hospital Separations**




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, there was very little change over time in the distribution of where residents were hospitalized.
- Winnipeg RHA had the highest values for 'Within RHA' hospitalizations, at over 96% in both 2000/01 and 2005/06. These values strongly influence the provincial average. Brandon was second highest at about 80%.
- Residents of all other RHAs used Winnipeg hospitals to some extent as well, though that varied considerably across RHAs:
    - Residents of North Eastman, Churchill, Interlake and South Eastman used Winnipeg hospitals more frequently than did residents of other RHAs.
    - Residents of Brandon, Assiniboine, Parkland, NOR–MAN, Central and Burntwood used Winnipeg hospitals less frequently.
- Residents of Assiniboine received a large portion of their hospitalizations in "Other RHAs", though more than 85% of these were in Brandon.

### Comparison with other findings:

- These results are similar to those in the 2003 Atlas, confirming a stable pattern of location of hospital use over time. The values are slightly different due to the change in coding of some outpatient procedures (see Introduction).

## 7.8 Hospital Location: Where RHA Residents were Hospitalized—Days

Definition: Of all hospital days used by area residents, this is the proportion of days that occurred in hospitals within the RHA, in another RHA, in Winnipeg, or out–of–province. If a patient is transferred between hospitals, each stay is counted separately, and the days spent in each hospital are attributed to that hospital's location.

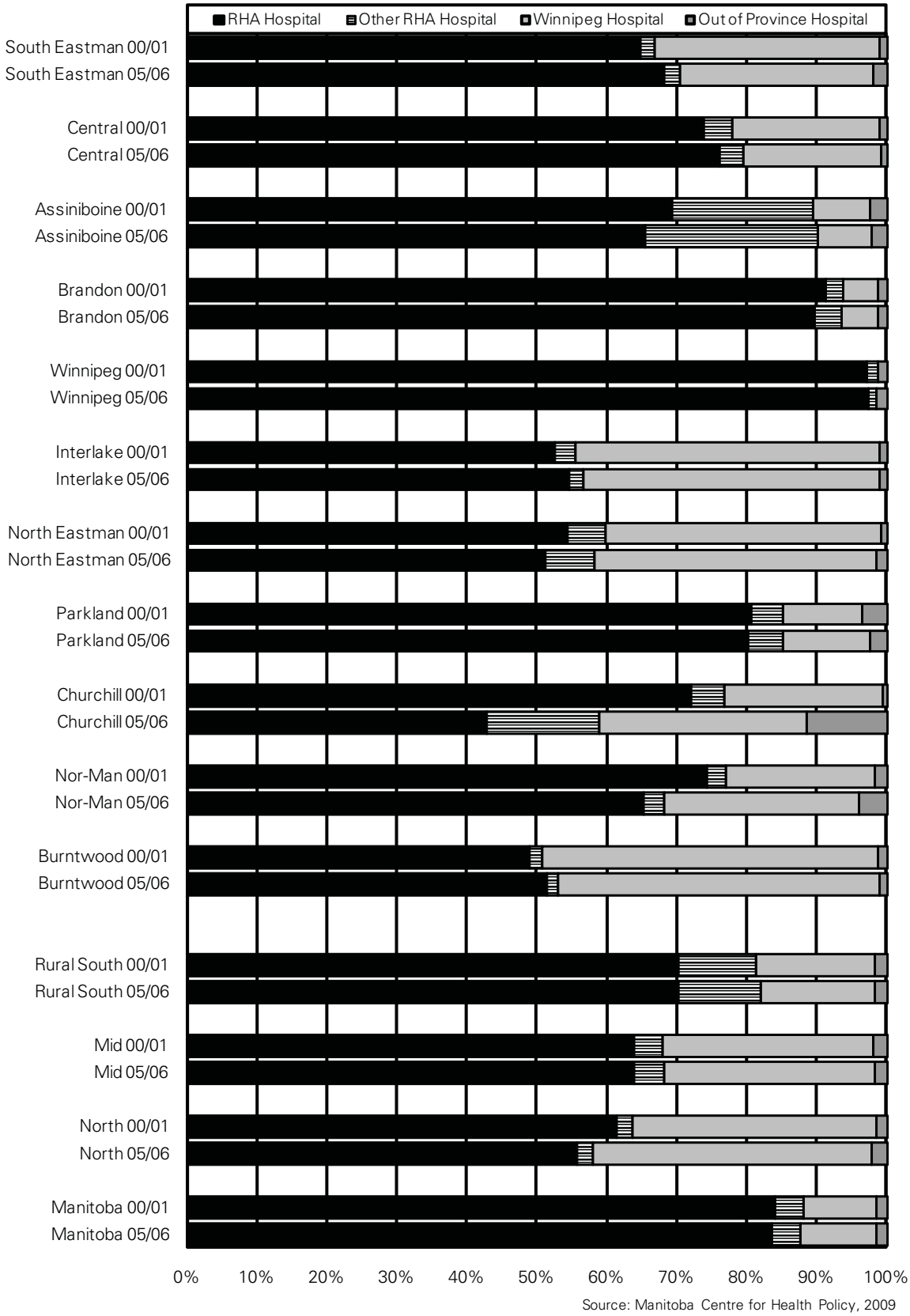
**Table 7.8.1: Where RHA Residents Went for Hospital Days, 2000/01 & 2005/06**

| RHA | Total Days of Care Used by RHA Residents | RHA Hospital | Other RHA Hospital | Winnipeg Hospital | Out of Province Hospital |
|---|---|---|---|---|---|
| South Eastman 00/01 | 41,781 | 64.8% | 2.1% | 32.0% | 1.0% |
| South Eastman 05/06 | 44,655 | 68.3% | 2.4% | 27.5% | 1.9% |
| Central 00/01 | 96,591 | 73.9% | 4.2% | 21.0% | 1.0% |
| Central 05/06 | 96,840 | 76.1% | 3.4% | 19.7% | 0.8% |
| Assiniboine 00/01 | 113,249 | 69.4% | 20.1% | 8.2% | 2.3% |
| Assiniboine 05/06 | 91,999 | 65.6% | 24.7% | 7.5% | 2.2% |
| Brandon 00/01 | 62,996 | 91.4% | 2.5% | 5.0% | 1.1% |
| Brandon 05/06 | 58,680 | 89.8% | 3.9% | 5.1% | 1.2% |
| Winnipeg 00/01 | 588,109 | 97.2% | 1.6% | . | 1.2% |
| Winnipeg 05/06 | 542,986 | 97.4% | 1.2% | . | 1.4% |
| Interlake 00/01 | 62,420 | 52.7% | 2.9% | 43.4% | 1.0% |
| Interlake 05/06 | 61,217 | 54.6% | 2.0% | 42.3% | 1.0% |
| North Eastman 00/01 | 36,864 | 54.5% | 5.4% | 39.3% | 0.8% |
| North Eastman 05/06 | 36,161 | 51.3% | 7.1% | 40.1% | 1.5% |
| Parkland 00/01 | 62,694 | 80.7% | 4.6% | 11.3% | 3.4% |
| Parkland 05/06 | 63,922 | 80.3% | 4.9% | 12.5% | 2.3% |
| Churchill 00/01 | 1,598 | 72.0% | 4.8% | 22.8% | 0.4% |
| Churchill 05/06 | 586 | 42.8% | 16.0% | 29.7% | 11.4% |
| Nor-Man 00/01 | 29,678 | 74.2% | 2.8% | 21.2% | 1.7% |
| Nor-Man 05/06 | 18,345 | 65.4% | 3.0% | 27.9% | 3.8% |
| Burntwood 00/01 | 32,347 | 49.0% | 1.8% | 48.1% | 1.1% |
| Burntwood 05/06 | 38,125 | 51.5% | 1.6% | 45.8% | 1.0% |
| Rural South 00/01 | 251,621 | 70.4% | 11.0% | 17.1% | 1.6% |
| Rural South 05/06 | 233,494 | 70.4% | 11.6% | 16.4% | 1.6% |
| Mid 00/01 | 161,978 | 64.0% | 4.1% | 30.0% | 1.9% |
| Mid 05/06 | 161,300 | 64.0% | 4.3% | 30.0% | 1.7% |
| North 00/01 | 63,623 | 61.4% | 2.3% | 34.9% | 1.4% |
| North 05/06 | 57,056 | 55.9% | 2.2% | 39.9% | 2.0% |
| Manitoba 00/01 | 1,128,327 | 84.1% | 4.1% | 10.4% | 1.4% |
| Manitoba 05/06 | 1,053,516 | 83.6% | 4.2% | 10.7% | 1.5% |

Source: Manitoba Centre for Health Policy, 2009

'.' denotes suppression due to small numbers

**Figure 7.8.1: Where RHA Residents Went for Hospital Days**




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, there was very little change over time in the distribution of where RHA residents received their hospital days.
- Winnipeg RHA had the highest proportion of hospital days occurring within 'RHA hospitals', at over 97% in both 2000/01 and 2005/06. Brandon was second highest, at about 90%. These values strongly influence the provincial average.
- Residents of all other RHAs used days in Winnipeg hospitals to some extent, though that varied considerably across RHAs, in a pattern different from that shown for hospital separations (Section 7.7):
    - Residents of Burntwood, Interlake, North Eastman, Churchill (2005/06), South Eastman, NOR–MAN (2005/06), and Central used a higher proportion of days in Winnipeg hospitals than did residents of other RHAs.
    - Residents of Brandon, Assiniboine, and Parkland received a lower proportion of their hospital days in Winnipeg.
- Residents of Assiniboine received a large portion of their hospital days in "Other RHAs", though more than 85% of these days were in Brandon.
- The results for Churchill appear to have changed substantially over time; however, the 2000/01 results were strongly affected by a few very long–stay patients discharged in 2000/01.

### Comparison with other findings:

- These results are similar to those in the 2003 Atlas, confirming a stable pattern of location of hospital day use over time.

## 7.9 Hospital Catchment: Where Patients Using RHA Hospitals Came From—Separations

Definition: Of all separations from all hospitals in each RHA, this is the proportion that were provided to RHA residents, residents of other RHAs, Winnipeg residents, or out–of–province residents.

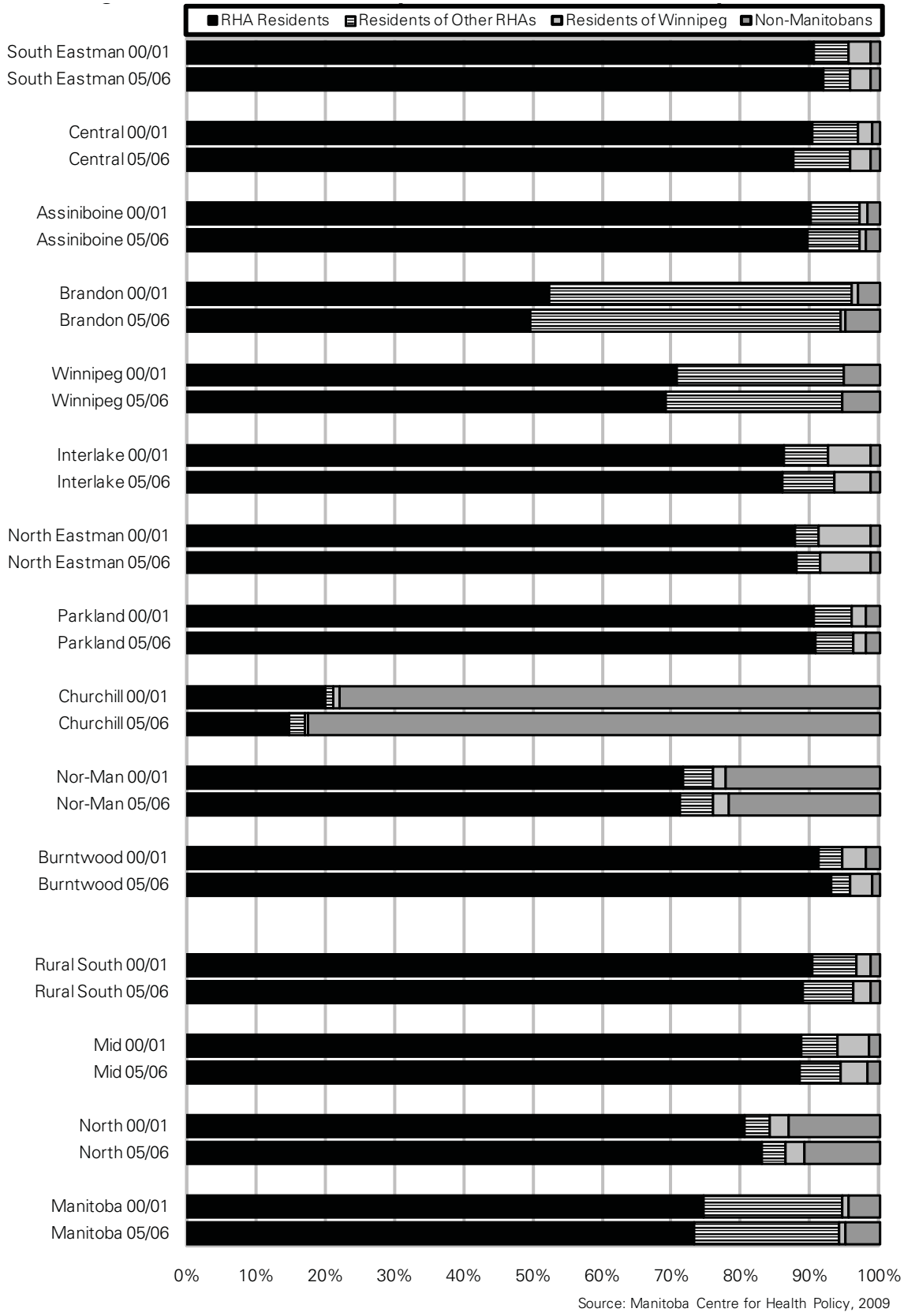
**Table 7.9.1: Where RHA Hospital Patients Came From: Separations, 2000/01 & 2005/06**

| RHA | Total Separations Provided by RHA Hospitals | RHA Residents | Residents of Other RHAs | Residents of Winnipeg | Non-Manitobans |
|---|---|---|---|---|---|
| South Eastman 00/01 | 4,285 | 90.8% | 5.0% | 3.0% | 1.2% |
| South Eastman 05/06 | 3,954 | 92.0% | 3.9% | 3.1% | 1.0% |
| Central 00/01 | 11,512 | 90.5% | 6.5% | 2.1% | 0.9% |
| Central 05/06 | 11,351 | 87.7% | 8.2% | 3.0% | 1.0% |
| Assiniboine 00/01 | 9,336 | 90.2% | 7.2% | 1.0% | 1.6% |
| Assiniboine 05/06 | 7,256 | 89.7% | 7.7% | 0.9% | 1.7% |
| Brandon 00/01 | 11,897 | 52.4% | 43.7% | 0.9% | 3.0% |
| Brandon 05/06 | 11,791 | 49.8% | 44.7% | 0.8% | 4.7% |
| Winnipeg 00/01 | 112,100 | 71.0% | 24.1% | . | 4.9% |
| Winnipeg 05/06 | 104,843 | 69.3% | 25.5% | . | 5.2% |
| Interlake 00/01 | 5,817 | 86.5% | 6.4% | 6.1% | 1.1% |
| Interlake 05/06 | 5,676 | 86.1% | 7.5% | 5.3% | 1.1% |
| North Eastman 00/01 | 2,428 | 87.9% | 3.3% | 7.7% | 1.0% |
| North Eastman 05/06 | 2,305 | 88.2% | 3.4% | 7.3% | 1.2% |
| Parkland 00/01 | 7,885 | 90.9% | 5.3% | 2.1% | 1.8% |
| Parkland 05/06 | 7,335 | 90.9% | 5.5% | 1.7% | 1.9% |
| Churchill 00/01 | 468 | 20.1% | 1.1% | 1.1% | 77.8% |
| Churchill 05/06 | 370 | 14.9% | 2.2% | 0.5% | 82.4% |
| Nor-Man 00/01 | 4,441 | 71.9% | 4.3% | 1.8% | 22.0% |
| Nor-Man 05/06 | 4,054 | 71.2% | 4.9% | 2.2% | 21.6% |
| Burntwood 00/01 | 6,191 | 91.3% | 3.5% | 3.5% | 1.7% |
| Burntwood 05/06 | 7,263 | 93.3% | 2.6% | 3.2% | 0.9% |
| Rural South 00/01 | 25,133 | 90.5% | 6.5% | 1.9% | 1.2% |
| Rural South 05/06 | 22,561 | 89.1% | 7.3% | 2.3% | 1.2% |
| Mid 00/01 | 16,130 | 88.8% | 5.4% | 4.4% | 1.4% |
| Mid 05/06 | 15,316 | 88.7% | 5.9% | 3.9% | 1.5% |
| North 00/01 | 11,100 | 80.6% | 3.7% | 2.7% | 13.0% |
| North 00 05/06 | 11,687 | 83.1% | 3.4% | 2.8% | 10.7% |
| Manitoba 00/01 | 176,360 | 74.8% | 19.9% | 0.9% | 4.4% |
| Manitoba 05/06 | 166,198 | 73.4% | 21.0% | 0.9% | 4.7% |

Source: Manitoba Centre for Health Policy, 2009

'.' denotes suppression due to small numbers

**Figure 7.9.1: Where RHA Hospital Patients Came From: Separations**




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, there was very little change in the location of residence for patients served by hospitals in each RHA.
- For many RHAs, 85–90% of all separations provided by RHA hospitals were for residents of that RHA. The exceptions were:
    - Churchill, where the majority of hospital patients are non–Manitobans (largely from Nunavut).
    - Brandon, which frequently serves residents of other RHAs (especially Assiniboine).
    - Winnipeg, which frequently serves residents of all RHAs, partly because many specialized services are only provided in Winnipeg.
    - NOR–MAN, which frequently serves out–of–province residents (largely from Saskatchewan).
- These patterns did not change between 2000/01 and 2005/06.

### Comparison with other findings:

- These results are almost identical to those shown in the 2003 Atlas, confirming very stable patterns of RHA hospital catchments.

## 7.10 Hospital Catchment: Where Patients Using RHA Hospitals Came From—Days

Definition: Of all days of care provided by all hospitals in each RHA, this is the proportion of days that were provided to RHA residents, residents of other RHAs, Winnipeg residents, or out–of–province residents.

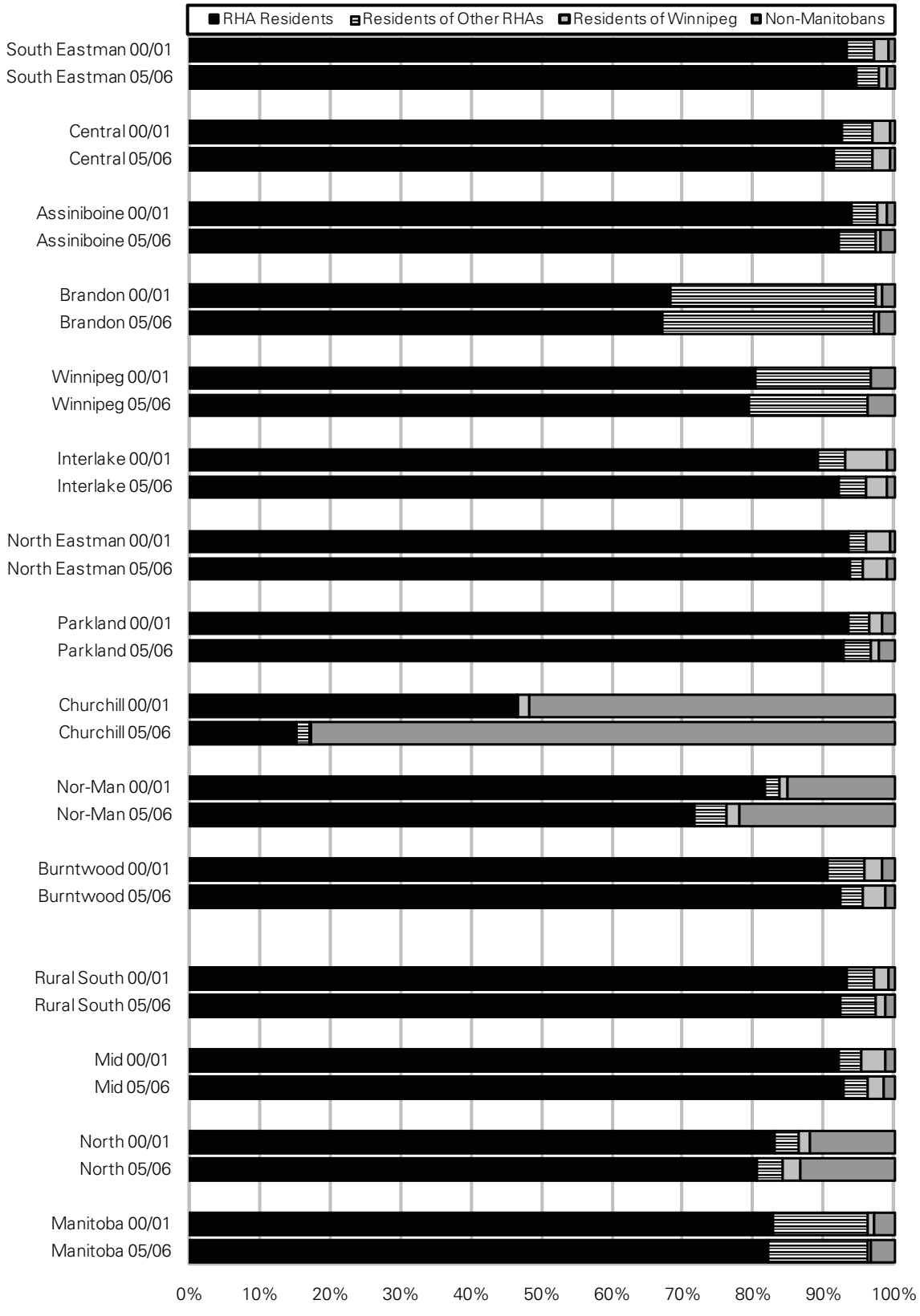
### Table 7.10.1: Where RHA Hospital Patients Came From: Days, 2000/01 & 2005/06

| RHA | Total Days of Care Provided by RHA Hospitals | RHA Residents | Residents of Other RHAs | Residents of Winnipeg | Non-Manitobans |
|---|---|---|---|---|---|
| South Eastman 00/01 | 29,030 | 93.4% | 3.9% | 2.1% | 0.6% |
| South Eastman 05/06 | 32,216 | 94.8% | 3.1% | 1.2% | 0.9% |
| Central 00/01 | 77,125 | 92.7% | 4.2% | 2.6% | 0.4% |
| Central 05/06 | 80,327 | 91.7% | 5.4% | 2.4% | 0.5% |
| Assiniboine 00/01 | 83,530 | 94.1% | 3.8% | 1.4% | 0.8% |
| Assiniboine 05/06 | 65,187 | 92.5% | 5.2% | 0.7% | 1.7% |
| Brandon 00/01 | 84,424 | 68.4% | 29.1% | 0.9% | 1.6% |
| Brandon 05/06 | 78,437 | 67.2% | 29.9% | 0.7% | 2.1% |
| Winnipeg 00/01 | 710,586 | 80.4% | 16.4% | . | 3.2% |
| Winnipeg 05/06 | 664,019 | 79.6% | 16.9% | . | 3.5% |
| Interlake 00/01 | 36,776 | 89.3% | 4.0% | 5.9% | 0.8% |
| Interlake 05/06 | 36,079 | 92.3% | 4.0% | 3.0% | 0.8% |
| North Eastman 00/01 | 21,432 | 93.8% | 2.5% | 3.4% | 0.4% |
| North Eastman 05/06 | 19,768 | 93.9% | 1.8% | 3.5% | 0.8% |
| Parkland 00/01 | 53,795 | 93.7% | 3.0% | 1.7% | 1.6% |
| Parkland 05/06 | 55,245 | 92.9% | 4.0% | 1.1% | 2.0% |
| Churchill 00/01 | 2,477 | 46.5% | 0.2% | 1.6% | 51.6% |
| Churchill 05/06 | 1,595 | 15.3% | 1.9% | 0.2% | 82.6% |
| Nor-Man 00/01 | 26,766 | 81.9% | 2.1% | 1.0% | 15.1% |
| Nor-Man 05/06 | 16,712 | 71.9% | 4.4% | 1.9% | 21.8% |
| Burntwood 00/01 | 17,474 | 90.7% | 5.2% | 2.5% | 1.5% |
| Burntwood 05/06 | 21,329 | 92.6% | 3.2% | 3.0% | 1.2% |
| Rural South 00/01 | 189,685 | 93.4% | 4.0% | 2.0% | 0.6% |
| Rural South 05/06 | 177,730 | 92.6% | 4.9% | 1.5% | 1.0% |
| Mid 00/01 | 112,003 | 92.3% | 3.2% | 3.4% | 1.1% |
| Mid 05/06 | 111,092 | 92.9% | 3.6% | 2.1% | 1.4% |
| North 00/01 | 46,717 | 83.3% | 3.2% | 1.6% | 11.9% |
| North 05/06 | 39,636 | 80.8% | 3.6% | 2.4% | 13.2% |
| Manitoba 00/01 | 1,143,415 | 83.0% | 13.5% | 0.8% | 2.8% |
| Manitoba 05/06 | 1,070,914 | 82.3% | 14.0% | 0.6% | 3.1% |

Source: Manitoba Centre for Health Policy, 2009

'.' denotes suppression due to small numbers

**Figure 7.10.1: Where RHA Hospital Patients Came From: Days**




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, there was very little change in the location of residence for patients served by hospitals in each RHA.
- For most RHAs, over 90% of all days of care provided by RHA hospitals were for residents of that RHA. The exceptions are:
  - Churchill, where the majority of hospital days are provided to non–Manitobans (largely from Nunavut).
  - Brandon, which frequently serves residents of other RHAs (especially Assiniboine).
  - NOR–MAN, which frequently serves out–of–province residents (largely from Saskatchewan).
  - Winnipeg, which frequently serves residents of all RHAs, partly because many specialized services are only provided in Winnipeg.
- In most RHAs, these patterns did not change between 2000/01 and 2005/06. Exceptions were:
  - Churchill, which was strongly affected in 2000/01 by a small number of long–stay patients.
  - NOR–MAN, where a lower proportion of days provided were for non–Manitobans in 2000/01 than in 2005/06.

### Comparison with other findings:

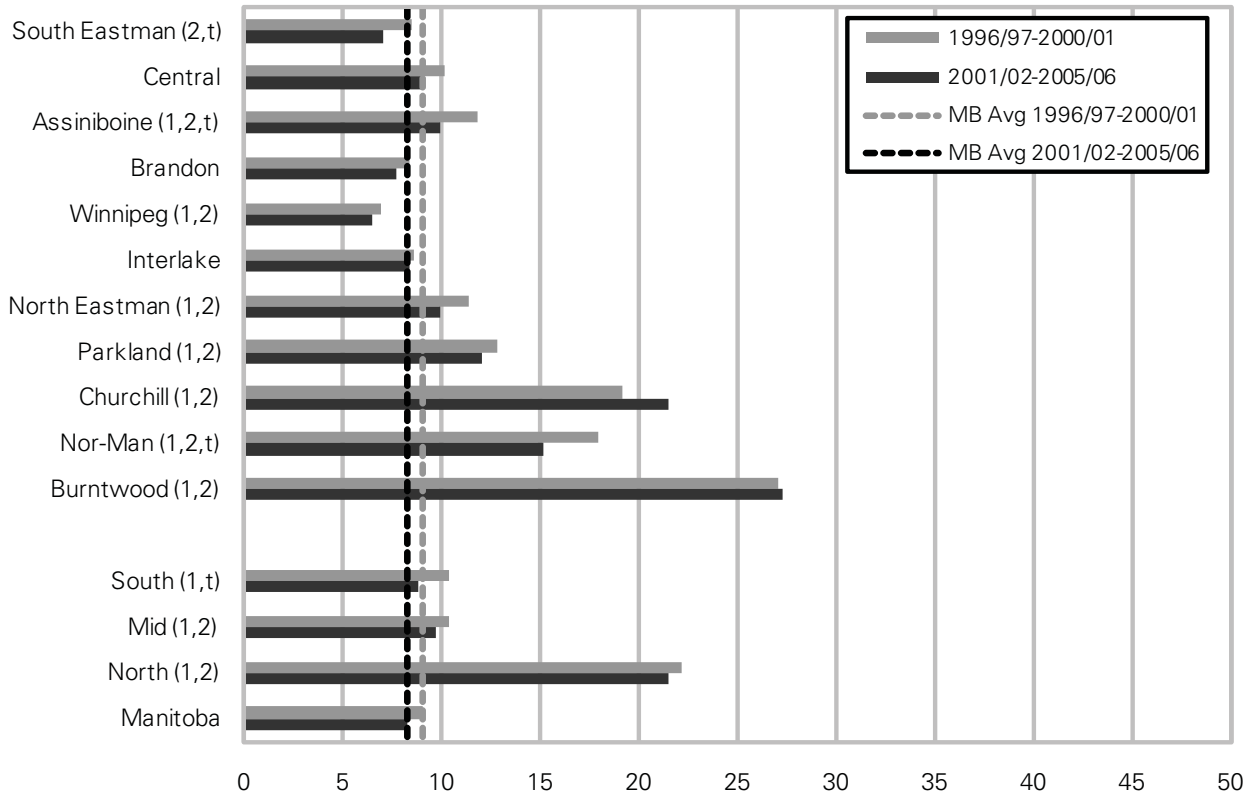
- These results are very similar to those shown in the 2003 Atlas, confirming stable patterns of RHA hospital catchments.
  - NOR–MAN RHA was the exception: the year 2000/01 appears to have been an unusual year in that it showed about 10% fewer hospital days were dedicated to out–of–province residents than years before (as shown in the 2003 Atlas) and after (shown here for 2005/06).

## 7.11 Hospitalization Rates for Injuries

Definition: The number of hospital separations of area residents for which any injury code was included as one of the diagnoses (not necessarily the Most Responsible), per 1,000 residents per year. In any given period, a resident could be hospitalized for injury more than once, so this measure indicates the total number of injury–related separations from acute care facilities by all residents of the area. This definition encompasses injuries by all causes (including self–inflicted); see the Glossary for more details. Rates were calculated for 1996/97–2000/01 and 2001/02–2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 7.11.1: Injury Hospitalization Rates by RHA**

Age- & sex-adjusted annual rate of hospitalizations for injury, per 1,000 residents

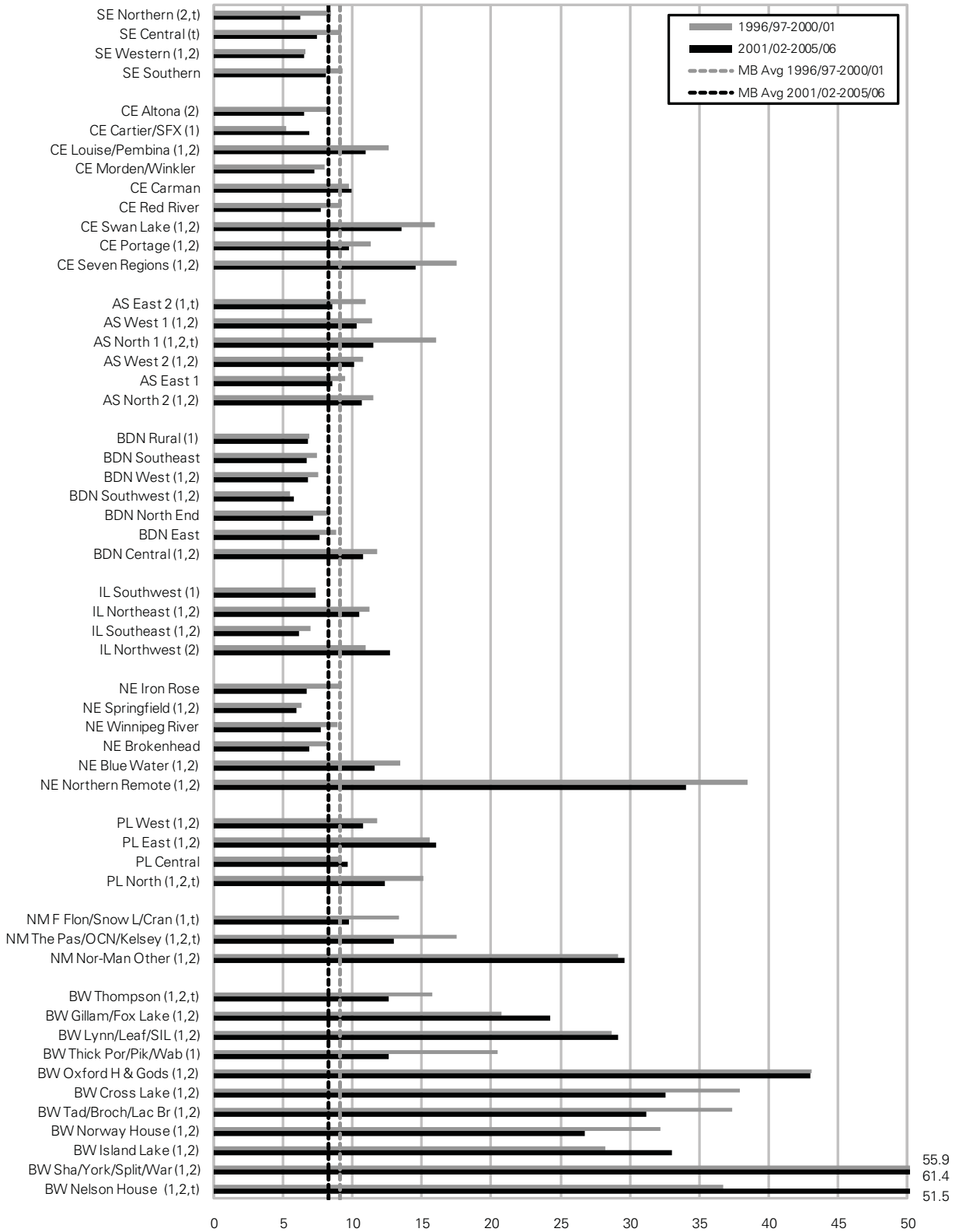



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 7.11.2: Injury Hospitalization Rates by District

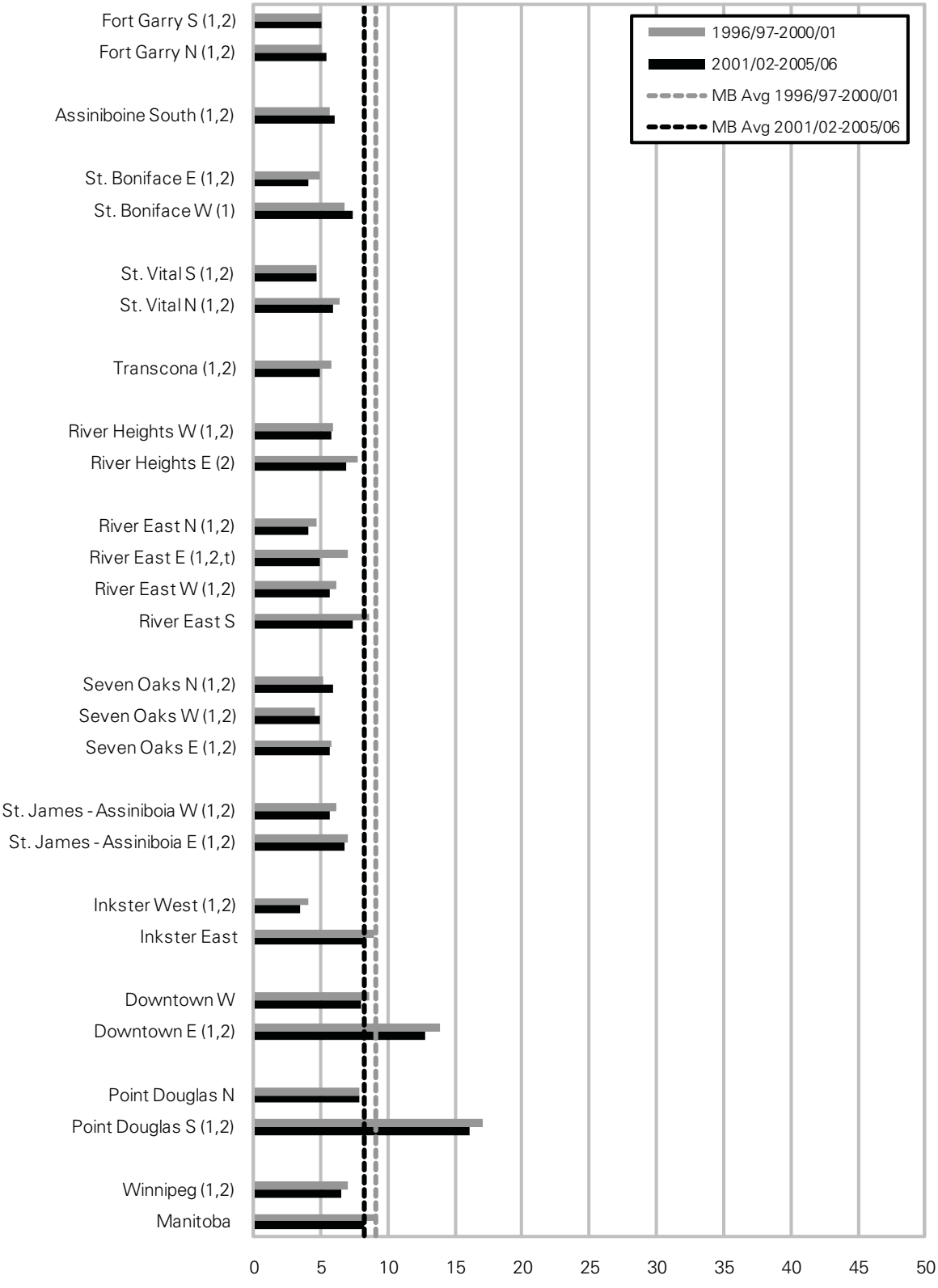
Age- & sex-adjusted annual rate of hospitalizations for injury, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

**Figure 7.11.3: Injury Hospitalization Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rate of hospitalizations for injury, per 1,000 residents




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of injury hospitalization decreased from 9.11 to 8.30 per 1,000 population per year in Manitoba, and this was reflected in most RHAs. While some RHAs showed no significant change over time, none had a significantly increasing rate.
- Injury hospitalization rates were not related to health status at the RHA level.
- In both time periods, rates in the North were more than twice as high as in other areas. This was driven mostly by very high rates in many districts within Burntwood RHA and the NOR–MAN Other district. (See Section 7.12 for a description of the 'types' of injuries involved).
- South Eastman, Assiniboine, and NOR–MAN RHAs had the highest percentage decreases over time.
- Rates in most Winnipeg NCs were significantly lower than the provincial average, though some were near the average, and two were higher than average: Downtown East and Point Douglas South.
- Injury hospitalization rates were strongly related to income in urban and rural areas in both time periods: rates for residents of lower income areas were more than double those for residents of higher income areas (Appendix 2).

## Comparison to other reports:

- The decreasing rate of injury hospitalization is consistent with the decline shown in the 2003 Atlas and in the What Works report. Together, these reports document a steadily decreasing rate of injury hospitalization in Manitoba from 1984/85 through 2005/06.
- CIHI's Health Indicators 2008 report showed that injury hospitalization rates for Manitoba in 2005/06 were higher than national average, though the actual rates listed were lower than those shown here (likely related to differences in years used, statistical adjustments, and possibly details of definition).

## 7.12 Causes of Injury Hospitalization

Definition: the distribution of diagnoses attributed during injury–related inpatient hospitalizations, grouped according to sub–categories of the International Classification of Diseases (ICD) system. Data for 2005/06 were coded in ICD–10–CA, so were converted to ICD–9–CM equivalents (CIHI conversion) for comparison with 2000/01 results. The top 10 causes are shown for each time period for each aggregate area. See Glossary for listing of individual codes within each group.

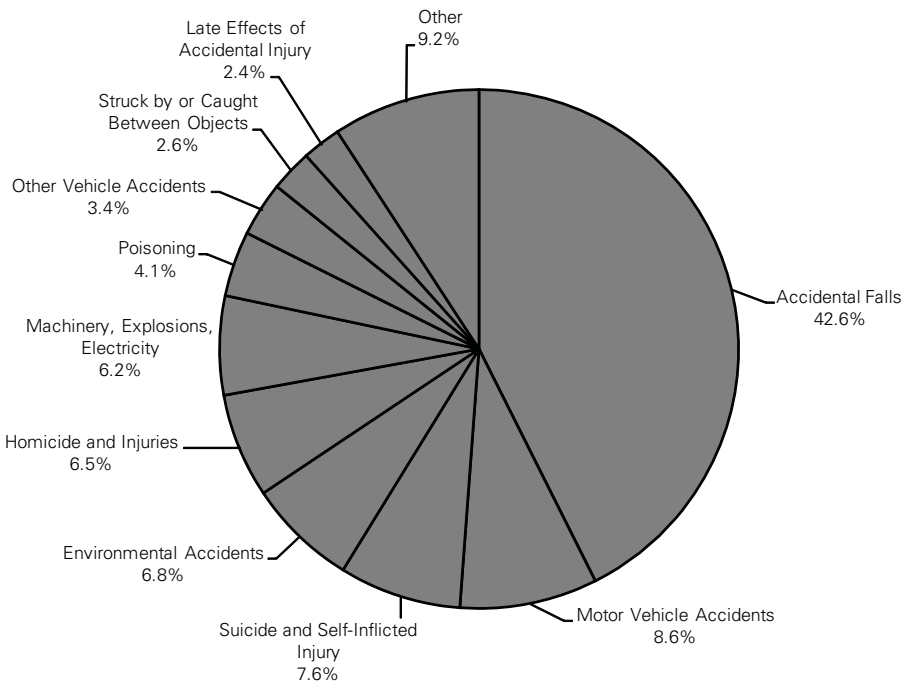
### Key findings:

- In both time periods, accidental falls accounted for more than 40% of all injury hospitalizations in Manitoba. This is also true for all the aggregate areas except the North, where falls were second to environmental accidents. In Winnipeg, falls accounted for over half of all injury hospitalizations.
- The remaining injury hospitalizations were distributed across a number of other sub–groups, most prominently, environmental accidents, motor vehicle accidents, suicide and self–inflicted injury, and homicide.
    - Because the distribution among these subsequent causes is relatively even, care must be used in interpreting the rank ordering of causes.
- In the Rural South and Brandon, 'Other Vehicle Accidents' and 'Machinery, explosions, and electricity' ranked higher, and homicide ranked lower than in other areas.

### Comparison with other findings:

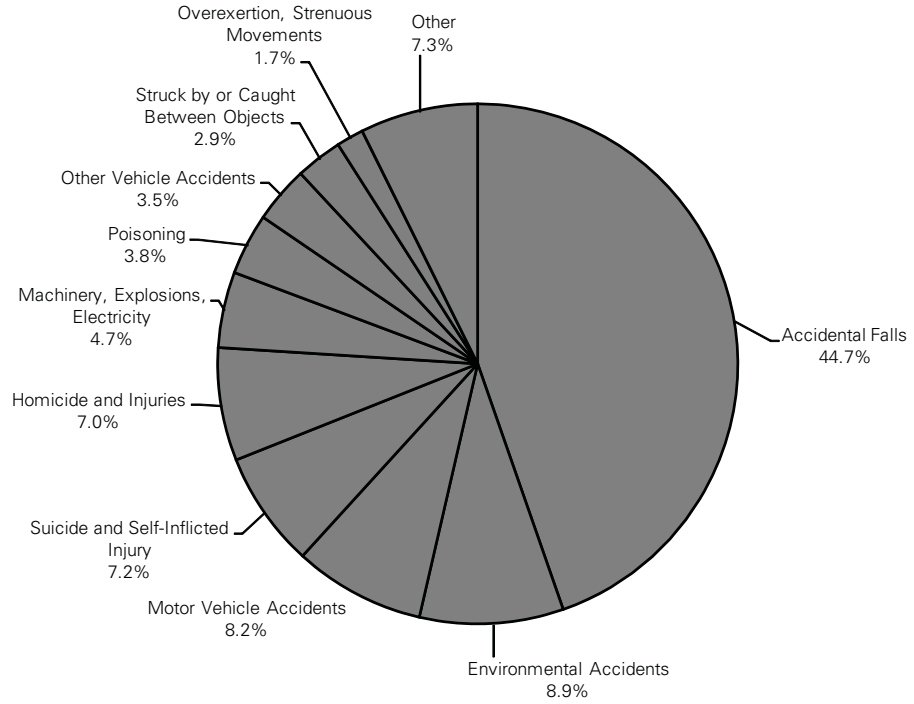
- Previous MCHP reports did not specify sub–categories of injury hospitalization.
- These results are similar to those in the "Injuries in Manitoba" report, even though different categorization systems were used. Both reports showed that falls were by far the largest category; motor vehicle accidents and self–inflicted injuries were also prominent. Their report further analyzed injuries by age, showing that the elderly had by far the highest hospitalization rates for injuries.
- National data also revealed a similar distribution of causes: falls 56%, motor vehicle 14%, and assaults 4% (CIHI, 2003b).

**Figure 7.12.1: Causes of Injuries Resulting in Hospitalization, Manitoba, 1996/97-2000/01**



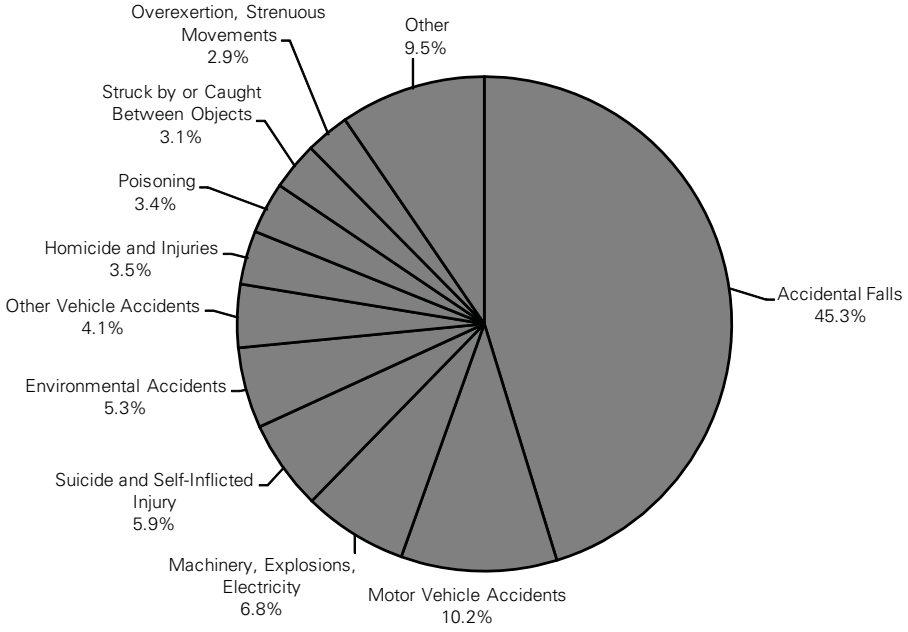

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.2 Causes of Injuries Resulting in Hospitalization, Manitoba, 2001/02-2005/06**



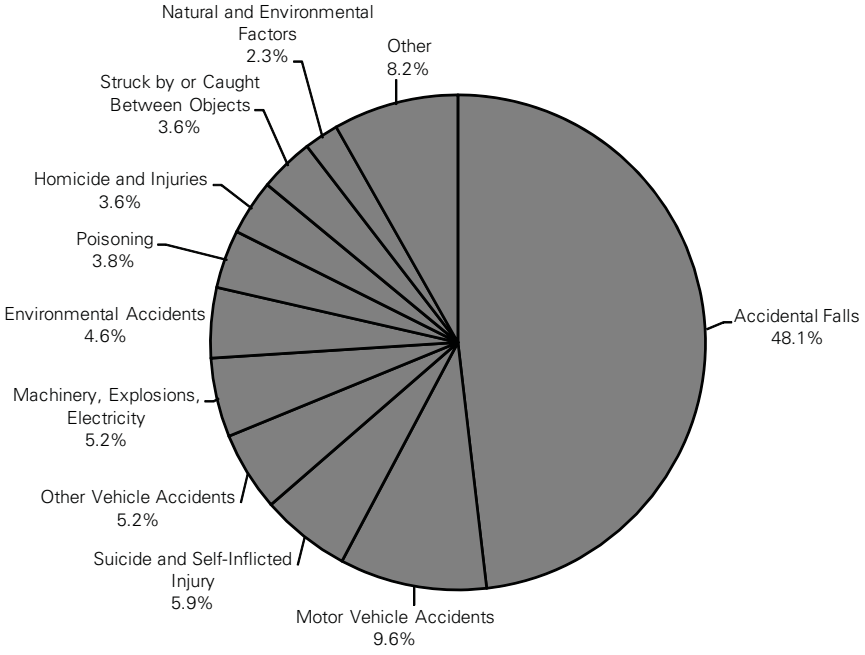

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.3: Causes of Injuries Resulting in Hospitalization, Rural South and Brandon, 1996/97-2000/01**



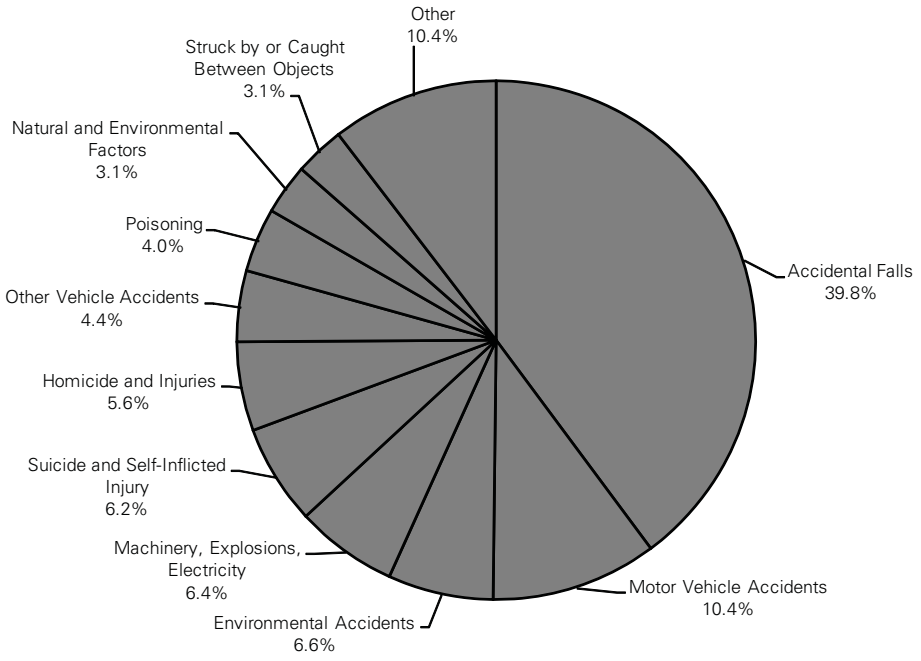

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.4: Causes of Injuries Resulting in Hospitalization, Rural South and Brandon, 2001/02-2005/06**



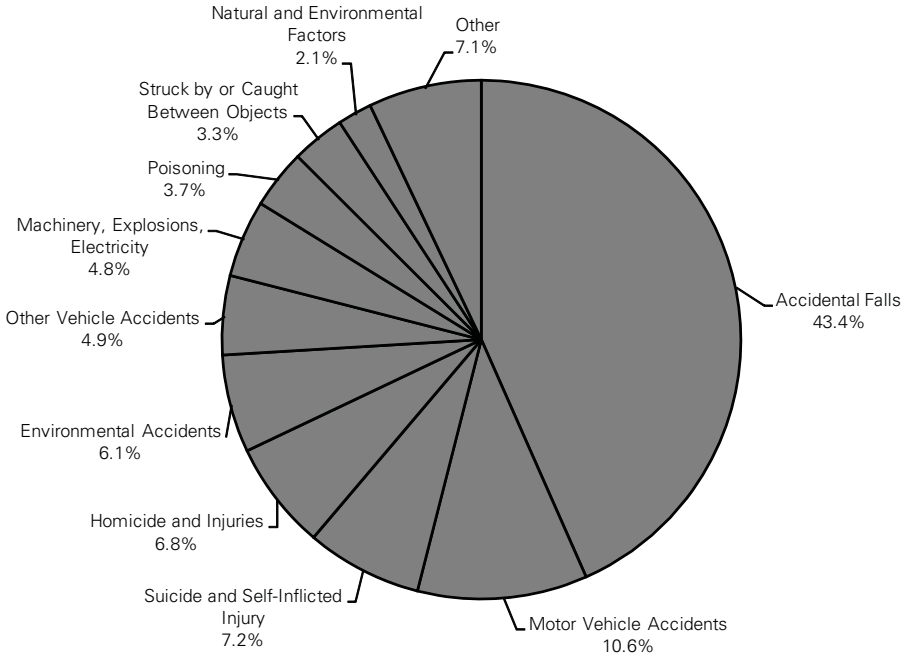

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.5: Causes of Injuries Resulting in Hospitalization, Mid, 1996/97-2000/01**



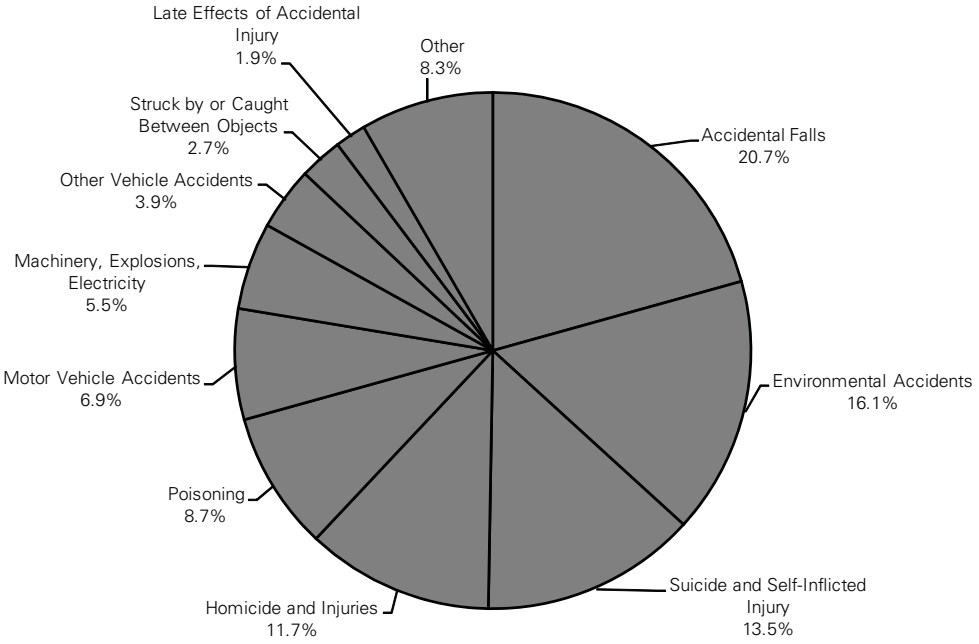

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.6: Causes of Injuries Resulting in Hospitalization, Mid, 2001/02-2005/06**



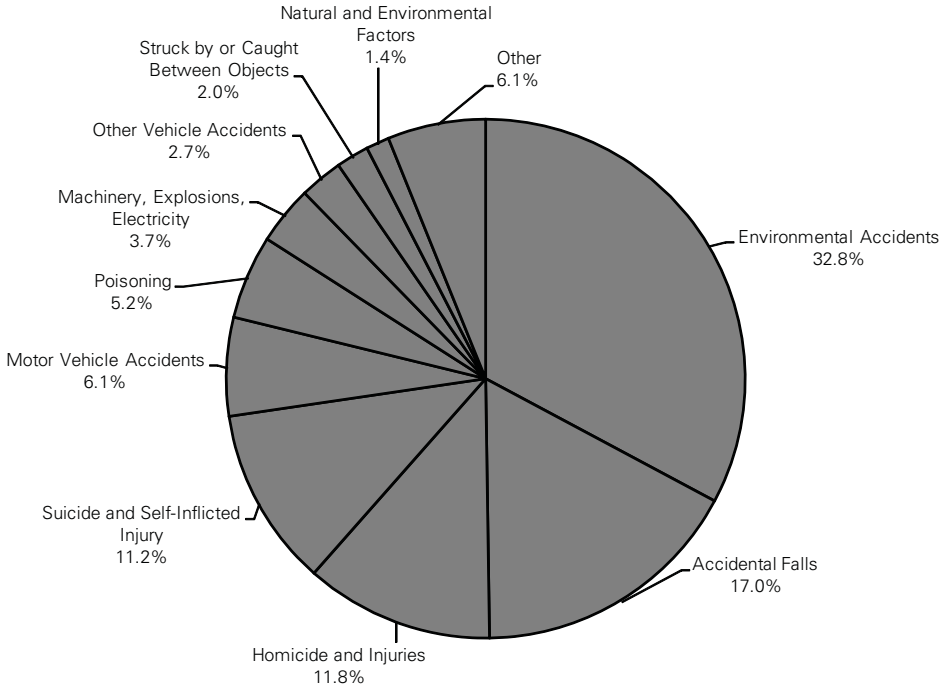

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.7: Causes of Injuries Resulting in Hospitalization, North, 1996/97-2000/01**



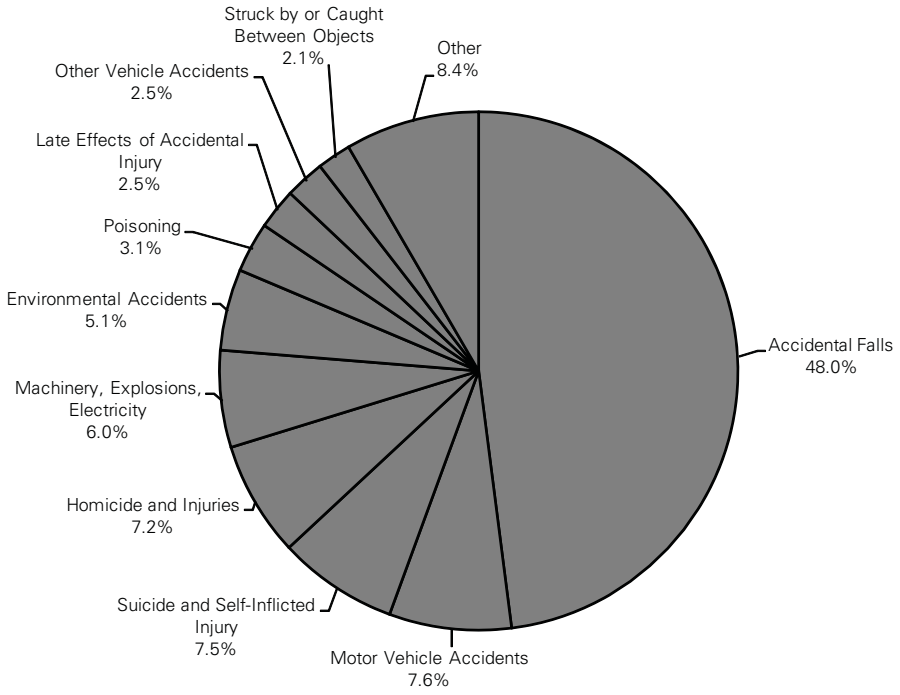

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.8: Causes of Injuries Resulting in Hospitalization, North, 2001/02-2005/06**



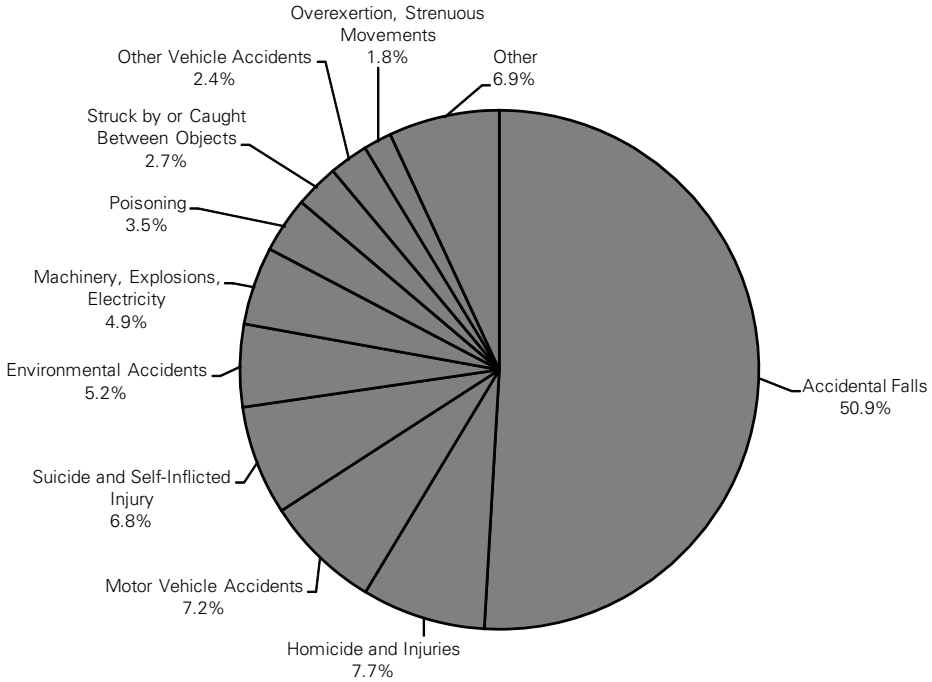

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.9: Causes of Injuries Resulting in Hospitalization, Winnipeg, 1996/97-2000/01**




Source: Manitoba Centre for Health Policy, 2009

**Figure 7.12.10: Causes of Injuries Resulting in Hospitalization, Winnipeg, 2001/02-2005/06**

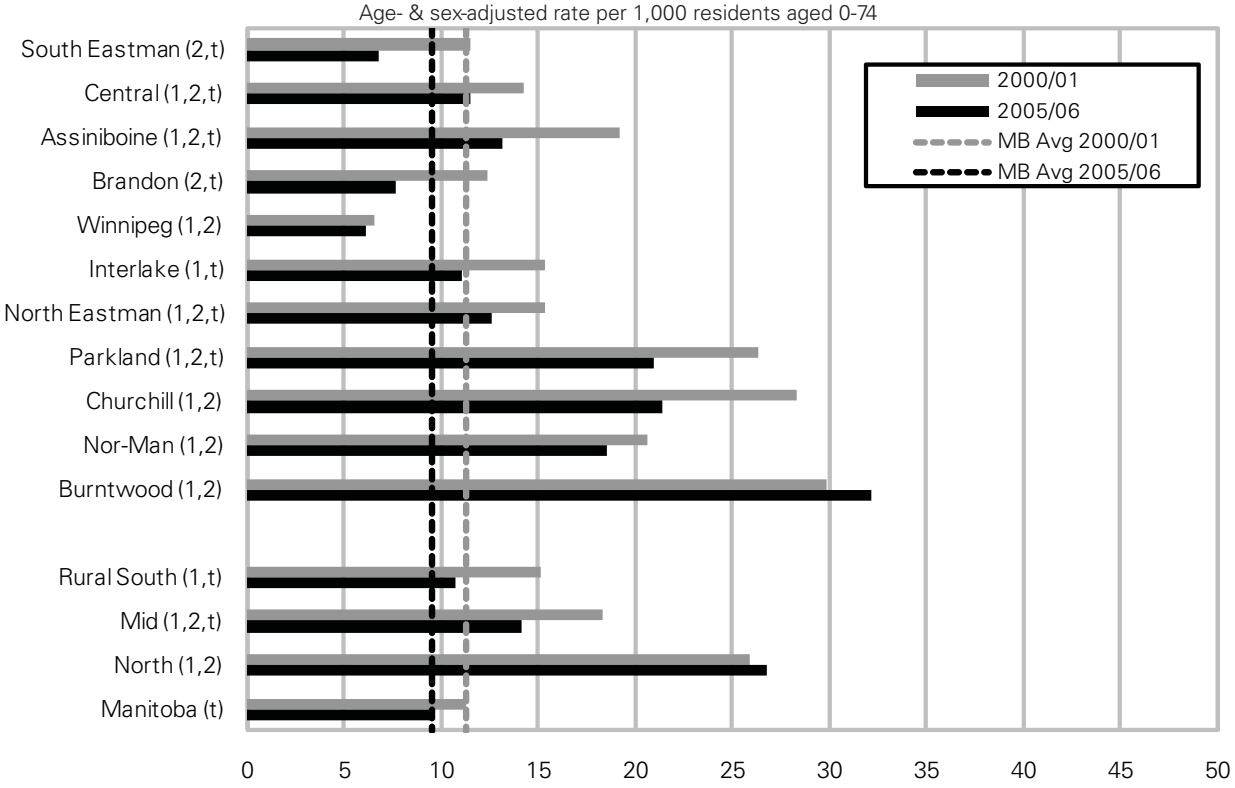



Source: Manitoba Centre for Health Policy, 2009

## 7.13 Hospitalization Rates for Ambulatory Care Sensitive (ACS) Conditions

Definition: The rate at which area residents were hospitalized for Ambulatory Care Sensitive Conditions, per 1,000 residents per year. This grouping is comprised of 17 diseases/diagnoses including: asthma, angina, gastroenteritis, and congestive heart failure (see Glossary for complete listing and definitions); and it was created by Billings and colleagues (Billings & Teicholz, 1990; Billings et al., 1993). The idea behind this measure was that if people receive an adequate level of good quality primary care, they should not need to be hospitalized for these conditions.

**Figure 7.13.1: Rate of Hospitalization for Ambulatory Care Sensitive Conditions by RHA**

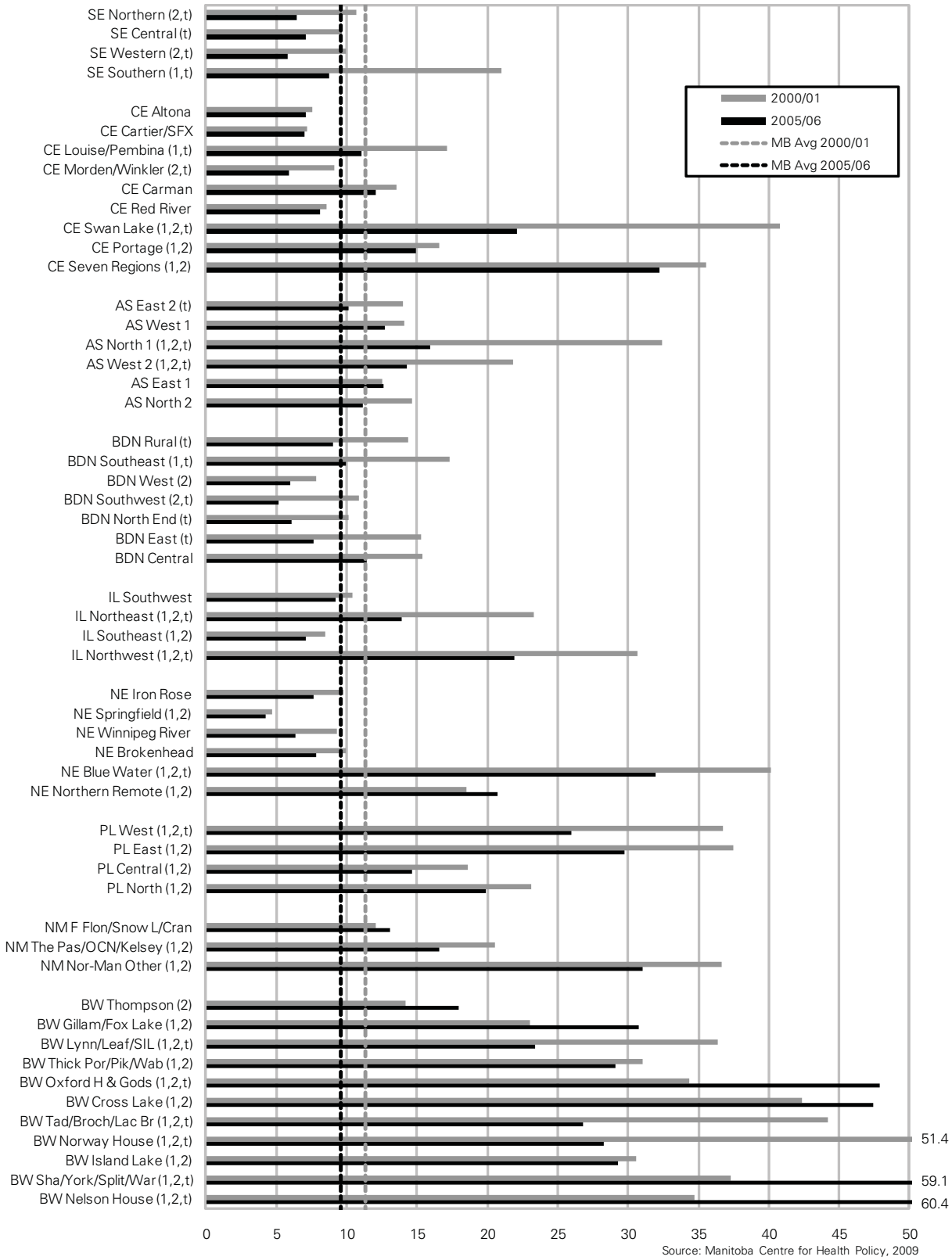



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 7.13.2: Rate of Hospitalization for Ambulatory Care Sensitive Conditions by District**

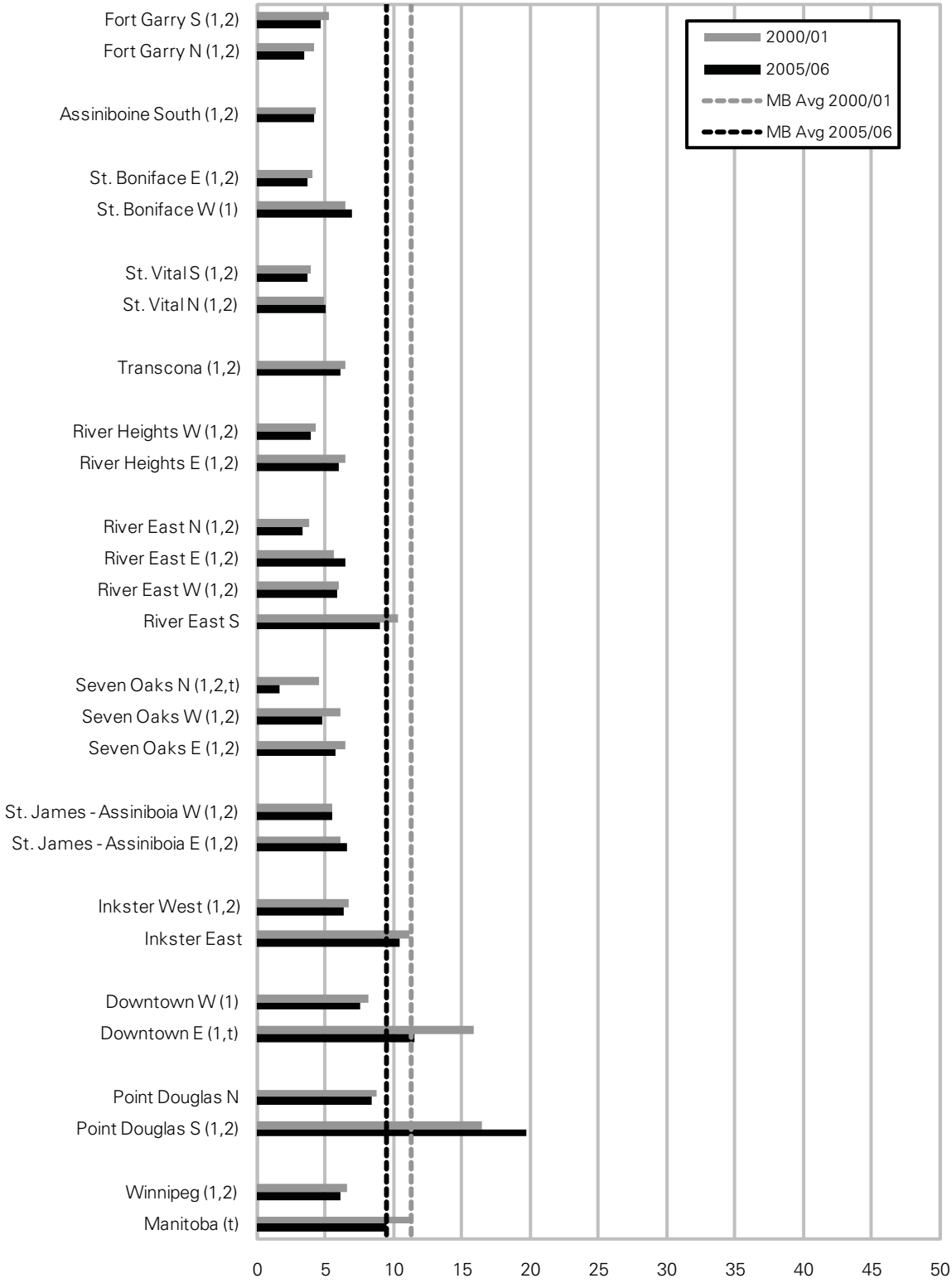
Age- & sex-adjusted rate per 1,000 residents aged 0-74




Source: Manitoba Centre for Health Policy, 2009

**Figure 7.13.3: Rate of Hospitalization for Ambulatory Care Sensitive Conditions by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted rate per 1,000 residents aged 0-74




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of hospitalization for ACS conditions decreased overall from 11.3 to 9.5 hospitalizations per 1,000 residents per year. Significant decreases were seen in all RHAs in the Rural South and Mid areas, but RHAs in the North showed no significant change over time.
- Rates in northern RHAs (especially Burntwood) were much higher than Rural South or Mid areas.
- Rates appear to be somewhat related to health status at the RHA and aggregate levels, though Winnipeg is the clear exception with very low rates.
    - The very low rates for Winnipeg strongly affect the provincial average.
- Rates were very strongly related to income in urban and rural areas in both time periods: rates for residents of lower income areas were triple those for residents of higher income areas (Appendix 2).

## Comparison to other findings:

- This indicator was not included in previous MCHP reports. However, recent work done using MCHP data also showed a strong trend by area–level income.
    - In discussing their and others' results, Roos et al. (2005) question the basic premise that hospitalization for ACS conditions is an indicator of adequate, quality primary care for all residents because those in lower income areas had higher ACS hospitalization rates even though they also had higher rates of physician visits (for ACS conditions and overall).
- CIHI's 2008 Healthcare in Canada report featured a highlight on hospitalizations for ACS conditions. Results in that report suggested that Manitoba's rates were higher than national averages in both 2001/02 and 2006/07 (CIHI, 2008a). Exact rates in this report cannot be directly compared to those, as CIHI used a subset of all the ACS conditions used in this report.

# Chapter 8: High Profile Surgical and Diagnostic Services

## Key Findings for Chapter 8

- Rates of cardiac catheterizations and coronary artery bypass surgeries have stabilized after years of steadily increasing rates. These may be related to the increasing rate of Percutaneous Coronary Interventions (PCI) procedures (angioplasty with or without stent insertion):
    - In recent years, clinical practice has shifted toward 'primary PCI' for patients with acute myocardial infarctions (heart attacks), possibly reducing the need for cardiac catheterizations.
    - Furthermore, patients whose heart disease does not involve multiple vessels are increasingly likely to be recommended for PCI with stent insertion rather than bypass surgery.
- Hip & knee replacement rates continue to increase significantly over time.
- Cataract surgery rates appear to have stabilized after years of increasing rates.
- The MRI scan rate in Manitoba almost doubled over five years. Increases were seen in all areas, but the rate for Brandon residents more than quadrupled—from below the provincial average to near double the provincial average. This finding requires further study to understand variations in scan rates in relation to clinical indications for use of MRI.
- Associations with area–level health status and area–level income measures showed mixed results for the various indicators in this chapter. The exception was MRI scan rates, which had trends opposite to what might be expected in a universal healthcare system: MRI scan rates were lowest in the least healthy and lowest income areas.
- Analysis of CT scan rates had to be omitted because collection of individual–level data is not mandatory for all CT scans performed in rural hospitals. This 'missing data' problem is likely getting worse over time, as more rural hospitals have been equipped with CT scanners. This lack of data inhibits effective monitoring and evaluation of CT services in Manitoba. The situation should improve in the future as new Radiology Information Systems are put in place.

## Introduction

This chapter includes indicators of a number of surgical and diagnostic procedures for which validated indicators have been developed. These are 'high profile' procedures which MCHP has tracked in previous reports.

Most of the procedures are services that a resident could receive more than once in a given period, so the indicators count each event separately, and reflect the sum of all such services to area residents regardless of the location of service provision. For example, if a resident of Assiniboine RHA receives a service in Brandon or Winnipeg, it is attributed back to Assiniboine RHA.

Magnetic Resonance Imaging (MRI) scans are slightly different because separate records are kept for scans of different body sites, even if the scans are performed during the same scanning session. Therefore, our indicators count the number of 'person–visits' to the MRI service each day. So if a resident has an MRI scan of the head and the abdomen on the same day (two services), we count only a single 'visit' to the MRI service for that person that day. Also for MRI scans, the years used for Time 1 are 'shifted forward' two years compared to other indicators because the data system was not complete until April 1, 2001. Two years of data were used (April 1, 2001–March 31, 2003) to ensure adequate statistical power and reliable estimates with minimal suppression of results for small areas.

Note regarding missing data for MRI scans of children & youth: Patients treated in the Children's hospital in Winnipeg are referred to adjacent Health Sciences Centre for MRI scans. However, individual–level data for these services are not recorded. Therefore, the MRI scan rates in this report include only residents age 20 or older.

Planned analysis of CT scan rates had to be omitted because individual–level data for CT scans performed in rural hospitals are not universally recorded. This 'missing data' problem is likely getting worse over time, as more rural hospitals have been equipped with CT scanners. This lack of data inhibits effective monitoring and evaluation of CT services in Manitoba. The situation should improve in the future as new Radiology Information Systems are put in place.

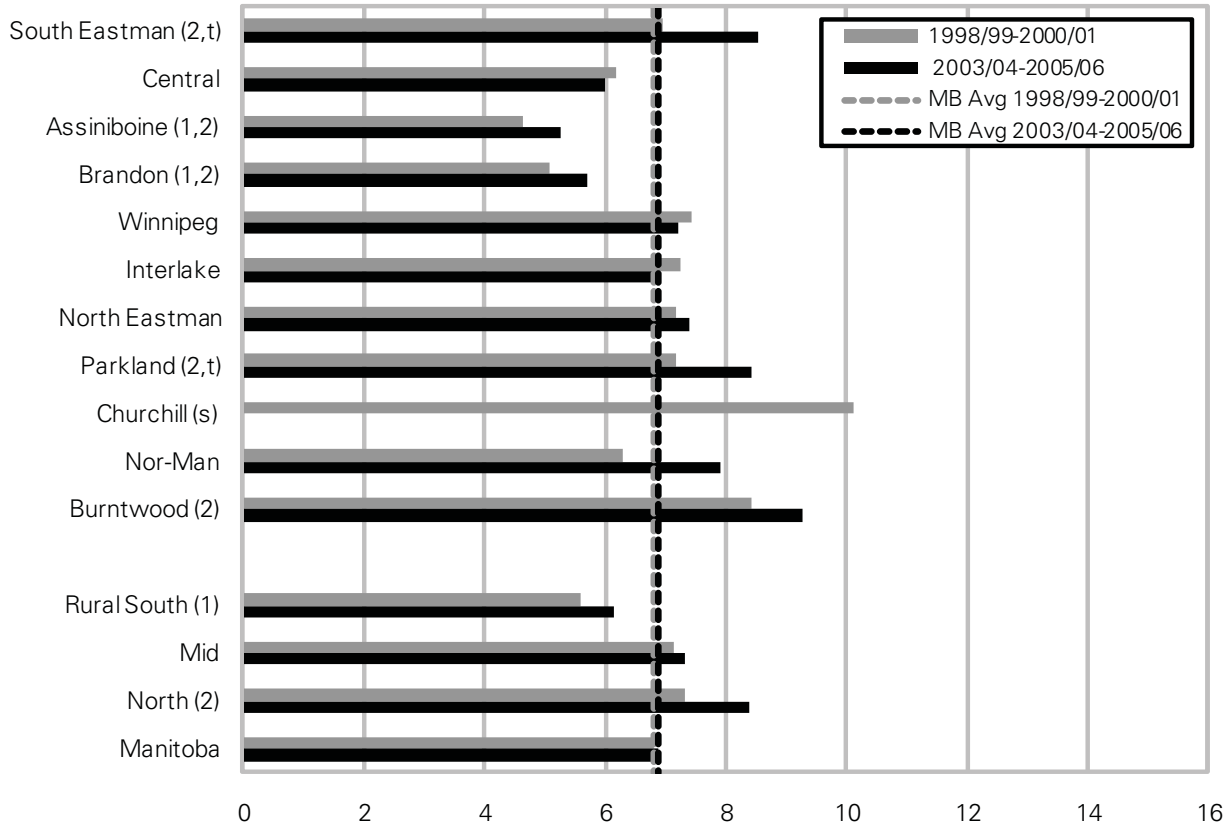
Note regarding statistical testing & power: Some of the services included in this chapter are very frequent (e.g., 12,000 MRI scans per year), whereas others are much less frequent (e.g., 820 bypass surgeries per year). The number of events has a strong effect on the statistical modeling, such that where there are many events, it is easier for changes in rates to reach statistical significance. Conversely, for relatively rare events, even a substantial change in rates may not reach the level of statistical significance.

## 8.1 Cardiac Catheterization (Diagnostic Angiogram)

Definition: the number of cardiac catheterizations performed on area residents age 40 or older, per 1,000 residents age 40 or older. This includes ICD–9–CM procedure codes 37.21–37.23, 88.52–88.57, or CCI procedure codes 2.HZ.28, 3.IP.10 in any procedure field in a hospital abstract (inpatient or outpatient). Rates were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and age– & sex–adjusted to the Manitoba population 40+ in the first time period.

**Figure 8.1.1: Cardiac Catheterization Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+

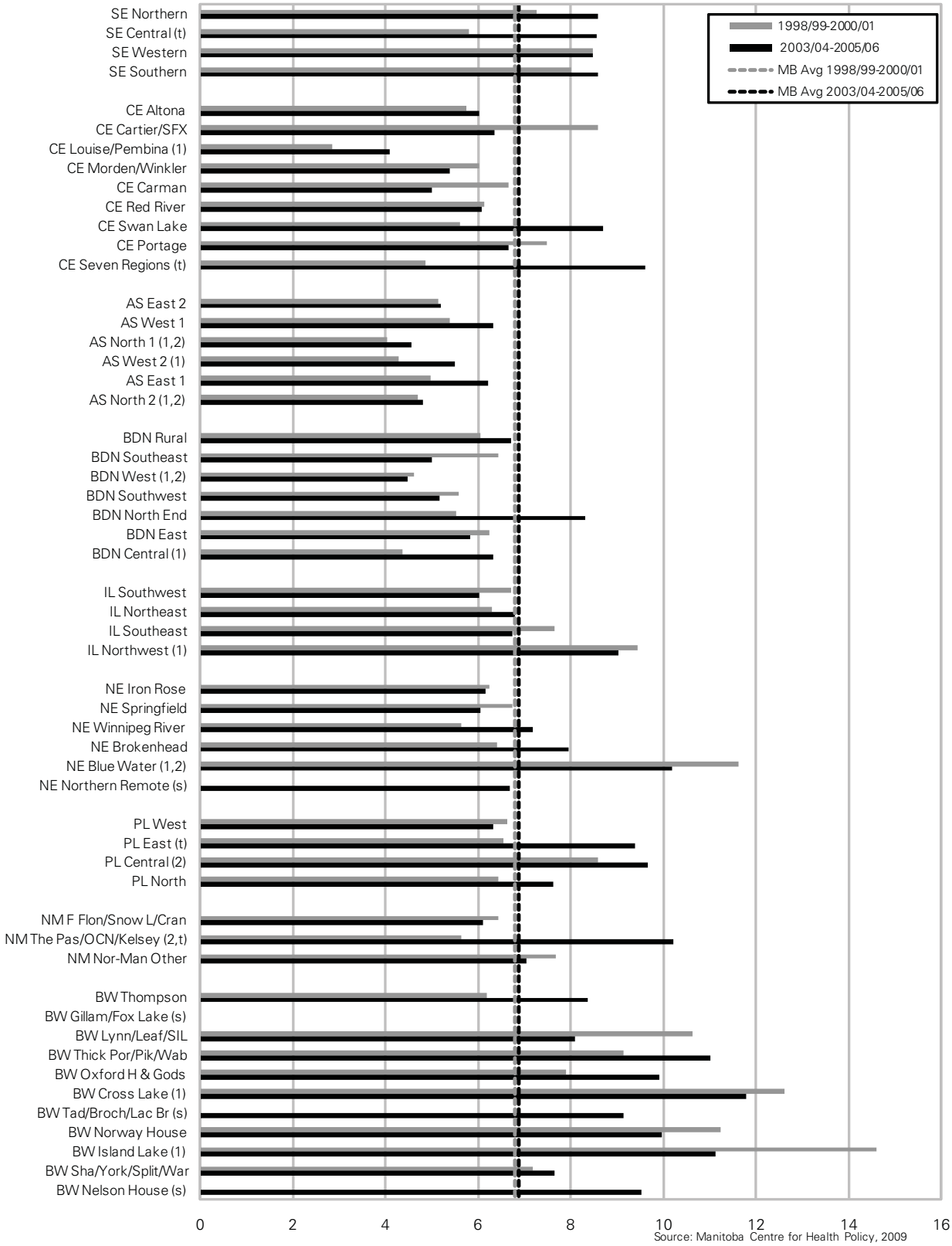



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 8.1.2: Cardiac Catheterization Rates by District

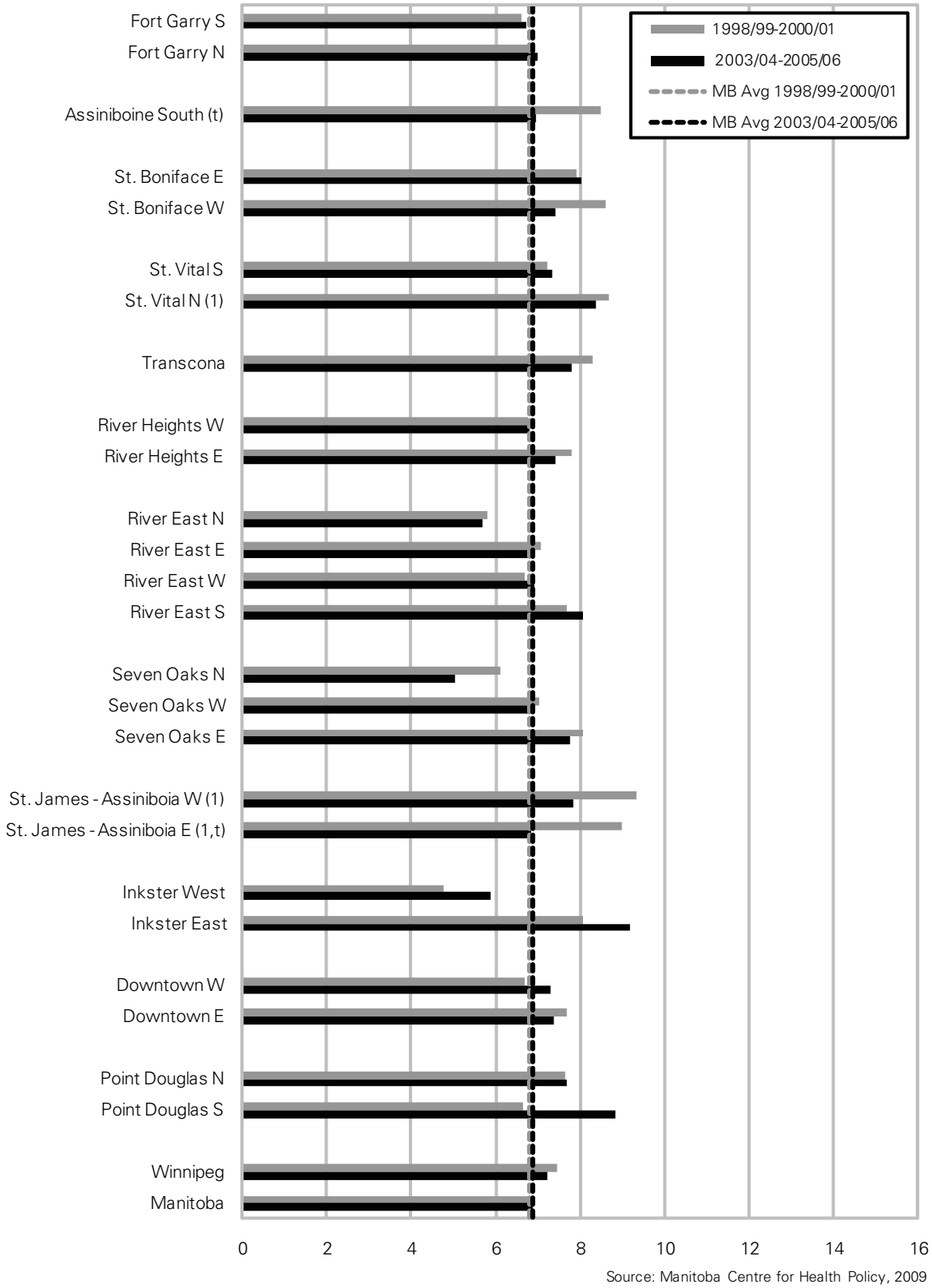
Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

**Figure 8.1.3: Cardiac Catheterization Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of cardiac catheterizations was stable in Manitoba, at 6.8 per 1,000 residents age 40+ per year in 1998/99–2000/01 and 6.9 in 2003/04–2005/06.
- Some RHAs had increases, while others had decreases; most changes were not statistically significant.
- Cardiac catheterization rates appear to be related to health status at the aggregate level: the Rural South had the lowest rates, the Mid areas had average rates, and the North had higher than average rates.
- Residents of Assiniboine and Brandon had the lowest rates among RHAs in both time periods. Their rates may be increasing over time, although the increases shown here did not reach statistical significance.
- Associations with income were mixed. In urban areas, residents of lower income areas had higher catheterization rates, though this relationship was weaker in the first time period than the second. In rural areas, there was no relationship in the first time period, and a weak relationship in the second (Appendix 2).

## Comparisons with other findings:

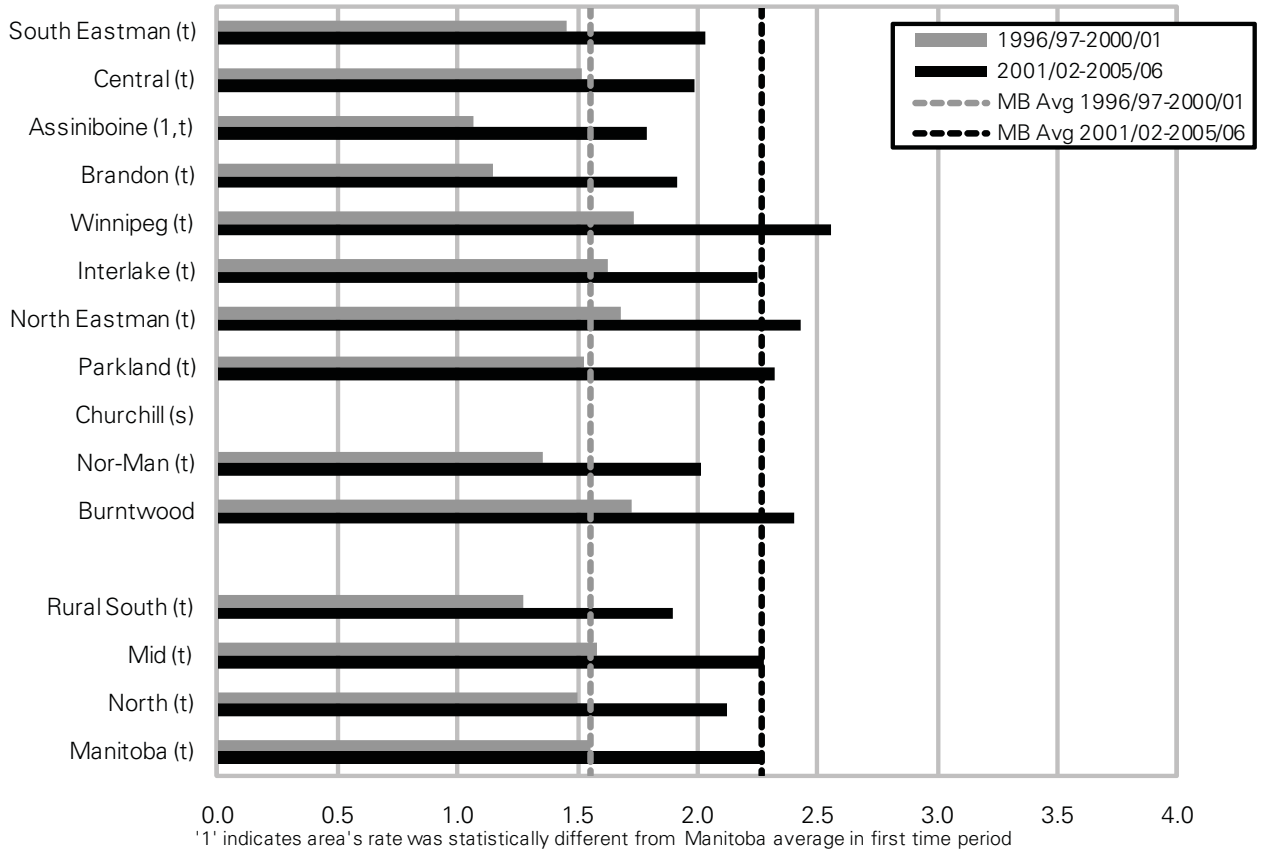
- These results are consistent with those shown in the 2003 Atlas, though the rates in this report are higher because only residents age 40 or older were included. (Over 99% of all cardiac catheterizations were performed in residents age 40+.)
- Results from MCHP's 1999 and 2003 Atlases suggest that cardiac catheterization rates may have stabilized after years of steadily increasing rates (Black et al., 1999).
- National data suggest Manitoba's cardiac catheterization rate was near the Canadian average from 1997/98–2000/01 (Tu, Ghali, Pilote, & Brien, 2006a). Comparable data for the second time period are not available.

## 8.2 Percutaneous Coronary Interventions (PCI) (Angioplasty and Stent Insertion)

Definition: the number of percutaneous transluminal coronary angioplasty procedures (with or without stent insertion) performed on area residents age 40 or older, per 1,000 residents age 40 or older. This includes ICD–9–CM procedure codes 37.21–37.23, 88.52–88.57, or CCI procedure codes 1.IJ.50 and 1.IJ.57 in any procedure field in a hospital abstract (inpatient or outpatient). Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– & sex–adjusted to the Manitoba population 40+ in the first time period.

**Figure 8.2.1: Percutaneous Coronary Intervention Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+

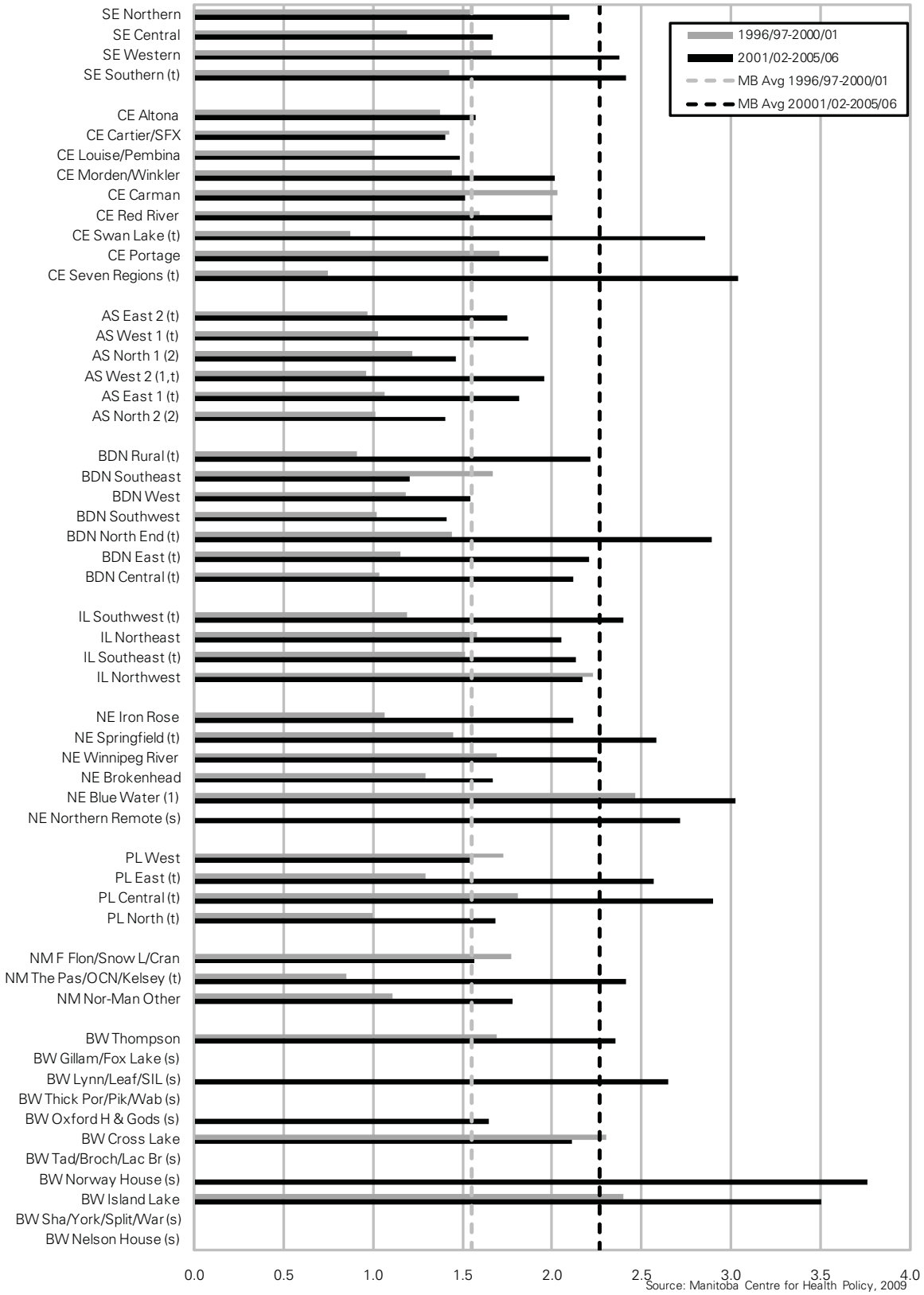



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 8.2.2: Percutaneous Coronary Intervention Rates by District

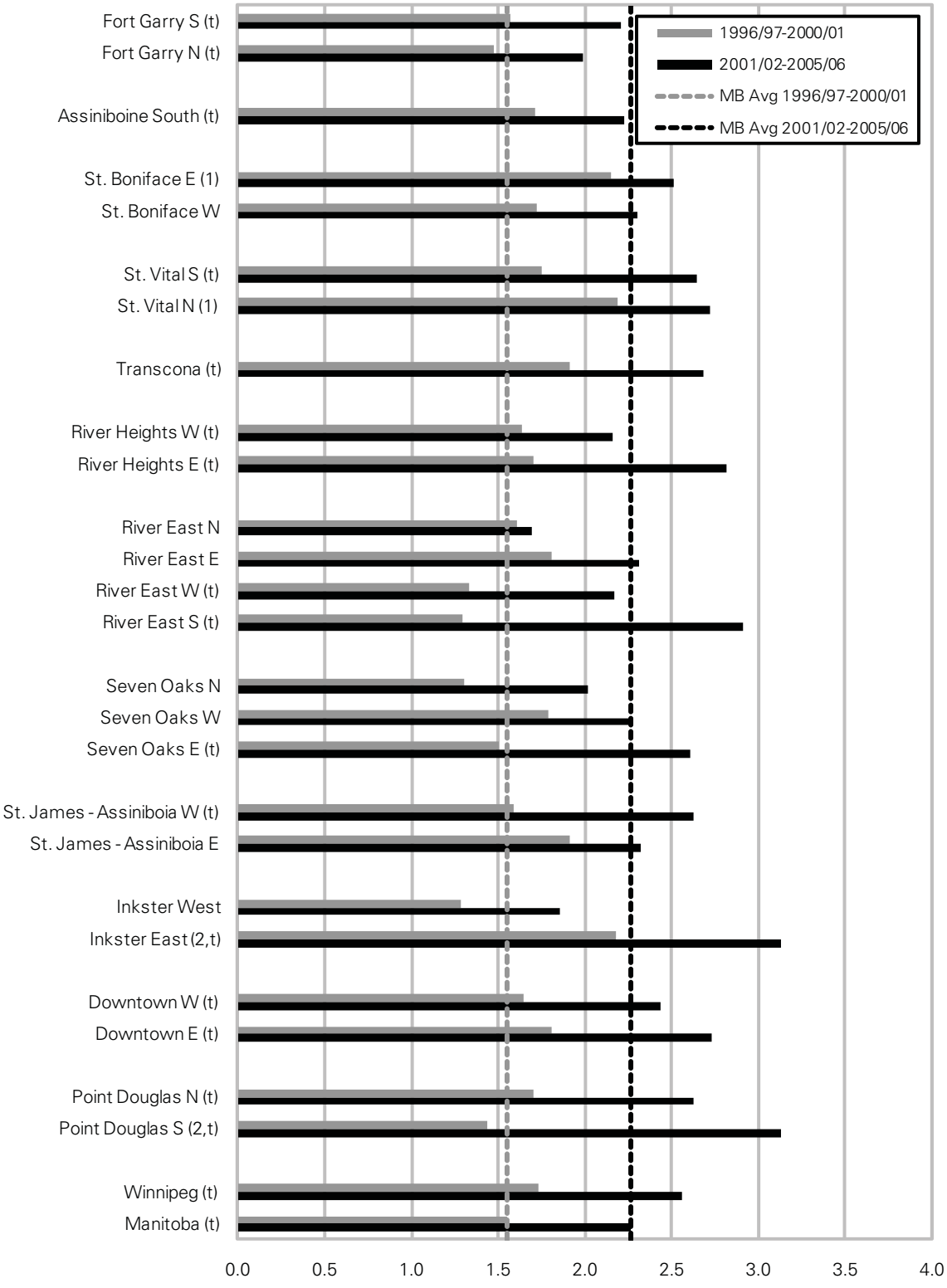
Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

**Figure 8.2.3: Percutaneous Coronary Intervention Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The PCI rate almost doubled in Manitoba from 1.55 to 2.77 procedures per 1,000 residents age 40+ per year. This is consistent with recent changes in clinical practice, including the use of PCI as a 'primary' treatment for heart attack patients.
- Increases were seen in all RHAs, though the increase in Burntwood RHA did not quite reach statistical significance.
- At the RHA level, there was only one significant difference from the provincial average: the rate in Assiniboine RHA in Time 1 was lower than average. Brandon and Assiniboine RHAs had similar (low) rates in both periods, though their percentage increases over time were the largest in the province, which suggests they may be 'catching up' to the average.
- PCI rates do not appear to be related to health status at the RHA level.
- Associations with income were mixed (Appendix 2). In rural areas, there was no relationship between PCI rates and income in either time period. In urban areas, the relationship was not significant in the first time period, but strong and significant in the second period: residents of lower income areas received more PCI procedures than residents of higher income areas. This finding is also consistent with the increasing use of 'primary PCI' noted above.

## Comparisons with other findings:

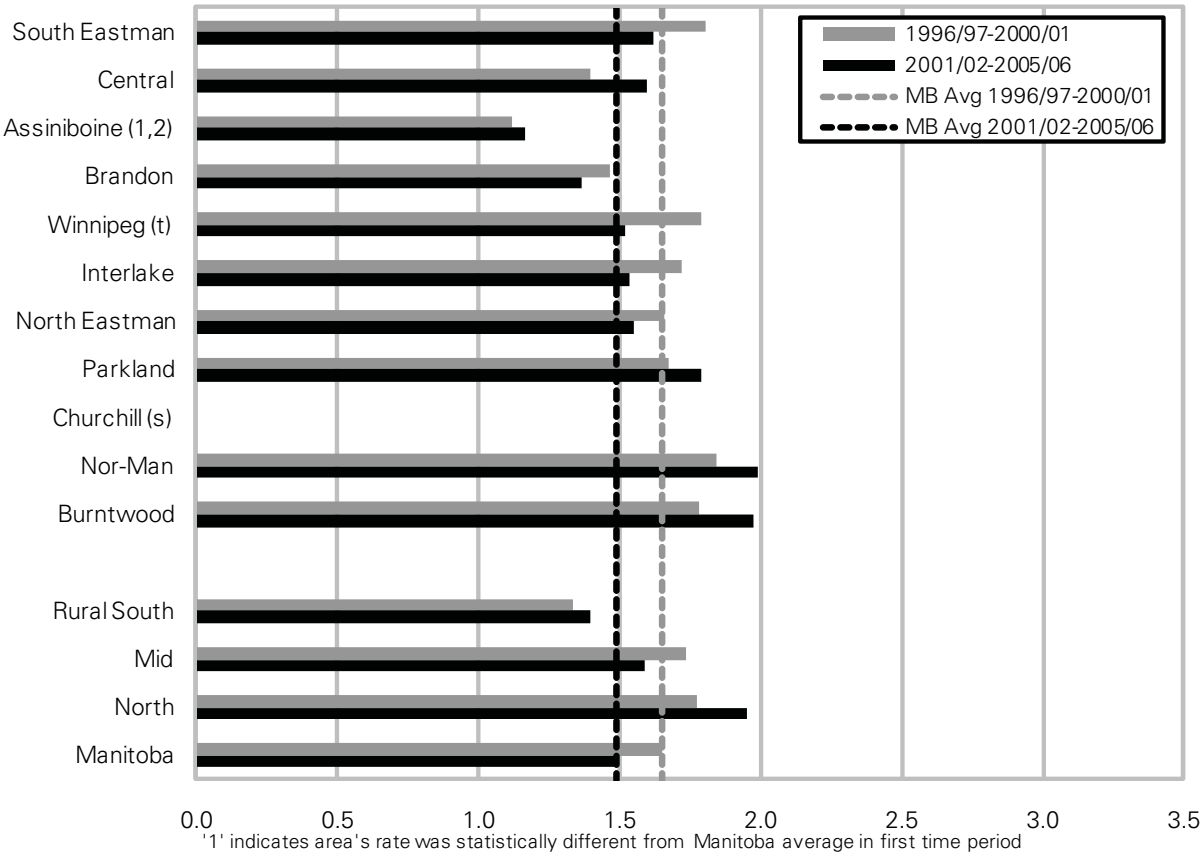
- These results are consistent with those from the 2003 Atlas, though the values in this report are higher because only residents age 40 or older were included. (Over 99% of PCI procedures were performed on residents age 40+.)
- Results from MCHP's 1999 and 2003 Atlases suggest that the angioplasty rate continues to increase over time.
- National data suggest Manitoba's PCI rate was somewhat below the Canadian average from 1997/98–2000/01 (Tu et al., 2006a). Comparable data for the second time period are not available.

## 8.3 Coronary Artery Bypass Surgery

Definition: The number of bypass surgeries performed on area residents age 40 or older, per 1,000 area residents age 40 or older. Bypass surgery is defined by ICD–9–CM procedure codes 36.1–36.16, 36.19, or CCI code 1.IJ.76 in any procedure field (these codes include all surgeries, regardless of the number of vessels affected). Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– & sex–adjusted to the Manitoba population 40+ in the first time period.

**Figure 8.3.1: Coronary Artery Bypass Surgery Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+

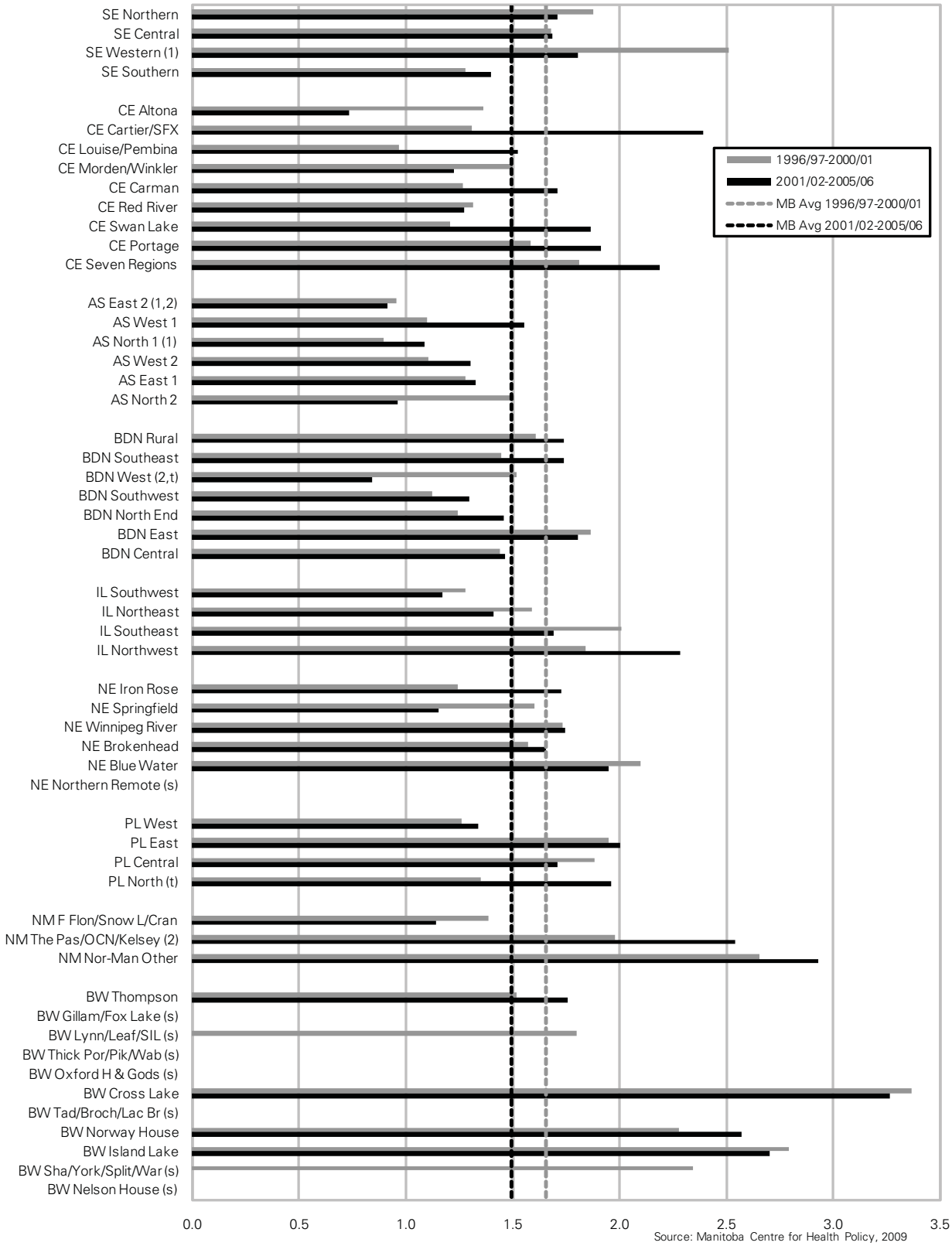



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 8.3.2: Coronary Artery Bypass Surgery Rates by District

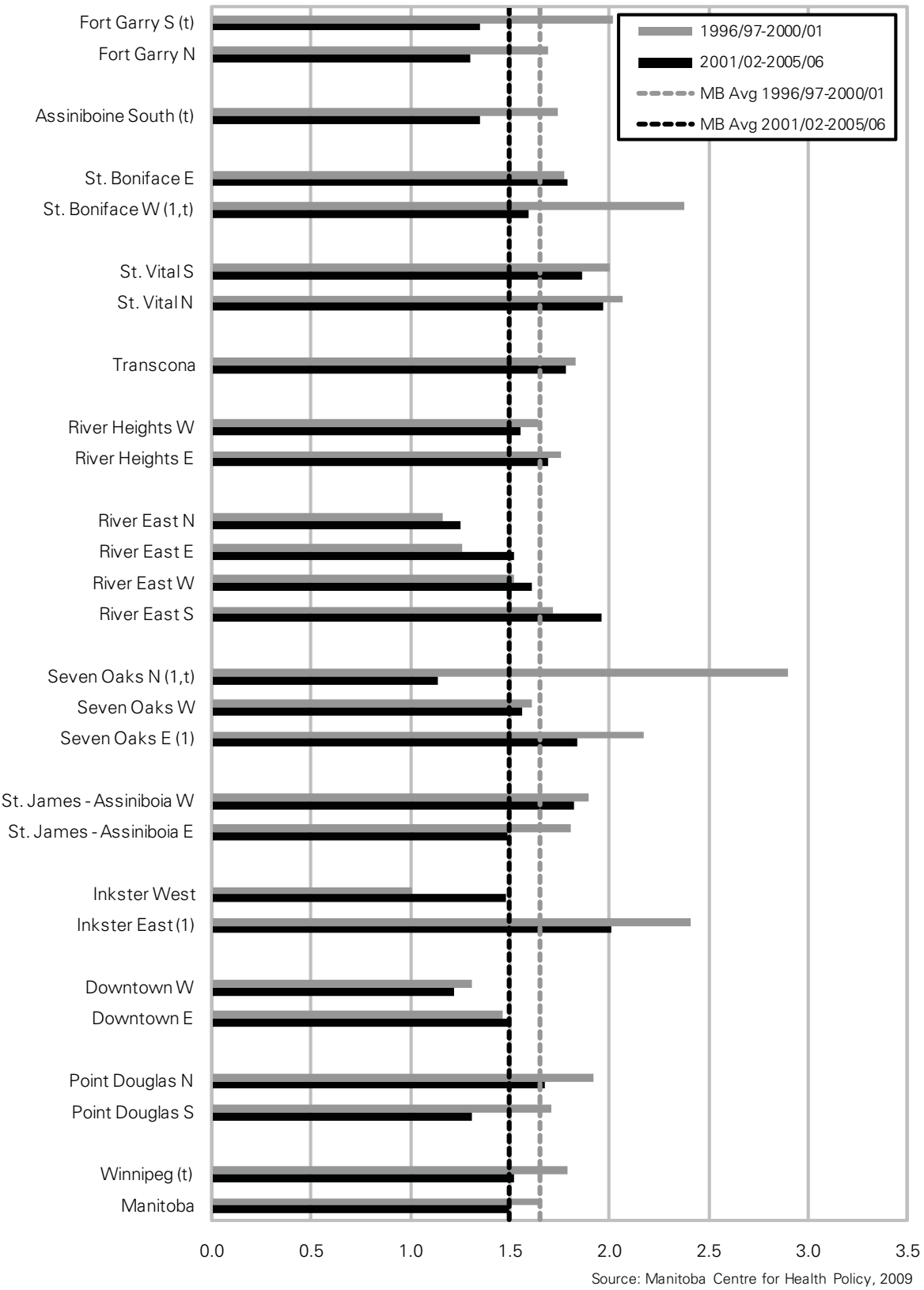
Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

**Figure 8.3.3: Coronary Artery Bypass Surgery Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of coronary artery bypass surgery in Manitoba appears stable: the decrease from 1.65 to 1.49 surgeries per 1,000 residents age 40+ per year was not statistically significant.
- Most RHAs had non–significant changes over time; some increased, others decreased. The exception was Winnipeg RHA where the bypass surgery rate decreased, bringing it from somewhat above the provincial average in 1996/97–2000/01 down to the provincial average in 2001/02–2005/06.
- Assiniboine RHA had lower than average rates in both time periods, though the changes over time suggest it might be getting closer to the provincial average.
- Bypass surgery rates appear to be related to health status at the aggregate level: the Rural South had the lowest rates, the Mid areas had average rates, and the North had the highest rates—although none of these differences reached statistical significance.
- The association between bypass surgery rates and income were non–significant in both rural and urban areas. In urban areas though, there was a trend toward higher rates among lower income residents in both time periods (Appendix 2).
- Note: the absence of statistical significance in many of the findings for bypass surgery are related to the relatively low number of procedures performed.

## Comparisons with other findings:

- These results are consistent with those shown in the 2003 Atlas, though the rates in this report are higher because only residents age 40 or older were included. (Over 99% of all bypass surgeries were performed in residents age 40+.)
- Results from MCHP's 1999 and 2003 Atlases suggest that bypass surgery rates may have stabilized after years of steadily increasing rates. However, review of annual numbers (not shown) revealed an irregular pattern, not a gradual tapering off, so other factors may also be affecting these rates (i.e., the supply of surgeons or the organization and delivery of cardiac services).
- National data suggest Manitoba's bypass surgery rate was near the Canadian average from 1997/98–2000/01 (Tu et al., 2006a). Comparable data for the second time period are not available.

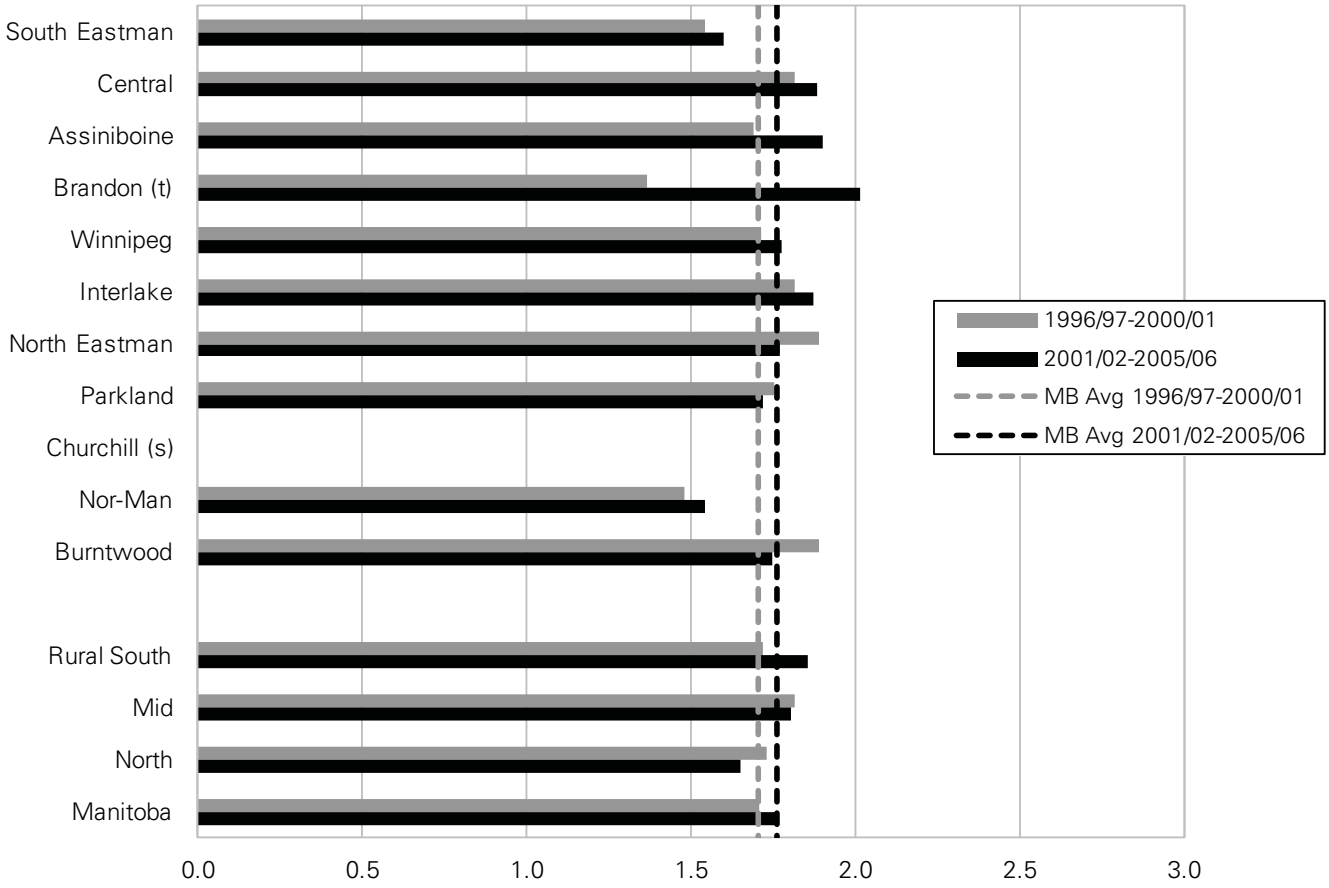
This page edited August 11, 2011.

## 8.4 Total Hip Replacement

Definition: The number of total hip replacements performed on area residents age 40 or older, per 1,000 area residents age 40 or older. Hip replacements were defined by ICD–9–CM codes 81.50, 81.51, 81.53, or CCI code 1.VA.53 in any procedure field in hospital abstracts. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– & sex–adjusted to the Manitoba population 40+ in the first time period.

**Figure 8.4.1: Hip Replacement Surgery Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+



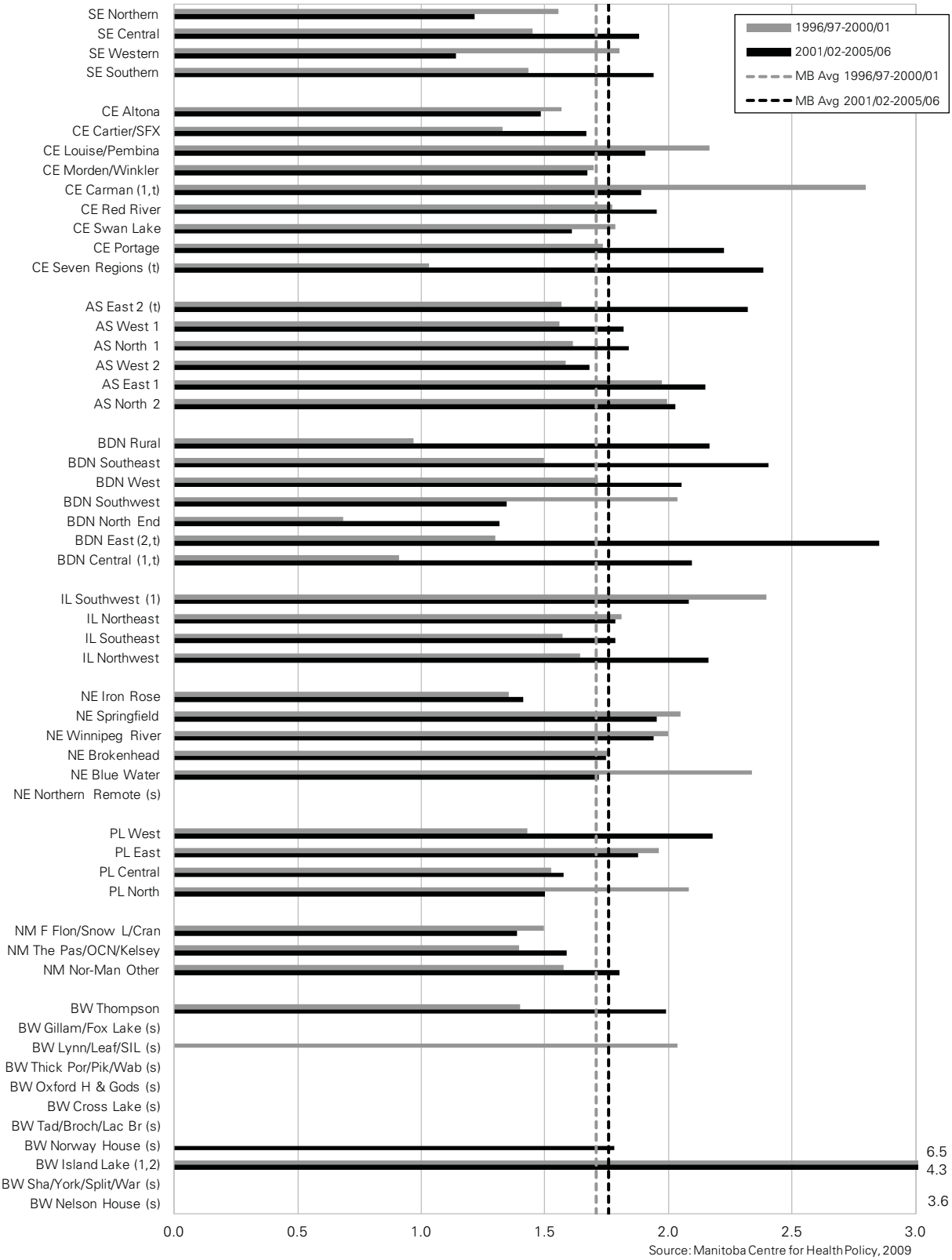

'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

This page edited August 11, 2011.

## Figure 8.4.2: Hip Replacement Surgery Rates by District

Age- & sex-adjusted annual rates per 1,000 residents aged 40+

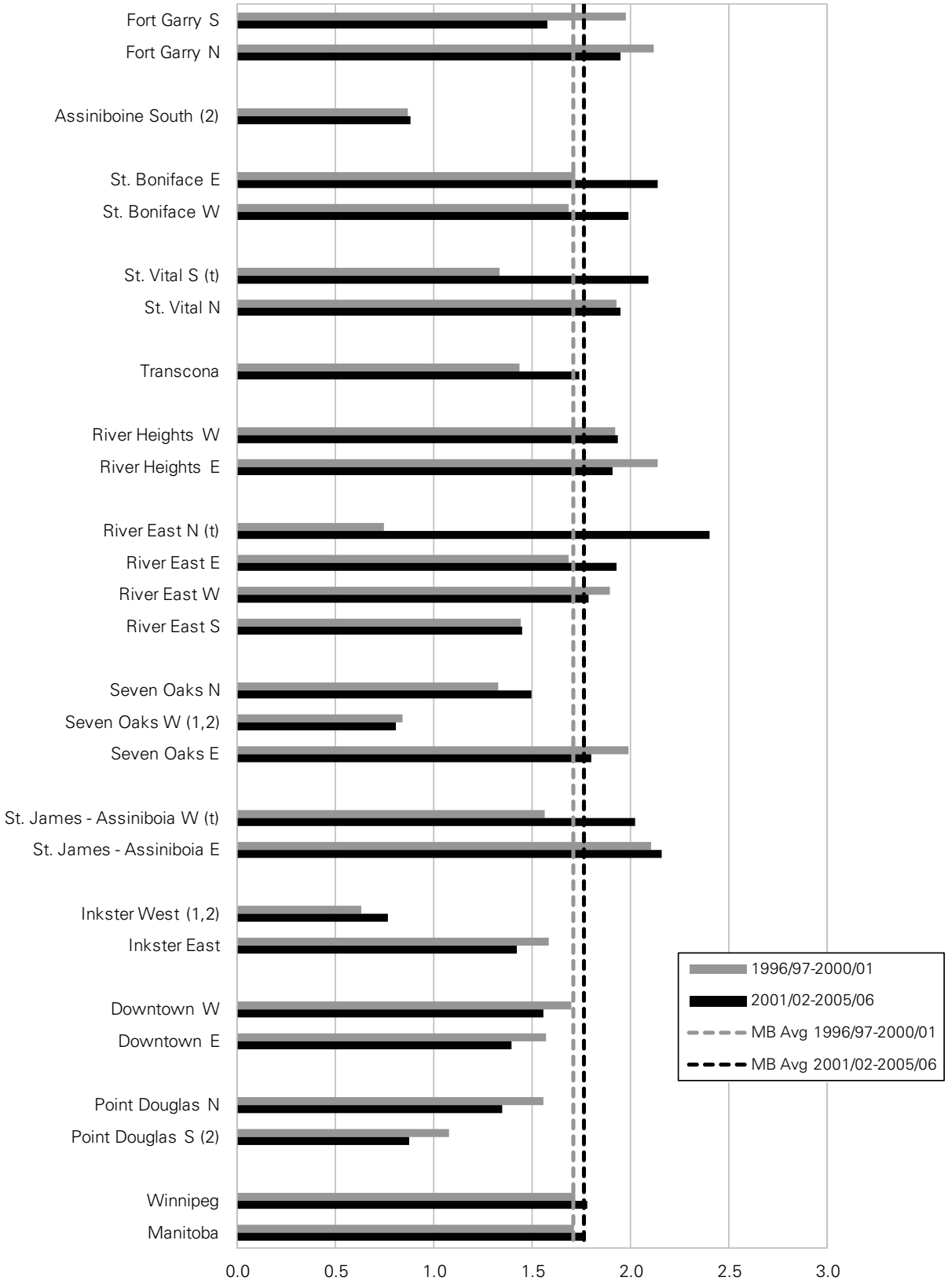



Source: Manitoba Centre for Health Policy, 2009

This page edited August 11, 2011.

**Figure 8.4.3: Hip Replacement Surgery Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

This page edited August 11, 2011.

## Key findings:

- The rate of total hip replacements increased in Manitoba from 1.71 to 1.75 procedures per 1,000 residents age 40+ per year. An increase was seen in virtually all areas (except North Eastman, Parkland, Burntwood, and the Mid and North aggregate areas), though the increase was not statistically significant in many RHAs.
- Brandon RHA had the largest increase in rates, bringing the rate from somewhat below the provincial average in Time 1 to slightly above average in Time 2. The rate's increase was a statistically significant change over time.
- Rates in Inkster West NC was considerably lower than average, even though its rate increased somewhat over time.
- There was no association between hip replacement rates and health status at the RHA level.
- There was no association between hip replacement rates and income in either time period, among urban or rural residents (Appendix 2).

## Comparison to other findings:

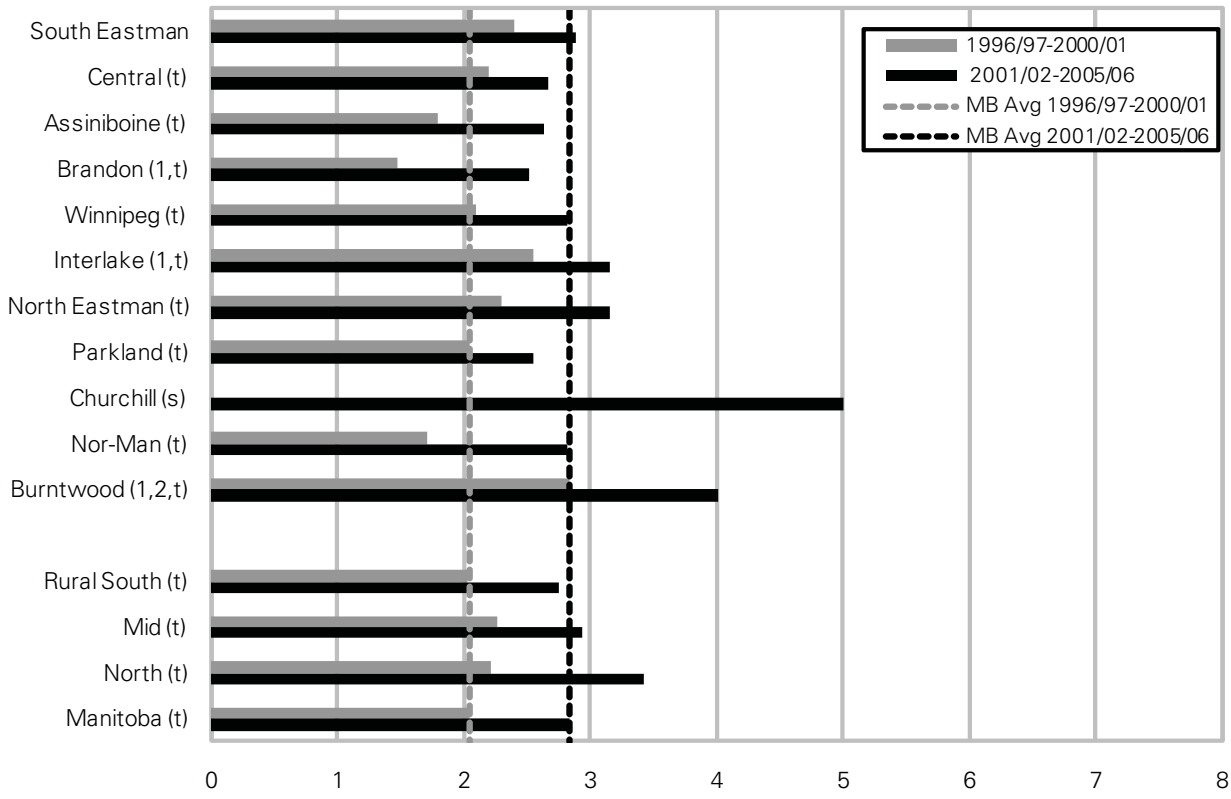
- These results are consistent with those from the 2003 Atlas, though the rates in this report are higher because only residents age 40 or older were included. (Over 96% of hip replacement procedures were performed on residents age 40+.)
- Results from MCHP's 1999 and 2003 Atlases suggest that the hip replacement rate continues to increase over time.
- These Manitoba results are somewhat higher than rates in Ontario, which were reported as 1.15 per 1,000 residents age 20+ (Tu, Pinfold, McColgan, & Laupacis, 2006b). When Manitoba values are re–calculated using the population 20+, the rate is 1.33.
- Annual reports from the Canadian Joint Replacement Registry (CJRR) suggest that Manitoba had the highest rate of hip replacement among all provinces in 2005/06 and has had a higher than average rate for several years. However, not all provinces report all procedures to CJRR, so some caution is needed in interpreting this comparison.

## 8.5 Total Knee Replacement

Definition: The number of total knee replacements performed on area residents age 40 or older, per 1,000 area residents age 40 or older. Knee replacements were defined by ICD–9–CM codes 81.54, 81.55, or CCI code 1.VG.53 in any procedure field in hospital abstracts. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– & sex–adjusted to the Manitoba population 40+ in the first time period.

**Figure 8.5.1: Knee Replacement Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+

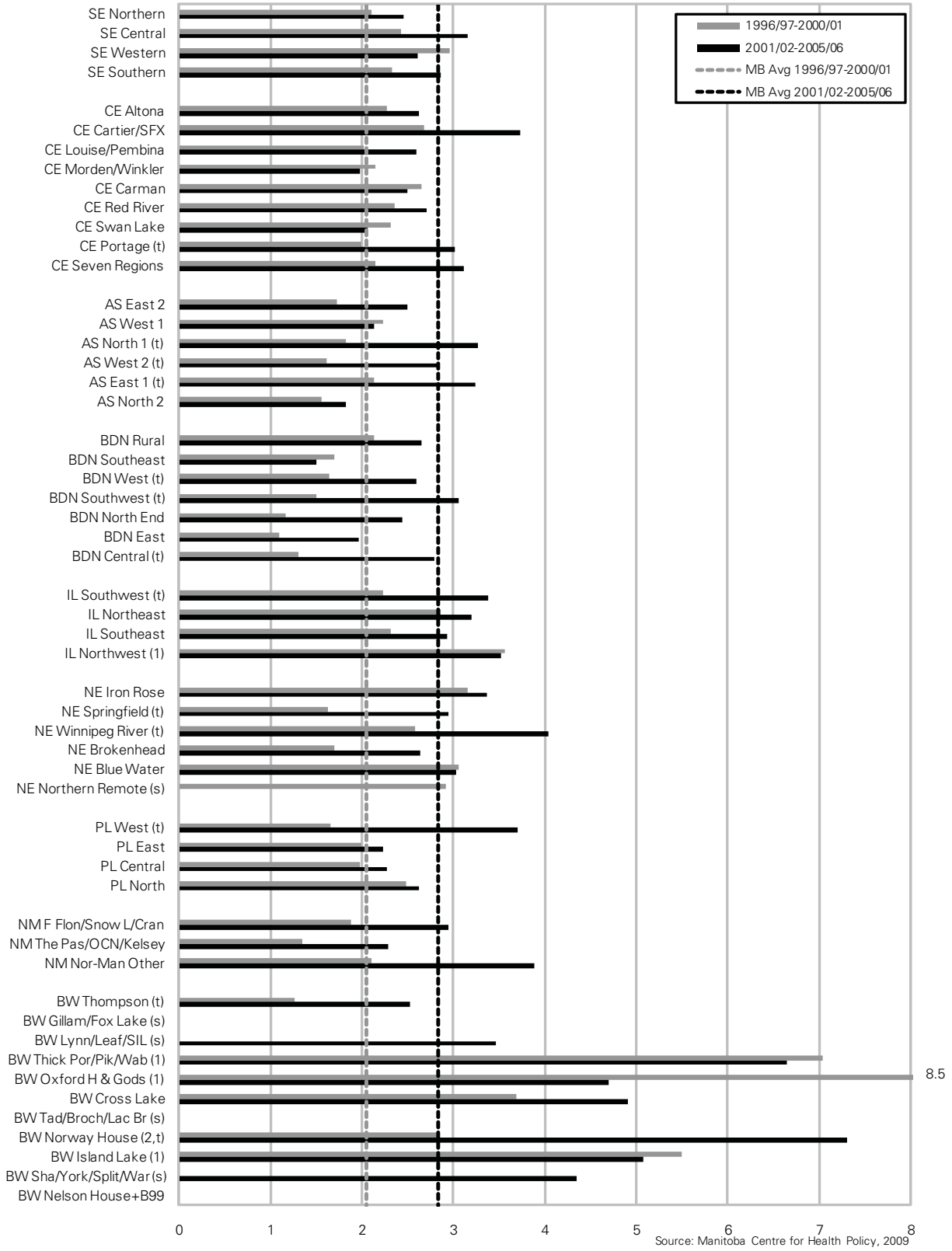



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 8.5.2: Knee Replacement Rates by District

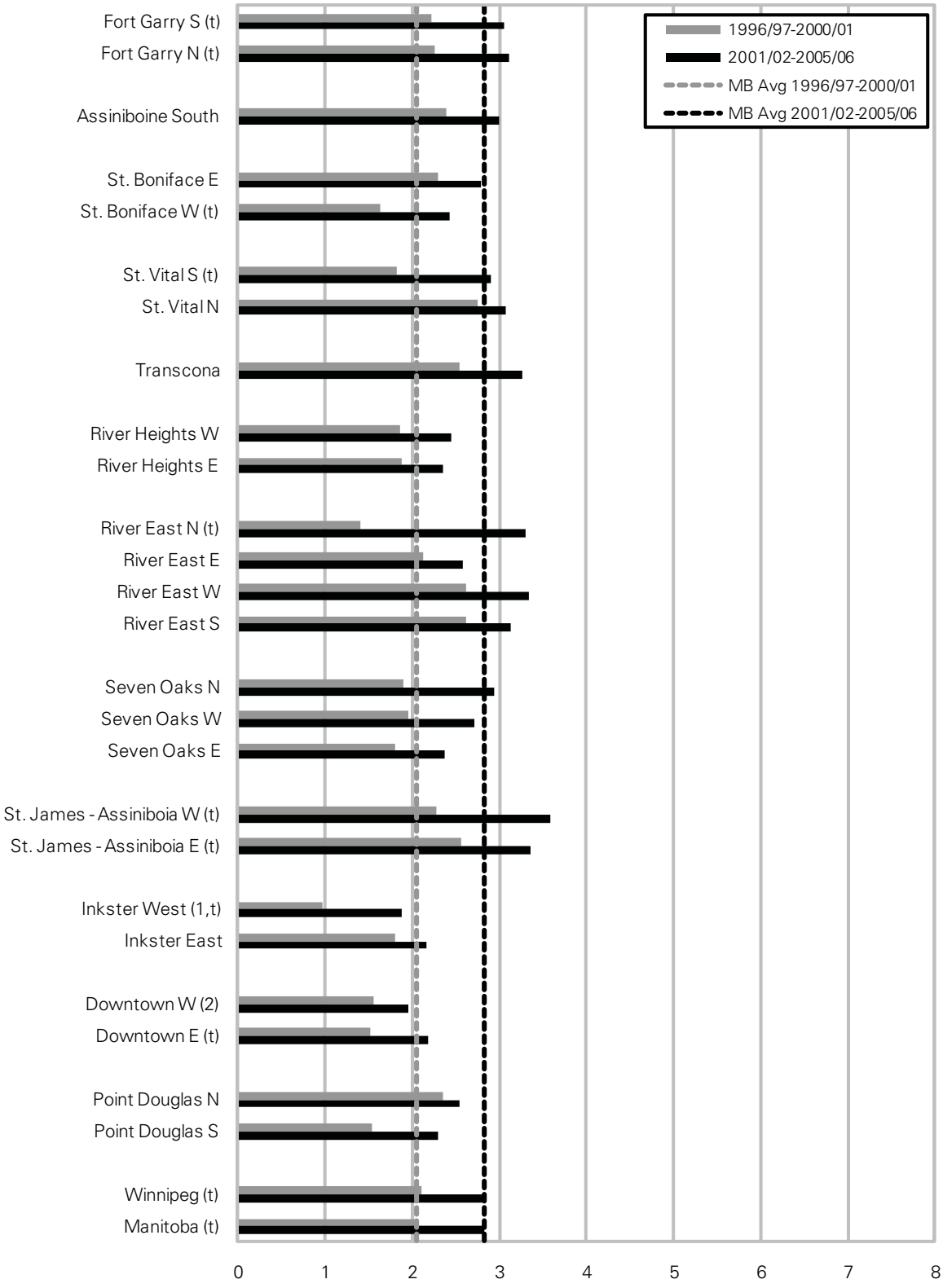
Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

**Figure 8.5.3: Knee Replacement Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates per 1,000 residents aged 40+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Knee replacement rates increased from 2.04 to 2.84 per 1,000 residents age 40 or older per year. Increases were seen in virtually all areas.
- Burntwood RHA had higher than average rates in both periods.
- There appears to be no association between knee replacement rates and health status at the RHA level.
- There was no association between knee replacement rates and income, among urban or rural residents in either time period (Appendix 2).

## Comparison to other findings:

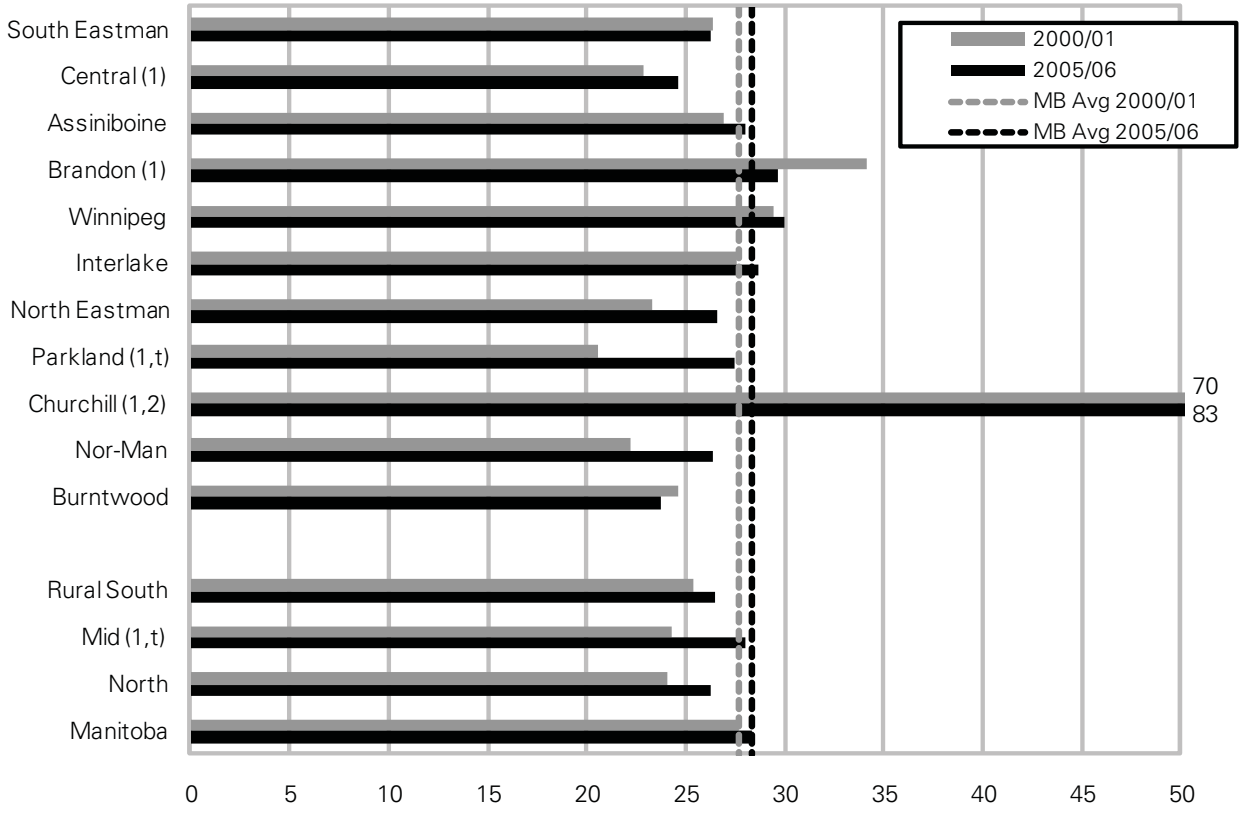
- These results are consistent with those from the 2003 Atlas, though the rates in this report are higher because only residents age 40 or older were included. (Just under 99% of knee replacements were performed on residents age 40+.)
- Results from MCHP's 1999 and 2003 Atlases suggest that the knee replacement rate continues to increase substantially over time.
- These Manitoba results are remarkably similar to rates in Ontario reported as 1.62 per 1,000 residents age 20+ (Tu et al., 2006b). When Manitoba values are re–calculated using the population 20+, the rate is 1.63.
- Annual reports from the Canadian Joint Replacement Registry (CJRR) suggest that Manitoba had the highest rate of knee replacement among all provinces in 2005/06 and has had a higher than average rate for several years. However, not all provinces report all procedures to CJRR, so some caution is needed in interpreting this comparison.

## 8.6 Cataract Surgery

Definition: the number of cataract replacement surgeries performed on area residents age 50 or older, per 1,000 residents age 50 or older. Cataract surgery was defined by a physician claim with tariff codes 5611, 5612 and tariff prefix 2 (surgery), or a hospital separation with ICD–9–CM procedure codes 13.11, 13.19, 13.2, 13.3, 13.41, 13.42, 13.43, 13.51, 13.59, or CCI code 1.CL.89. Additional cataract surgeries for Manitoba residents were added from medical reciprocal claims for out of province procedures, including Alberta (tariff code 27.72) and Saskatchewan (tariff codes 135S, 136S, 226S and 325S). Rates were calculated for 2000/01 and 2005/06 and age– & sex–adjusted to the Manitoba population 50+ in the first time period.

**Figure 8.6.1: Cataract Surgery Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 residents aged 50+

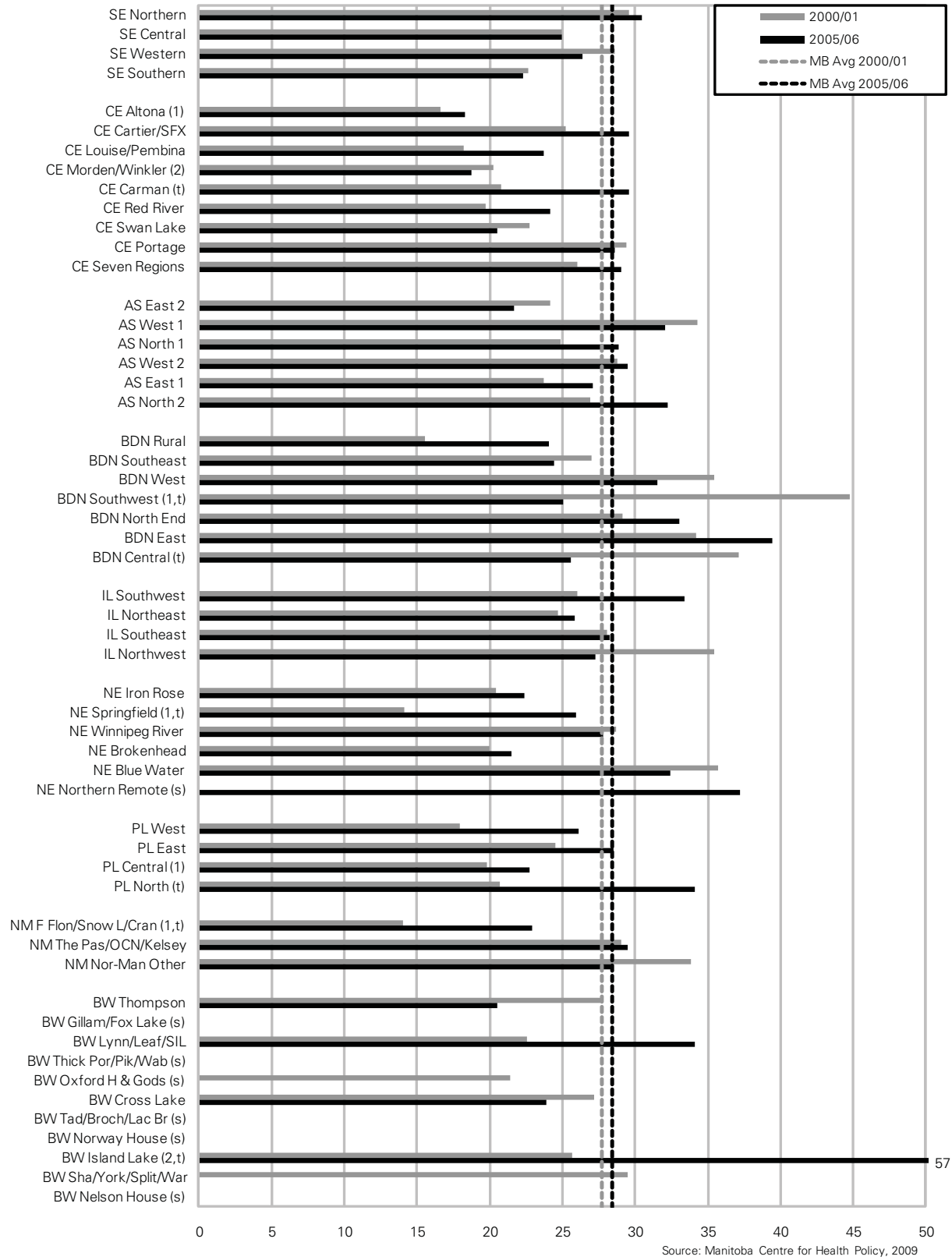



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 8.6.2: Cataract Surgery Rates by District

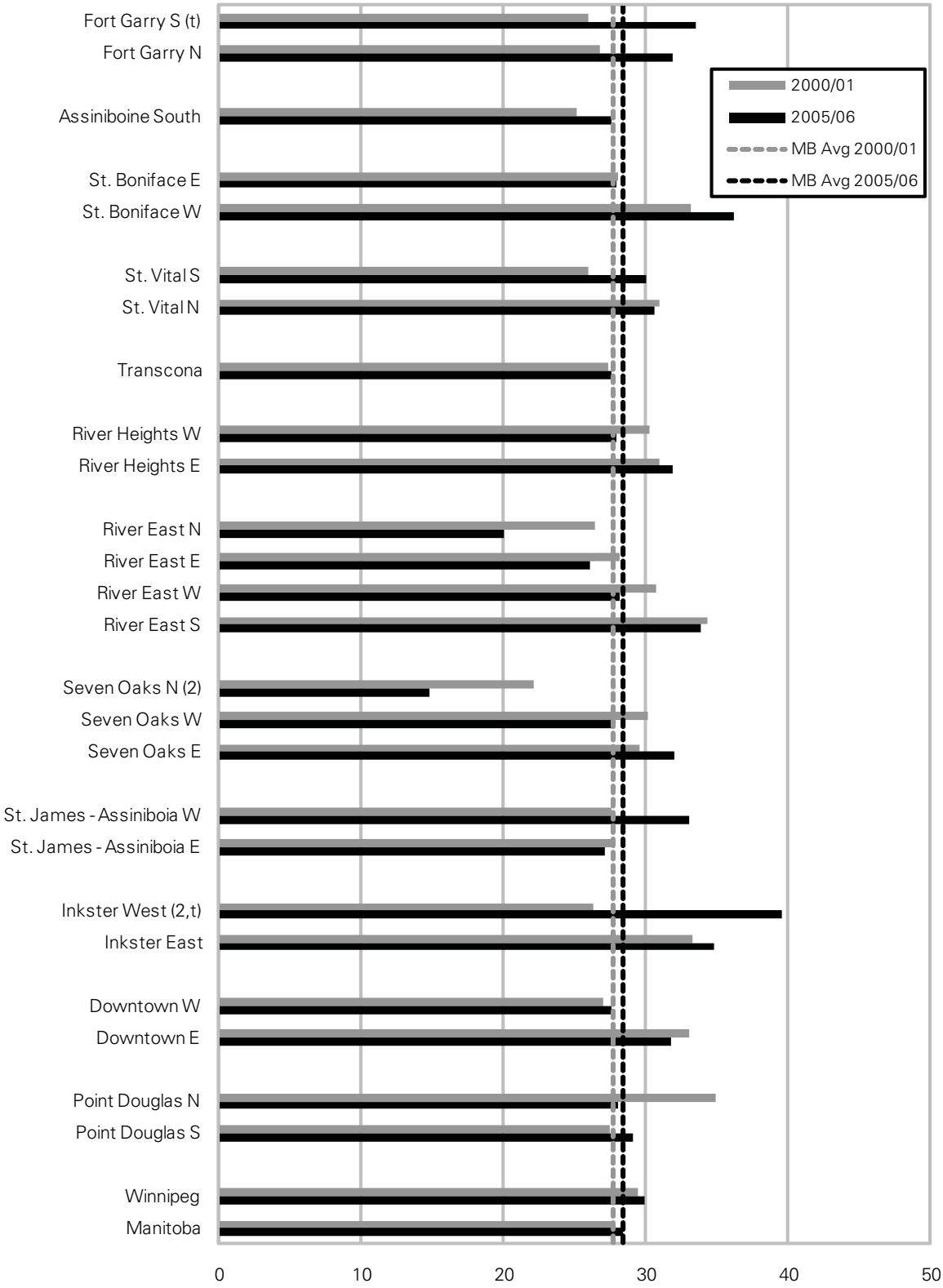
Age- & sex-adjusted annual rates per 1,000 residents aged 50+




Source: Manitoba Centre for Health Policy, 2009

**Figure 8.6.3: Cataract Surgery Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates per 1,000 residents aged 50+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of cataract surgeries was stable in Manitoba: the slight increase from 27.7 to 28.4 surgeries per 1,000 residents age 50 or older was not statistically significant.
- Few RHAs had rates significantly different from the provincial average (despite large numbers which ensure statistical power) reflecting relatively similar surgery rates among residents of all areas.
- There appears to be no association between cataract surgery rates and health status at the RHA or aggregate levels.
- Associations with income were mixed (Appendix 2). In urban areas, residents of lower income areas had higher cataract surgery rates, though this relationship was weaker in the second time period than the first. In rural areas, there was no relationship in either time period.

## Comparison to other findings:

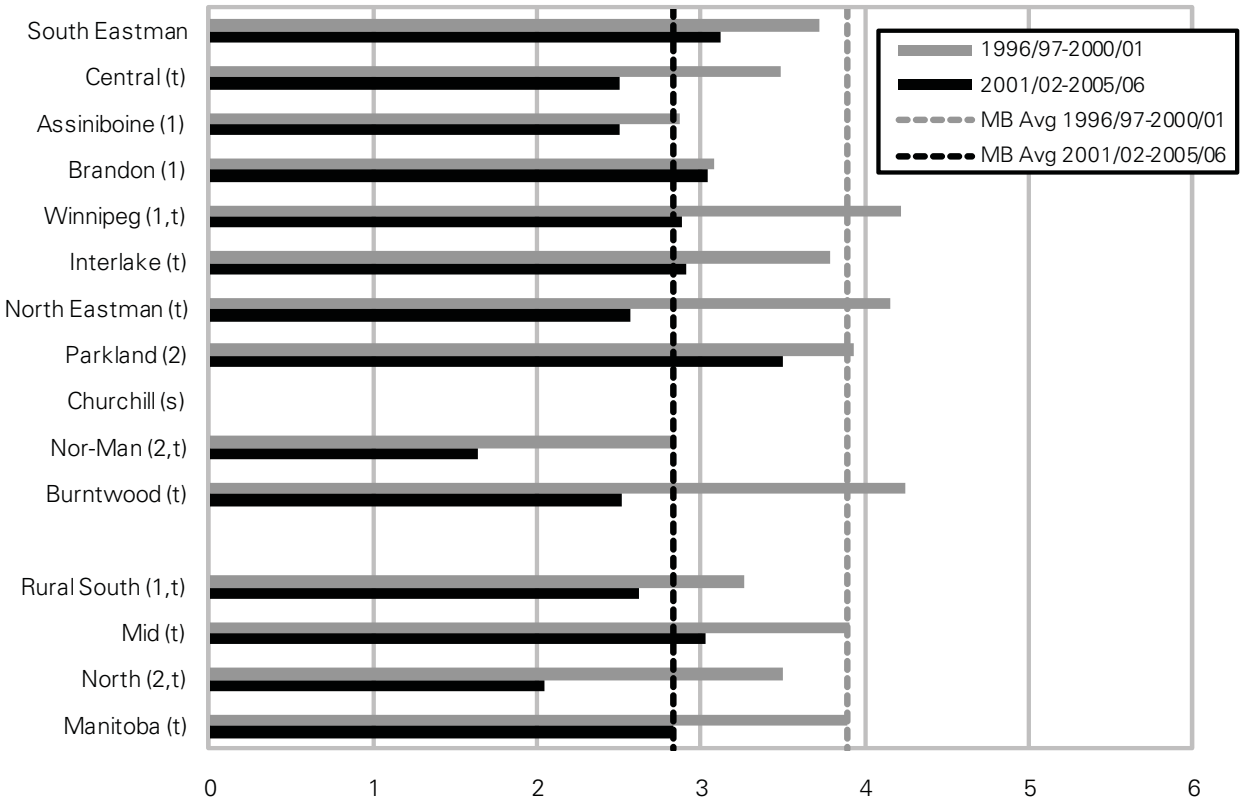
- These results are consistent with those from the 2003 Atlas and suggest the rate of cataract surgery may have stabilized at current levels after years of substantial increases.
- These Manitoba results are remarkably similar to rates in Ontario reported as 11.8 per 1,000 residents age 20+ (Tu et al., 2006b). When Manitoba values are calculated using 20+, the rate is 11.6.

## 8.7 Trans Urethral Resection of the Prostate (TURP)

Definition: the number of TURP surgeries performed on males age 40 or older, per 1,000 males 40 or older. TURP is typically done for benign disease and has been decreasing with recent advances in pharmaceutical treatments. TURP was defined by hospital separations with ICD–9–CM procedure code 60.2 and CCI codes 1.QT.59 and 1.QT.87. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– & sex–adjusted to the male population age 40+ in the first time period.

**Figure 8.7.1: Trans Urethral Resection of the Prostate (TURP) Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 males aged 40+

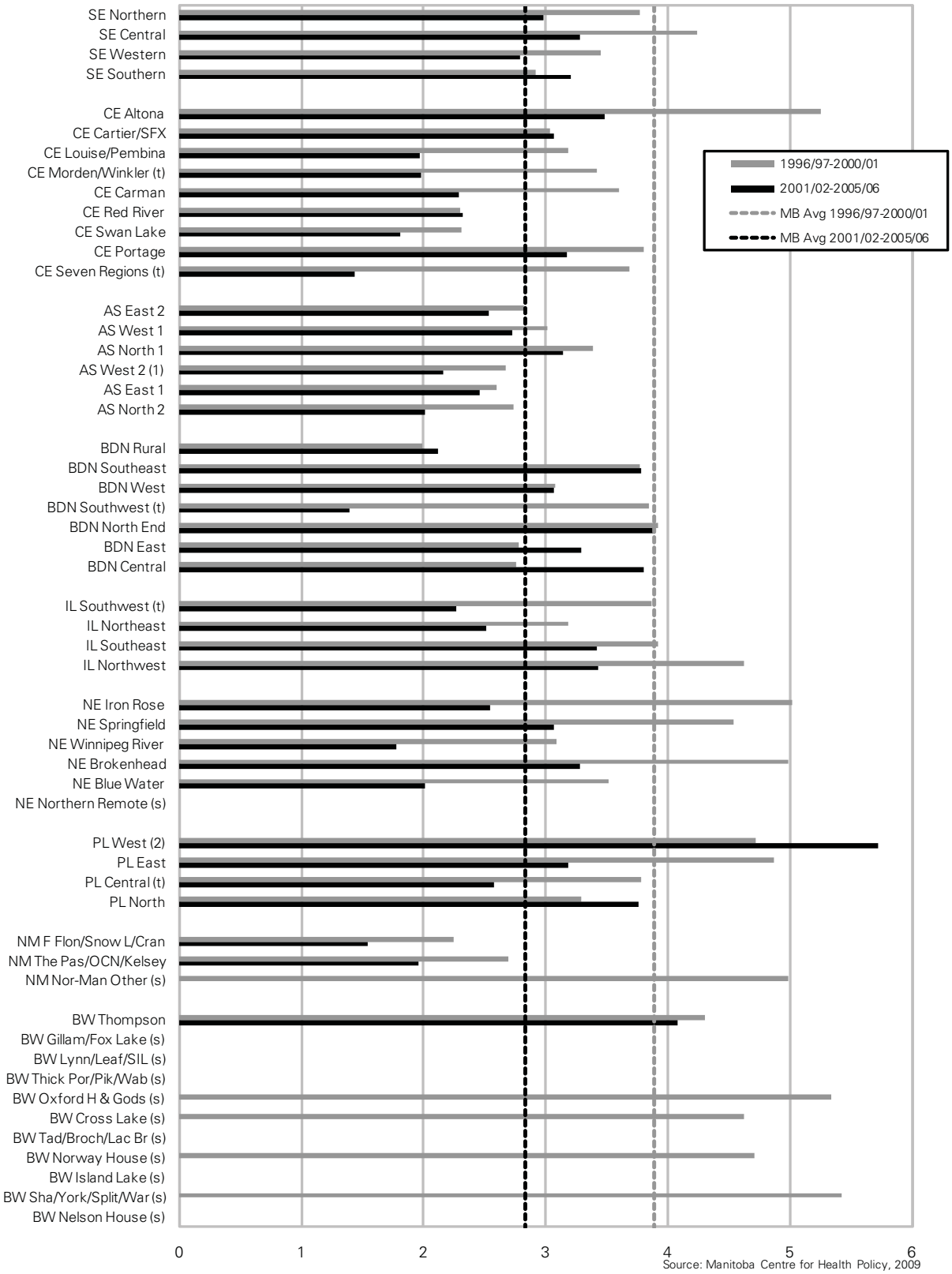



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 8.7.2: Trans Urethral Resection of the Prostate (TURP) Rates by District**

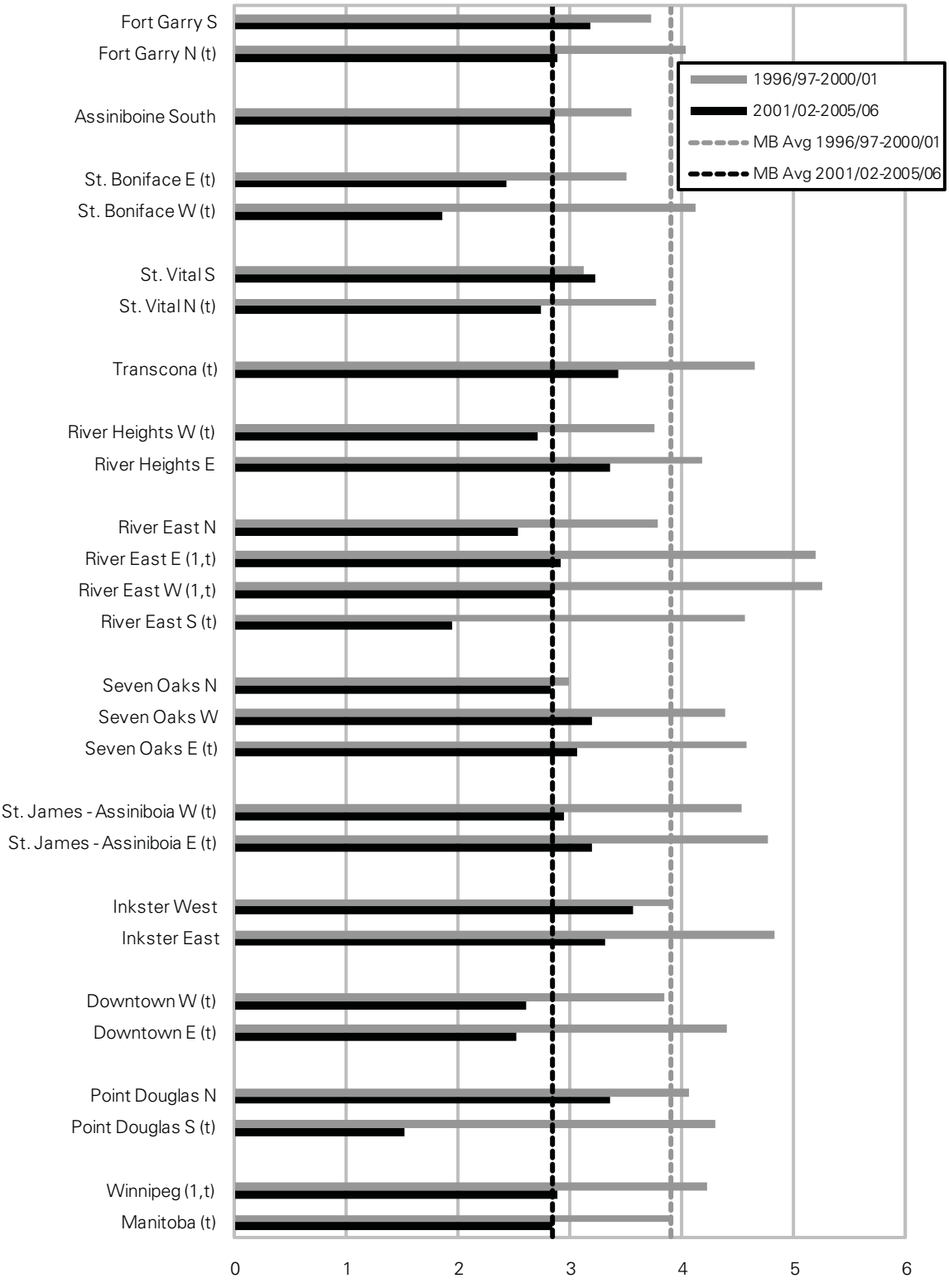
Age- & sex-adjusted annual rates per 1,000 males aged 40+




Source: Manitoba Centre for Health Policy, 2009

**Figure 8.7.3: Trans Urethral Resection of the Prostate (TURP) Rates by Winnipeg Neighbourhood Cluster**

Age- & sex-adjusted annual rates per 1,000 males aged 40+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of TURP surgeries decreased significantly from 3.89 to 2.83 per 1,000 males age 40+. Decreases were seen in almost all areas, though not all were statistically significant.
- Few RHAs had rates significantly different from the provincial average. In Time 1, Assiniboine had lower than average rates, and Winnipeg was higher than average. In Time 2, rates in Parkland were above average; while in NOR–MAN, they were below average.
- There appears to be no association between TURP surgery rates and health status at the RHA or aggregate levels.
- Associations with income were weak (Appendix 2). In urban areas, residents of lower income areas had slightly higher TURP surgery rates, in Time 1 only. In rural areas, there was no relationship in either time period.

## Comparison to other findings:

- This indicator was not included in the 2003 Atlas. However, the results are consistent with, and extend findings from the 1999 Atlas, which showed that TURP surgery rates were decreasing in the early 1990s.
- Dramatic decreases in TURP rates for Canadian males were also shown by Neutel, Gao, Wai, and Gaudette (2005).

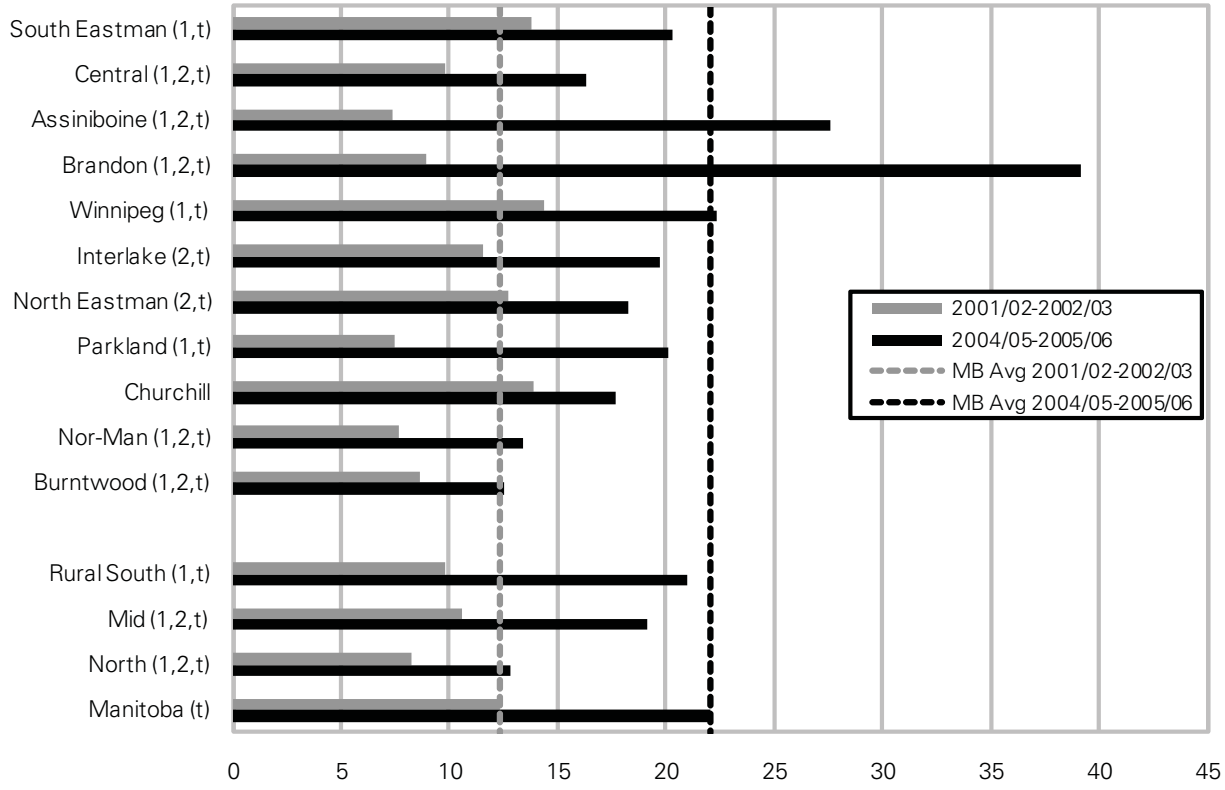
## 8.8 Magnetic Resonance Imaging (MRI) Scan Rates

Definition: The number of MRI scans performed on residents age 20 or older, per 1,000 residents age 20 or older per year. MRI scans were defined by physician claims with tariff codes 7501–7528. See the Introduction of this chapter for explanation of rates. Rates were calculated for two 2–year periods, 2001/02–2002/03 and 2004/05–2005/06, and age– & sex–adjusted to the Manitoba population 20 or older in the first time period.

Note: patients treated in the Children's Hospital in Winnipeg are referred to adjacent Health Sciences Centre for MRI scans. However, individual–level data for these services are not recorded. Therefore, the MRI scan rates in this report include only residents age 20 or older.

**Figure 8.8.1: MRI Scan Rates by RHA**

Age- & sex-adjusted annual rates per 1,000 residents aged 20+

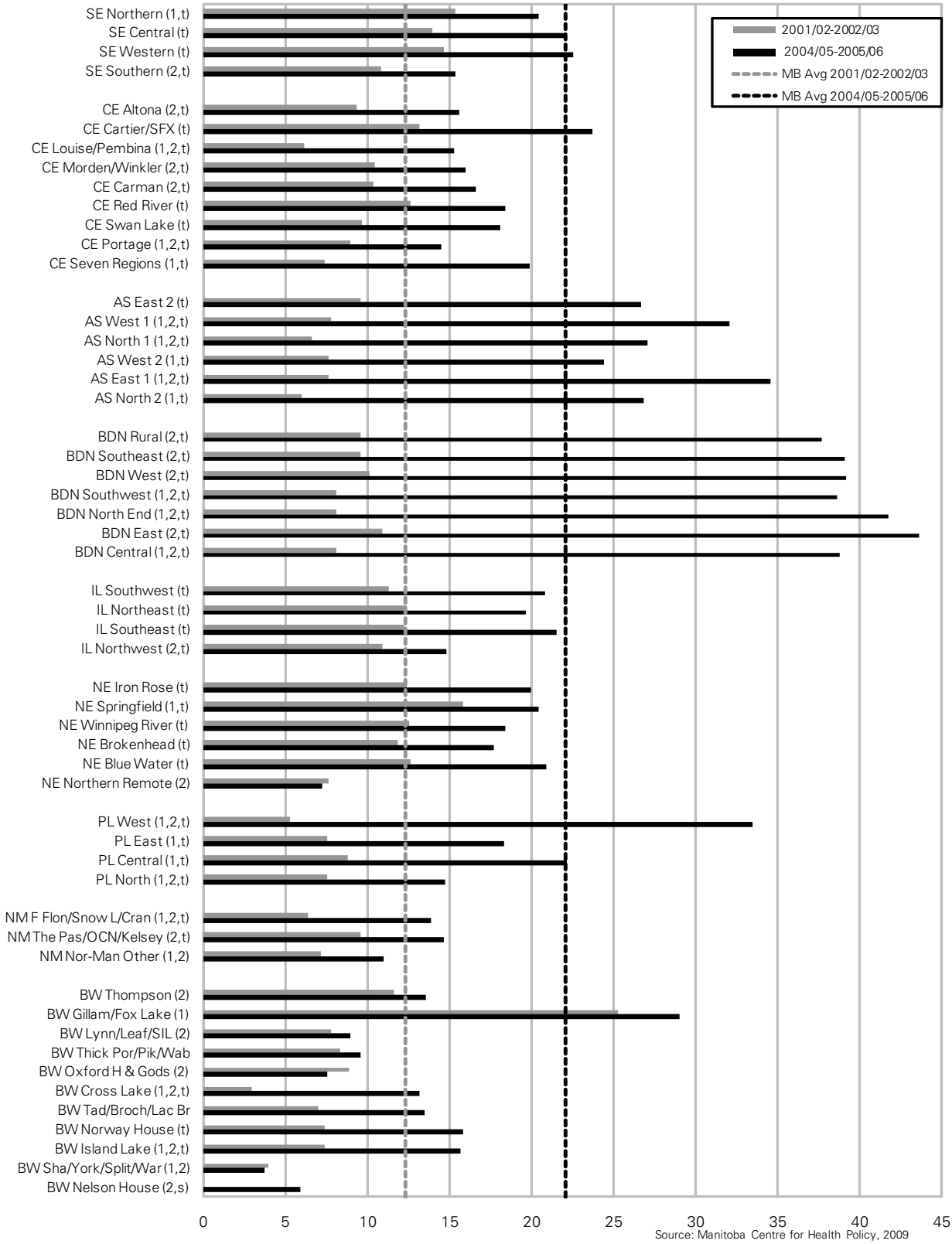



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 8.8.2: MRI Scan Rates by District

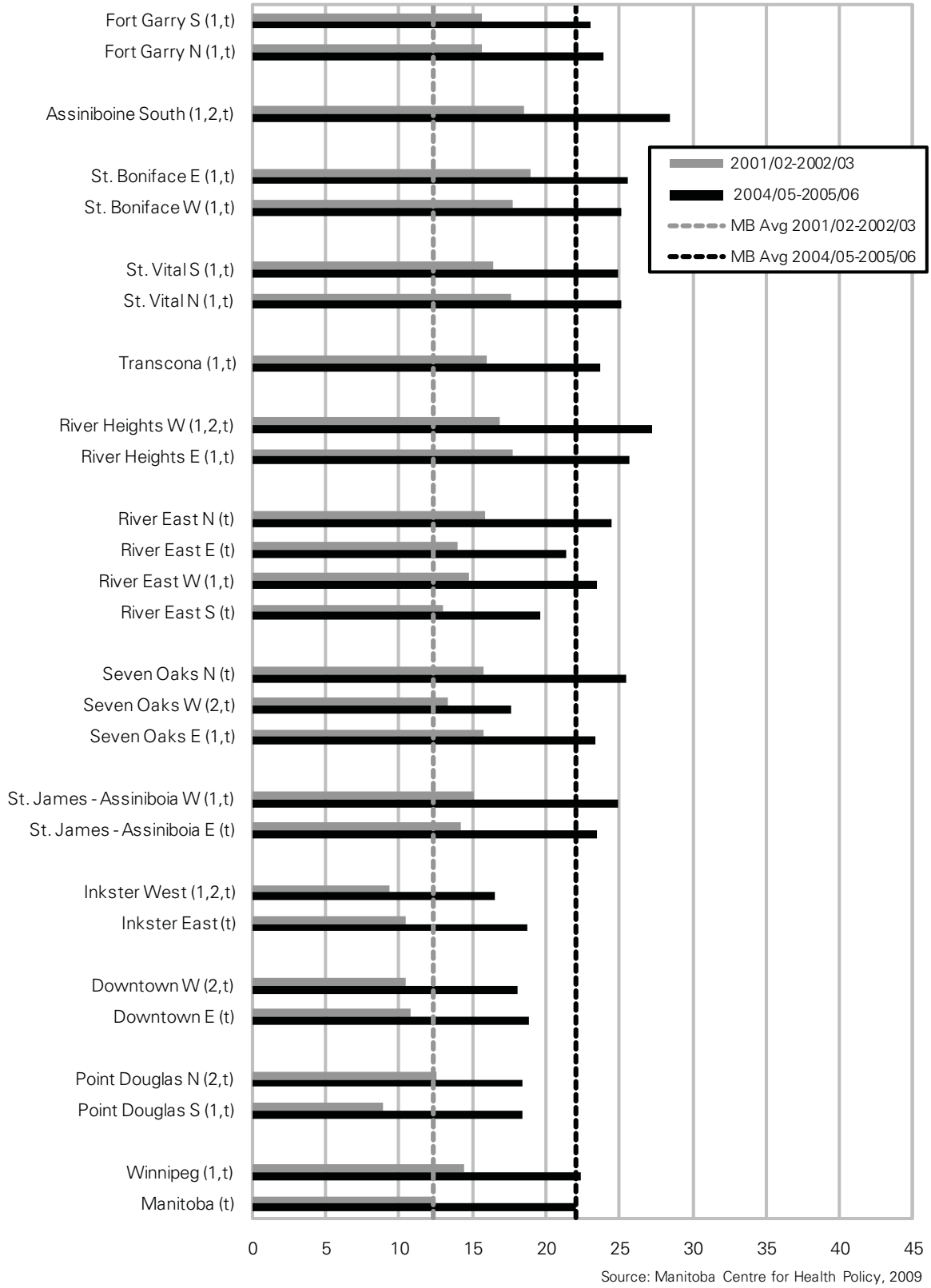
Age- & sex-adjusted annual rates per 1,000 residents aged 20+




Source: Manitoba Centre for Health Policy, 2009

**Figure 8.8.3: MRI Scan Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual rates per 1,000 residents aged 20+




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of MRI scans in Manitoba almost doubled from 12.3 to 22.0 scans per 1,000 residents age 20 or older. Some increase was seen in virtually all areas.
- There were large increases in Brandon and Assiniboine RHAs: in the second time period, the rate for Brandon residents was 4.4 times higher than in the first time period; among Assiniboine residents, it was 3.7 times higher. These increases are likely related to the installation of an MRI scanner in Brandon in 2004.
    - Given that the rates for Brandon and Assiniboine residents were lower than average in Time 1, a significant increase in rates might have been expected. However, the rate for Brandon residents in Time 2 was almost double the provincial average (39.2 vs. 22.0). This finding requires further study to understand variations in scan rates in relation to clinical indications for use of MRI.
- MRI scan rates appear to be inversely associated with health status: rates were lowest in the areas with the highest health status (the North), especially in the second time period.
- There were strong 'negative' associations between MRI scan rates and income in rural and urban areas in both time periods: residents of lower income areas received fewer MRI scans than residents of higher income areas (Appendix 2). This is opposite what might be expected in a universal system, given the poorer health status of residents of lower income areas.

## Comparison to other findings:

- MRI scans were not included in the 2003 Atlas, but were part of a previous MCHP report which focused on the Winnipeg RHA, using data up to 1997/98. Results from that report showed the provincial average was 4.1 scans per 1,000 residents (all ages). Thus it is clear that the MRI scan rate has increased substantially, even though exact rates cannot be directly compared because of changes in data systems and the resulting 20+ age restriction for current data.

# Chapter 9: Use of Home Care Services

## Key findings for Chapter 9

- There was a significant increase in the percentage of residents with new, open, and closed home care cases, and all three indicators were related to health status at the aggregate level but not the RHA level.
    - Assiniboine RHA had lower than average rates for these indicators, which may prompt further research in that RHA.
- The average length of cases remained stable over time and appears to be inversely related to health status at the aggregate level.
- There were higher rates of new and closing cases in urban than rural areas, suggesting a higher turnover rate of home care cases in urban areas.
- For rates of new, open, and closing cases, there was a strong relationship with area–level income in urban areas, but not in rural areas. This may indicate that in urban areas, services are being effectively targeted to high–need clients (presuming area–level income is a reasonable proxy for population–level need for home care). Alternatively, it may suggest that the need for home care is distributed differently within rural income quintiles than within urban income quintiles.

## Introduction

This chapter consists of several indicators of the use of Home Care services by Manitoba residents. The indicators in this chapter are based on information taken from the Manitoba Support Services Payroll (MSSP) database, which includes persons registered as home care clients.

The Manitoba Home Care Program, established in 1974, is the oldest comprehensive, province–wide, universal home care program in Canada. Home Care is provided to Manitobans of all ages assessed as having inadequate informal resources to return home from hospital or to remain in the community. Home care services are provided without direct charges to the recipient. Assessments at pre–determined intervals are the basis for decisions by case managers to change the type or amount of services delivered or to discharge clients from the program.

The Home Care indicators included in this chapter have all been age– and sex–adjusted to enable a fair comparison of rates across areas that have different age and sex compositions. Rates are also presented for two different time periods to provide some sense of change over time. Taken together, these indicators provide important information about use of Home Care services in Manitoba. The number of new and closing Home Care cases, as well as the average length of cases, affects the number of open cases.

Unlike most other indicators in this report, the second time period for the Home Care indicators is 2004/05 (not 2005/06). This is because the Winnipeg Regional Health Authority was in the process of changing over from the MSSP system to a new data system during this time, so not all clients were entered into the MSSP system.

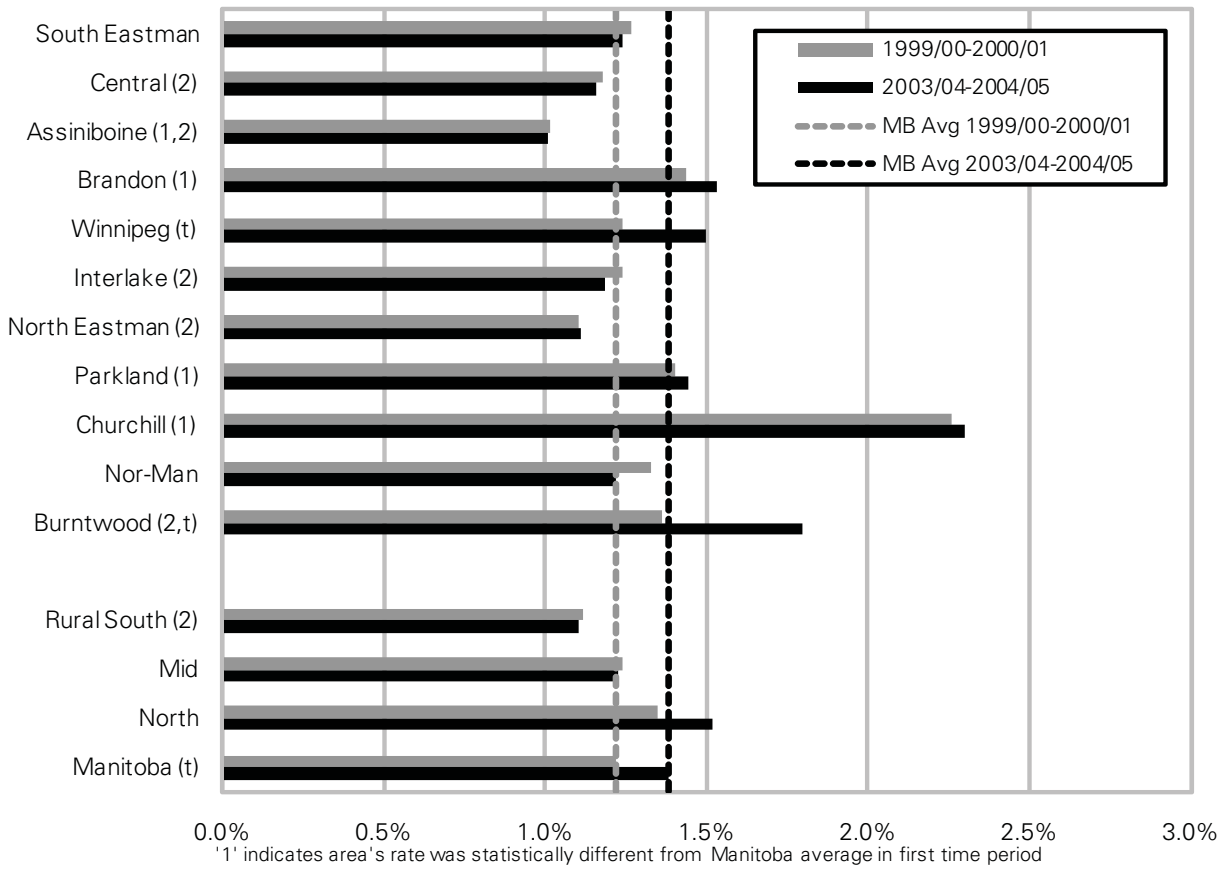
There has been an increasing effort to delay admission to personal care homes by providing adequate home care services. This not only improves the quality of life of people who want to stay in the community as long as possible, it is also less costly than institutional care.

## 9.1 New Home Care Cases (Incidence)

Definition: The percentage of the population (all ages) with a new home care case opened in a year (values shown are the annual average for a two–year period). Some home care clients had more than one case in a year, but were only counted once for this indicator. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 9.1.1: New Home Care Cases by RHA**

Age- & sex-adjusted annual percent of residents with a new home care case

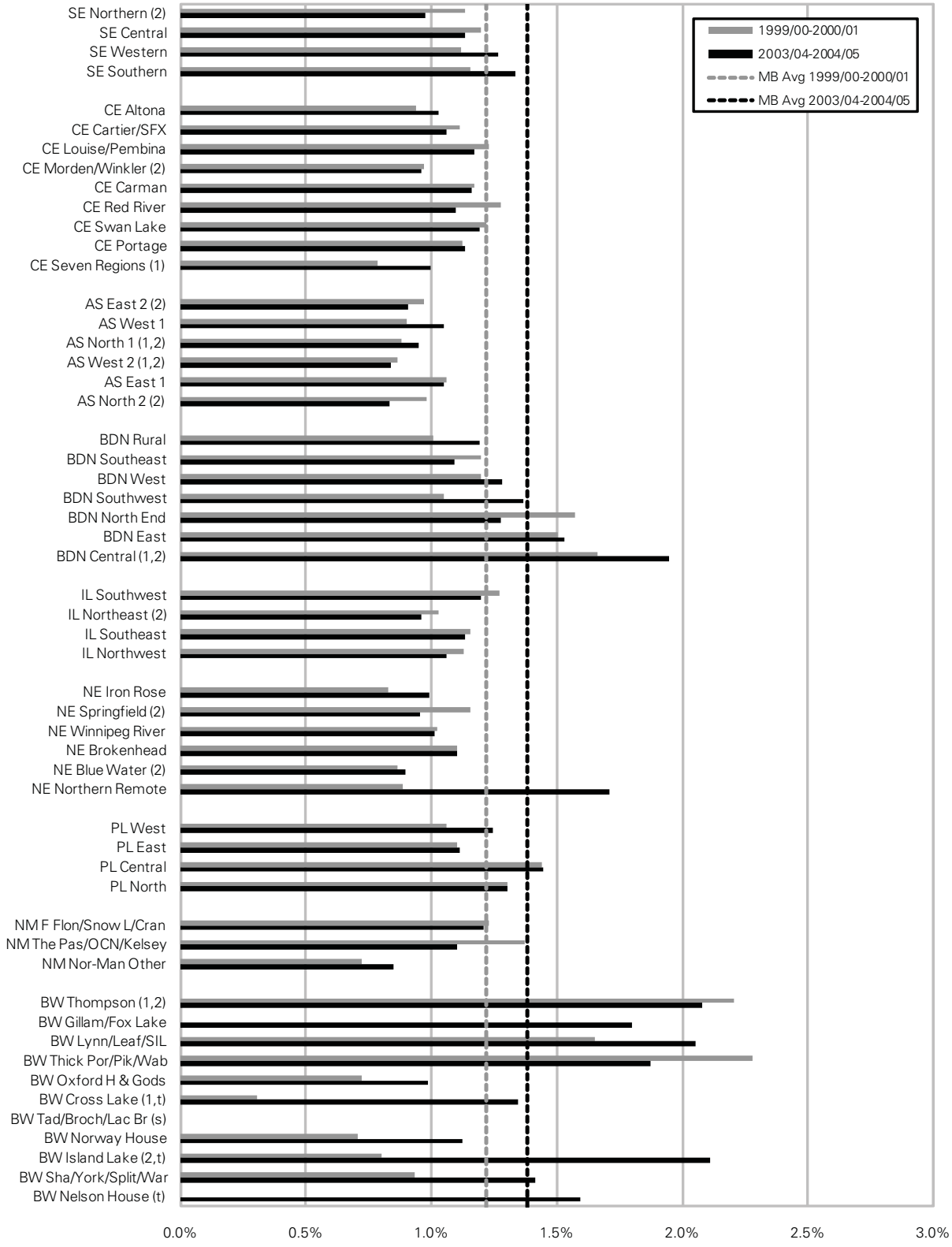



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 9.1.2: New Home Care Cases by District

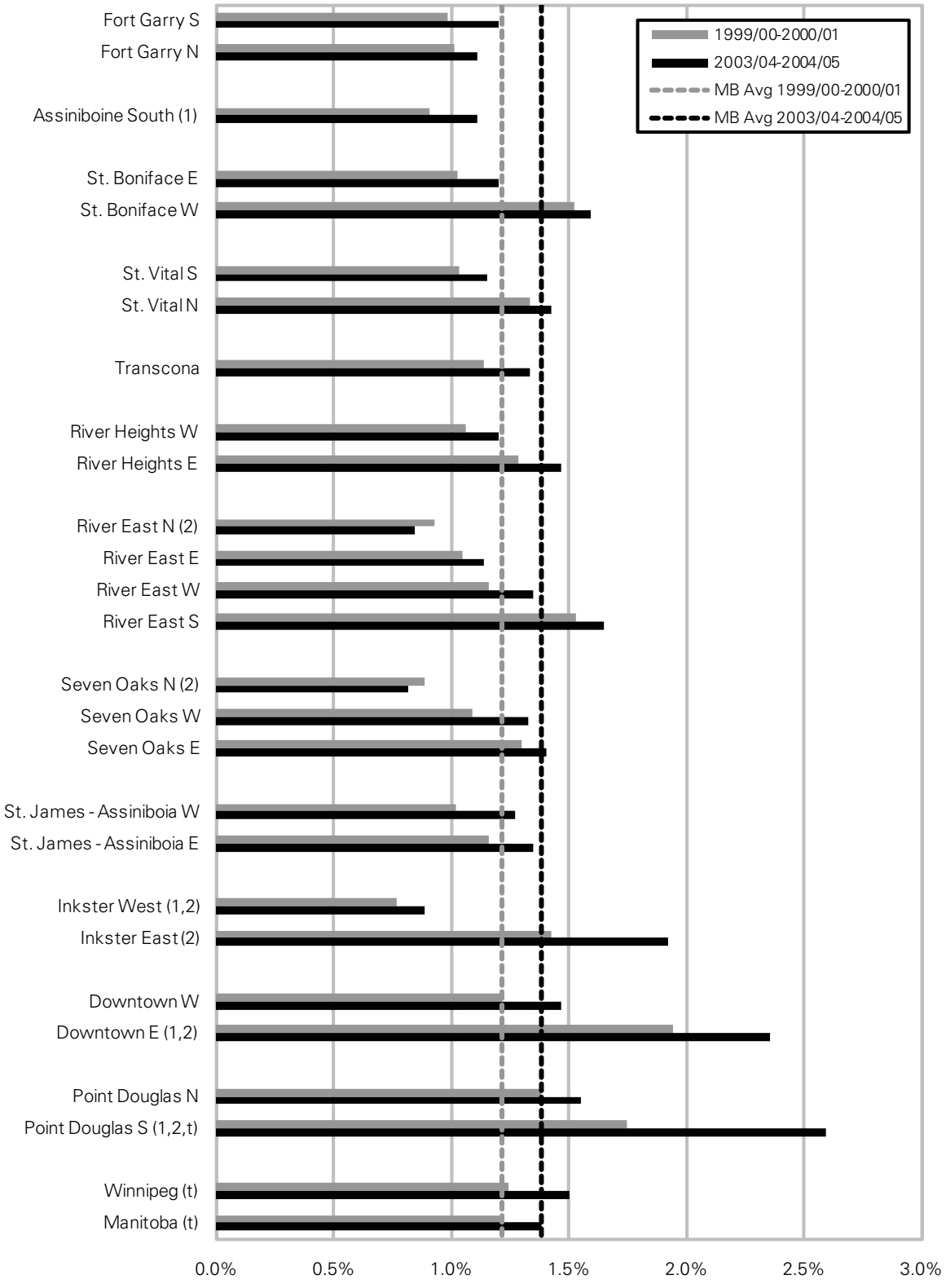
Age- & sex-adjusted annual percent of residents with a new home care case




Source: Manitoba Centre for Health Policy, 2009

**Figure 9.1.3: New Home Care Cases by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual percent of residents with a new home care case




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, there was an increase in the percentage of the population with a new home care case from 1.22% to 1.38%. (Older residents are more likely than younger residents to receive home care: 10.0% of those age 75+ had new cases opened in 2003/04–2004/05.)
    - This increase appears to have been strongly affected by the significant increase in Winnipeg (from 1.24% to 1.5%), as changes in most other RHAs were relatively small (none reached statistical significance except Burntwood).
- Rates in Assiniboine RHA were lower than the Manitoba average in both time periods.
- The percentage of population with new cases appears to be related to health status at the aggregate level, but not the RHA level. A higher proportion of residents of the North had new cases opened, followed by Mid, then Rural South.
    - Among Winnipeg NCs (Figure 9.1.3), service provision appears to be strongly related to population health status. Higher proportions of residents in less healthy areas had new cases opened: Inkster East, Downtown East and Point Douglas South had particularly high rates, whereas River East North and Seven Oaks North had low rates.
- In urban areas, there was a strong negative relationship between new home care cases and area–level income: a higher proportion of residents in lower income areas had new home care cases opened. There was no relationship in rural areas (see Appendix 2).

## Comparison to other findings:

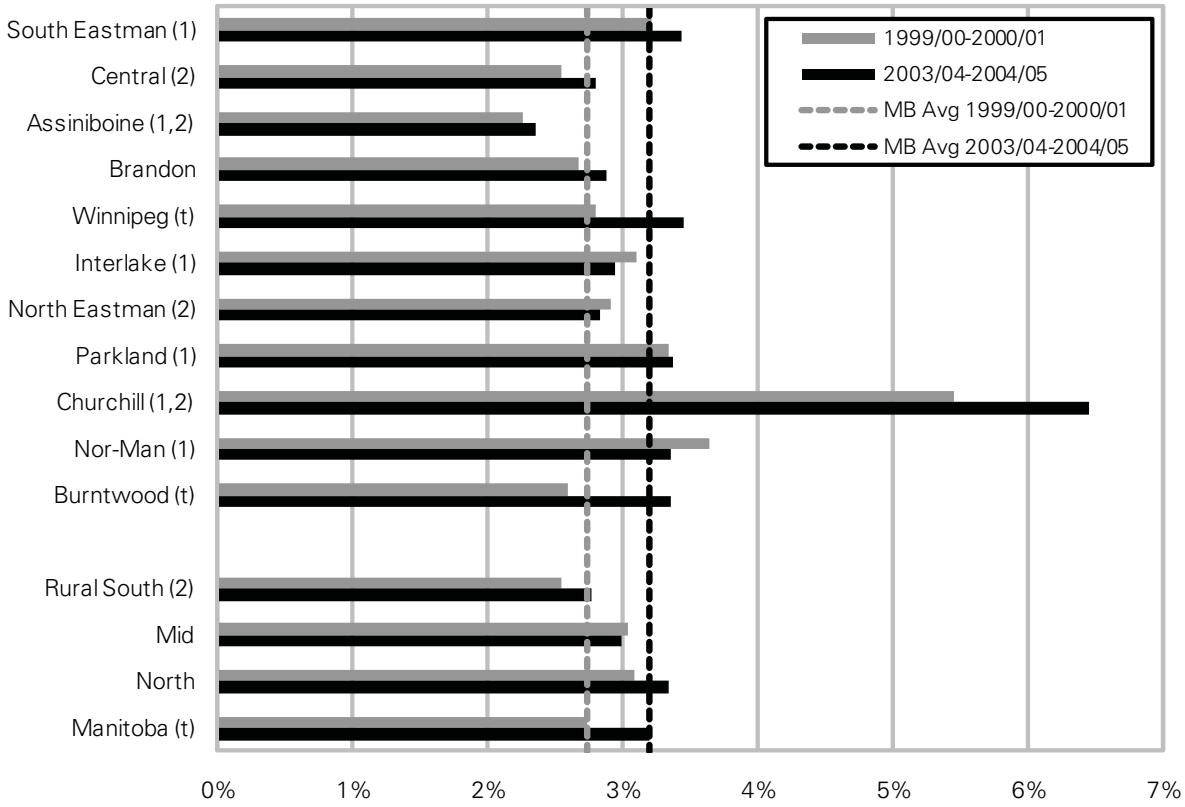
- This increasing trend in the number of new home care cases is consistent with and extends previous research on home care use in Manitoba. The 2003 Atlas also showed a significant increase in the number of new home care cases. (Note: this report used a slightly different method for calculating the values, resulting in different numbers).

## 9.2 Open Home Care Cases (Prevalence)

Definition: The percentage of the population (all ages) with an open home care case in a year (values shown are the annual average for a two–year period). Some home care clients had more than one case in a year, but were only counted once for this indicator. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 9.2.1: Open Home Care Cases by RHA**

Age- & sex-adjusted annual percent of residents with an open home care case

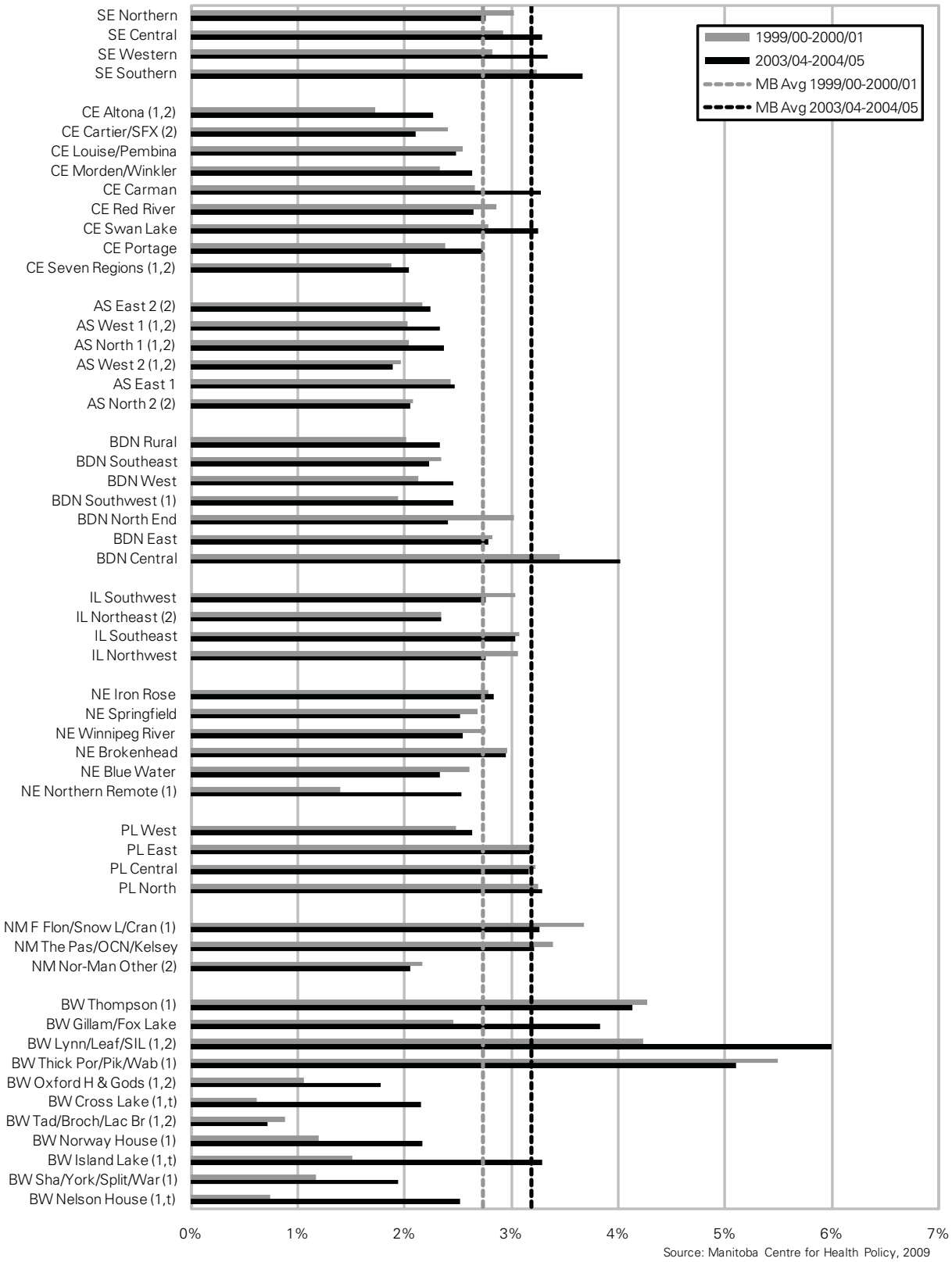



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 9.2.2: Open Home Care Cases by District

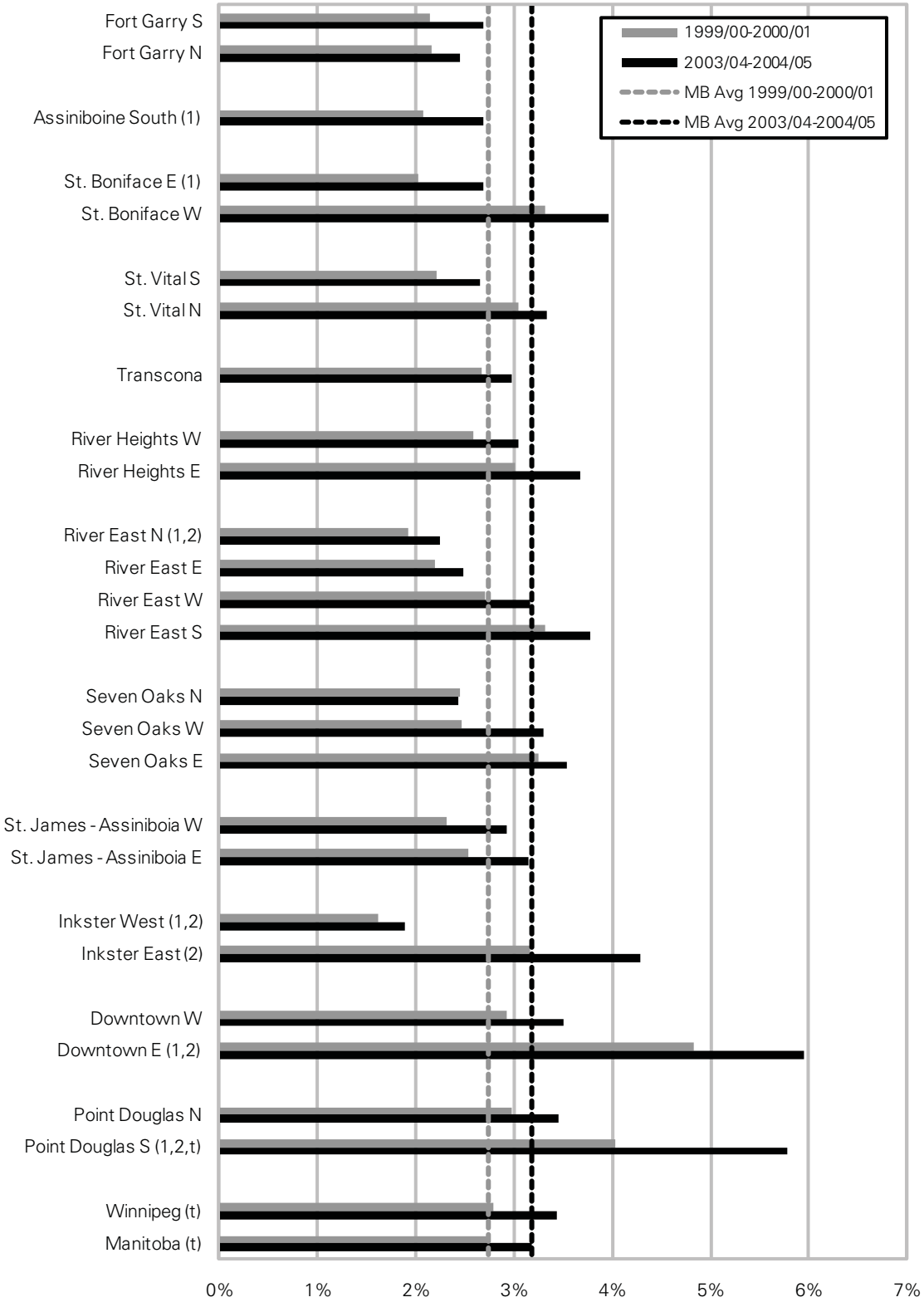
Age- & sex-adjusted annual percent of residents with an open home care case




Source: Manitoba Centre for Health Policy, 2009

**Figure 9.2.3: Open Home Care Cases by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual percent of residents with an open home care case




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, there was an increase in the percentage of the population with an open home care case from 2.73% to 3.16% of all residents. (Older residents are more likely than younger residents to receive home care: 26.4% of those age 75+ had open cases in 2003/04–2004/05.)
    - This increase appears to have been strongly affected by the significant increase in Winnipeg (from 2.79% to 3.44%), as changes in most other RHAs were relatively small (none reached statistical significance except Burntwood).
- Rates in Assiniboine RHA were lower than the Manitoba average in both time periods, whereas those in Churchill were higher.
- There appears to be a relationship between open Home Care cases and health status at the aggregate level, but not the RHA level. There were higher percentages in the North than Mid areas, which were, in turn, higher than those in the Rural South.
- Among Winnipeg NCs (Figure 9.2.3), service provision appears to be strongly related to health status: a higher percentage of residents in less healthy areas had open home care cases.
- In urban areas, there was a strong relationship between open home care cases and area–level income: a higher percentage of residents of low–income areas had open home care cases. There was no relationship in rural areas (see Appendix 2).

## Comparison to other findings:

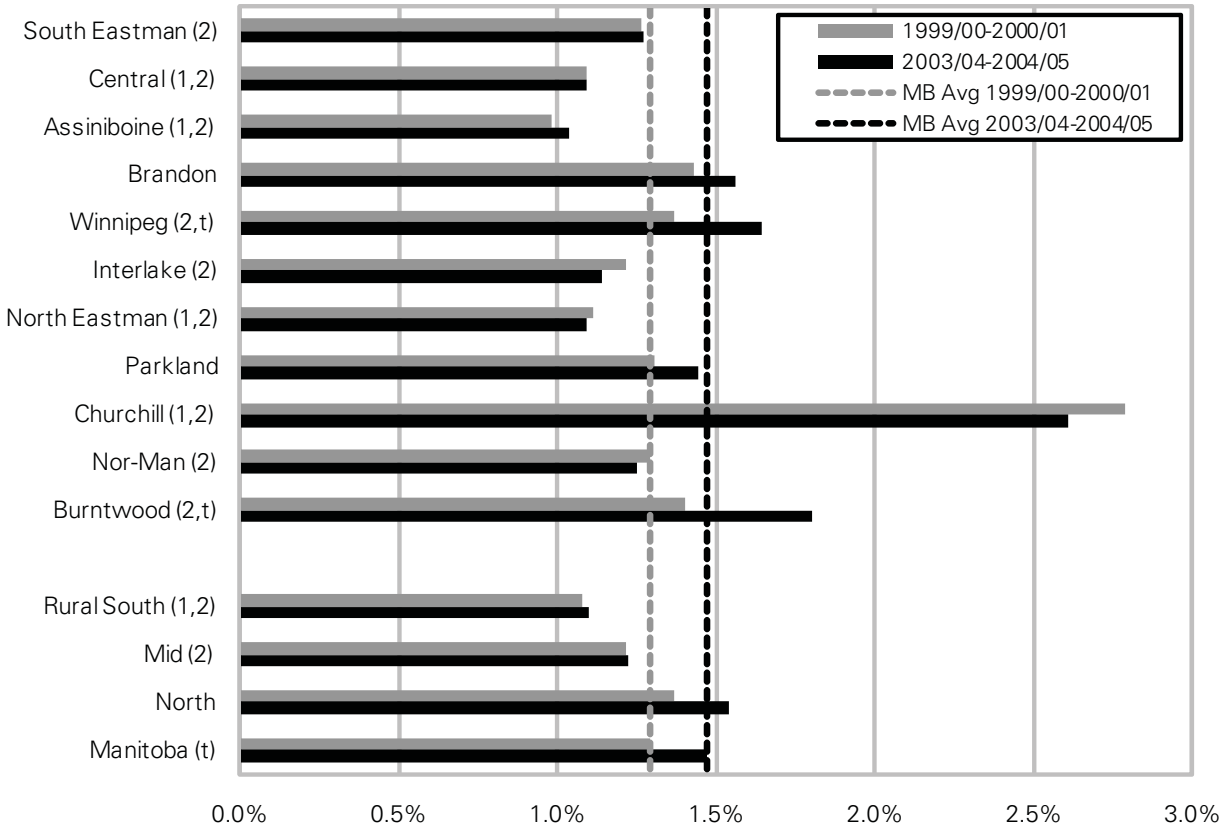
- The increasing trend in the percentage of residents receiving home care is consistent with and extends previous MCHP reports. The 2003 Atlas also showed a significant increase in the number of new home care cases. (Note: this report used a slightly different method for calculating the values, resulting in different numbers). The results are also consistent with the 2005 Sex Differences Report.
- These findings are also similar to those in a 2007 report by the Canadian Institute for Health Information (CIHI): 2.39% of people were using government subsidized home care in 1994/95. This increased to 2.61% in 2003/04.

## 9.3 Home Care Case Closings

Definition: The percentage of the population (all ages) with a home care case which closed during the year (values shown are the annual average for a two–year period). Some home care clients had more than one case in a year, but were only counted once for this indicator. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 9.3.1: Home Care Case Closing Rates by RHA**

Age- & sex-adjusted annual percent of residents with a closed home care case

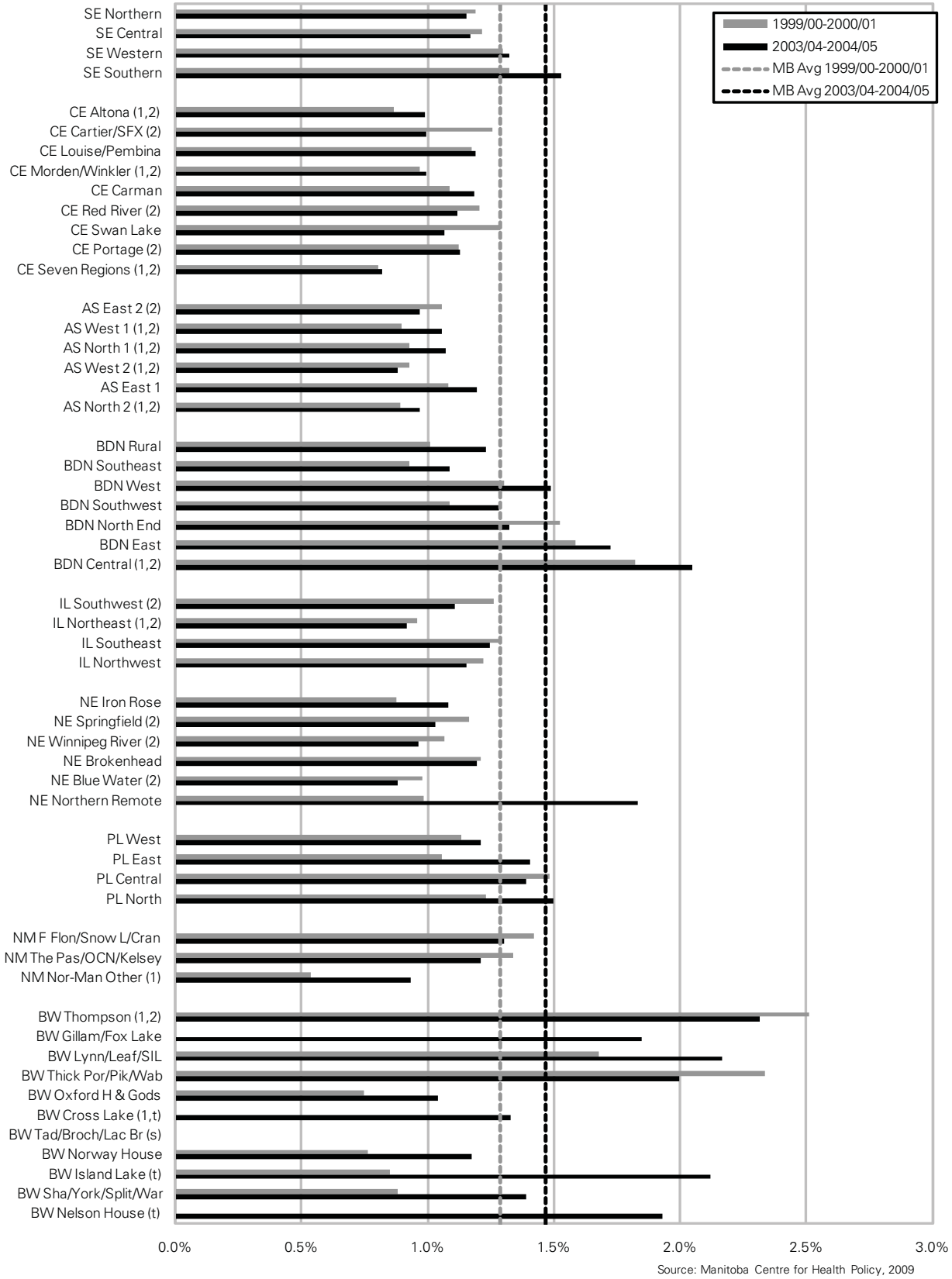



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 9.3.2: Home Care Case Closing Rates by District

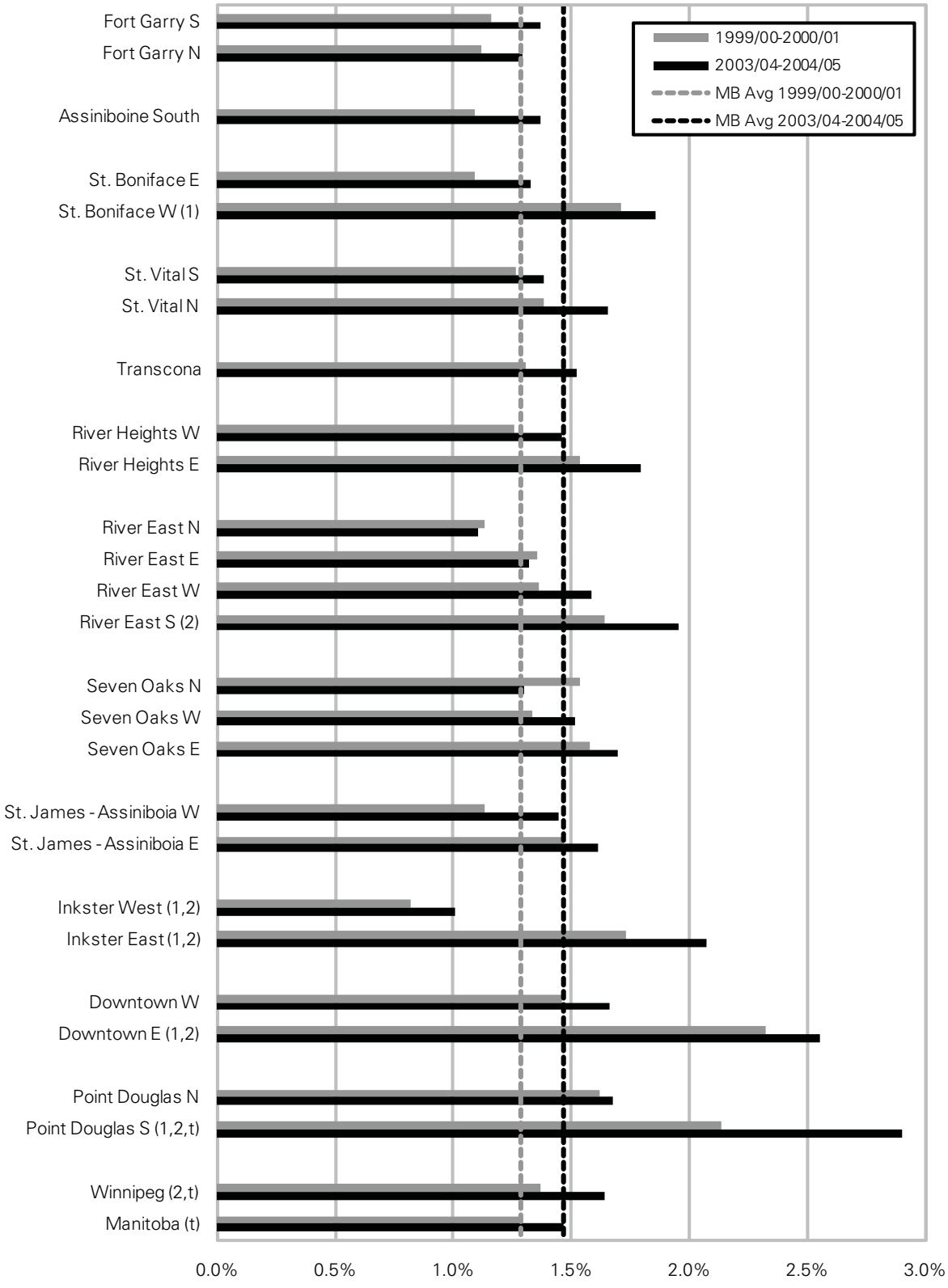
Age- & sex-adjusted annual percent of residents with a closed home care case




Source: Manitoba Centre for Health Policy, 2009

**Figure 9.3.3: Home Care Case Closing Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual percent of residents with a closed home care case




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, there was an increase in the proportion of the population with a home care case closed in a year from 1.29% to 1.47% of all residents. (Older residents are more likely than younger residents to receive home care: 11.6% of those age 75+ had cases close in 2003/04–2004/05.)
    - This increase appears to have been strongly affected by the significant increase in Winnipeg (from 1.37% to 1.64%), as changes in other RHAs were relatively small (none reached statistical significance except Burntwood).
- Rates in Assiniboine, Central, and North Eastman RHAs were lower than the Manitoba average in both time periods, whereas those in Churchill were higher.
- There appears to be a relationship between case closing rates and health status at the aggregate level but not the RHA level: percentages of residents with closed cases were lowest in the Rural south, higher in Mid areas, and highest in the North.
    - Among Winnipeg NCs (Figure 9.3.3), service provision appears to be strongly related to health status: a higher percentage of residents of lower income areas had home care cases closed.
- In urban areas, there was a strong relationship between closing home care cases and area–level income: a higher percentage of residents of low–income areas had closing home care cases. There was no relationship in rural areas (see Appendix 2).

## Comparison to other findings:

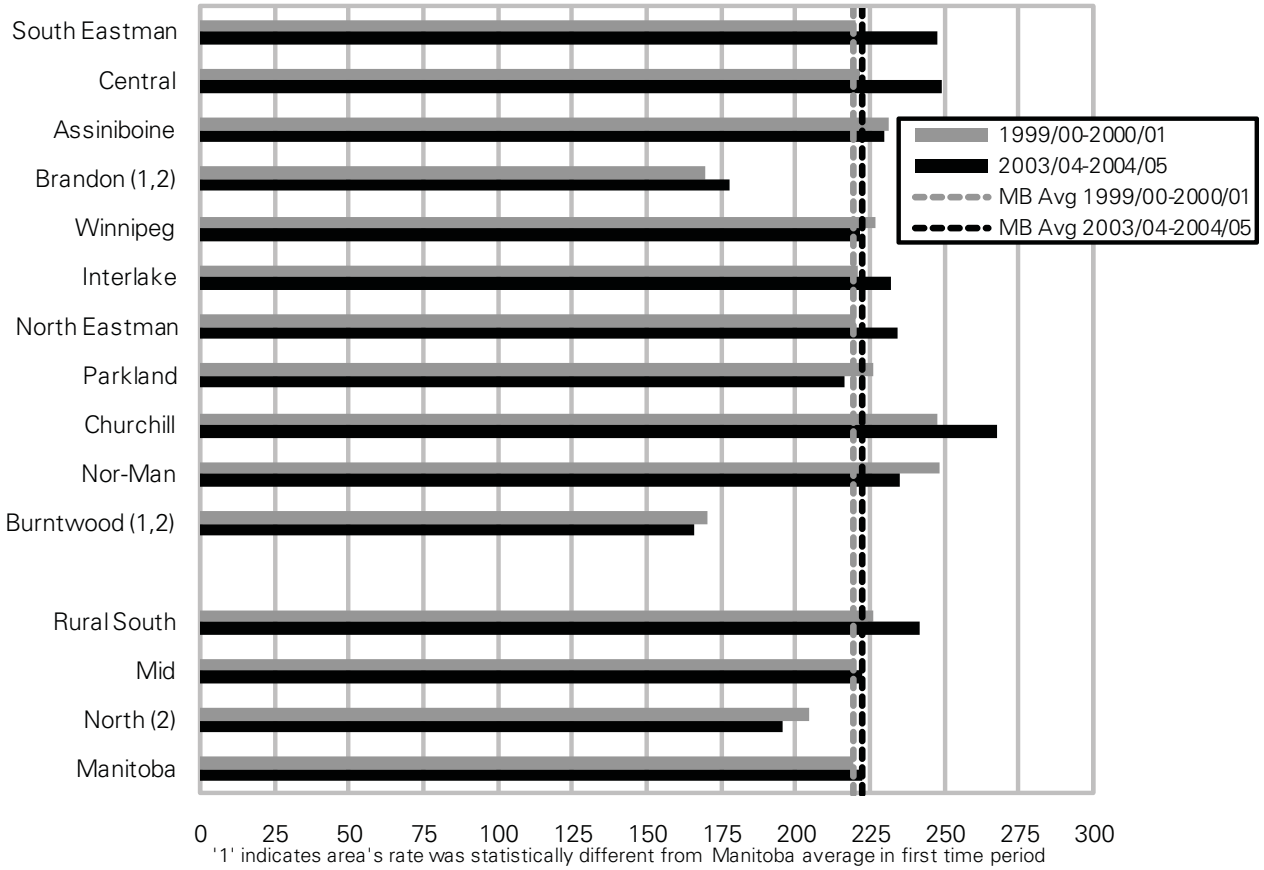
- These results are consistent with and extend those shown in previous MCHP reports. The 2003 Atlas also showed an increase in home care case closing rates over time. (Note: this report used a slightly different method for calculating the values, resulting in different numbers).

## 9.4 Average Length of Home Care Cases

Definition: The average length (in days) of all home care cases open in a two–year period. A home care client may have more than one case in a period, and each would be counted as a separate case with a separate length. See glossary for further details. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

**Figure 9.4.1: Average Length of Home Care Cases by RHA**

Age- & sex-adjusted annual mean length of home care cases (days) per case

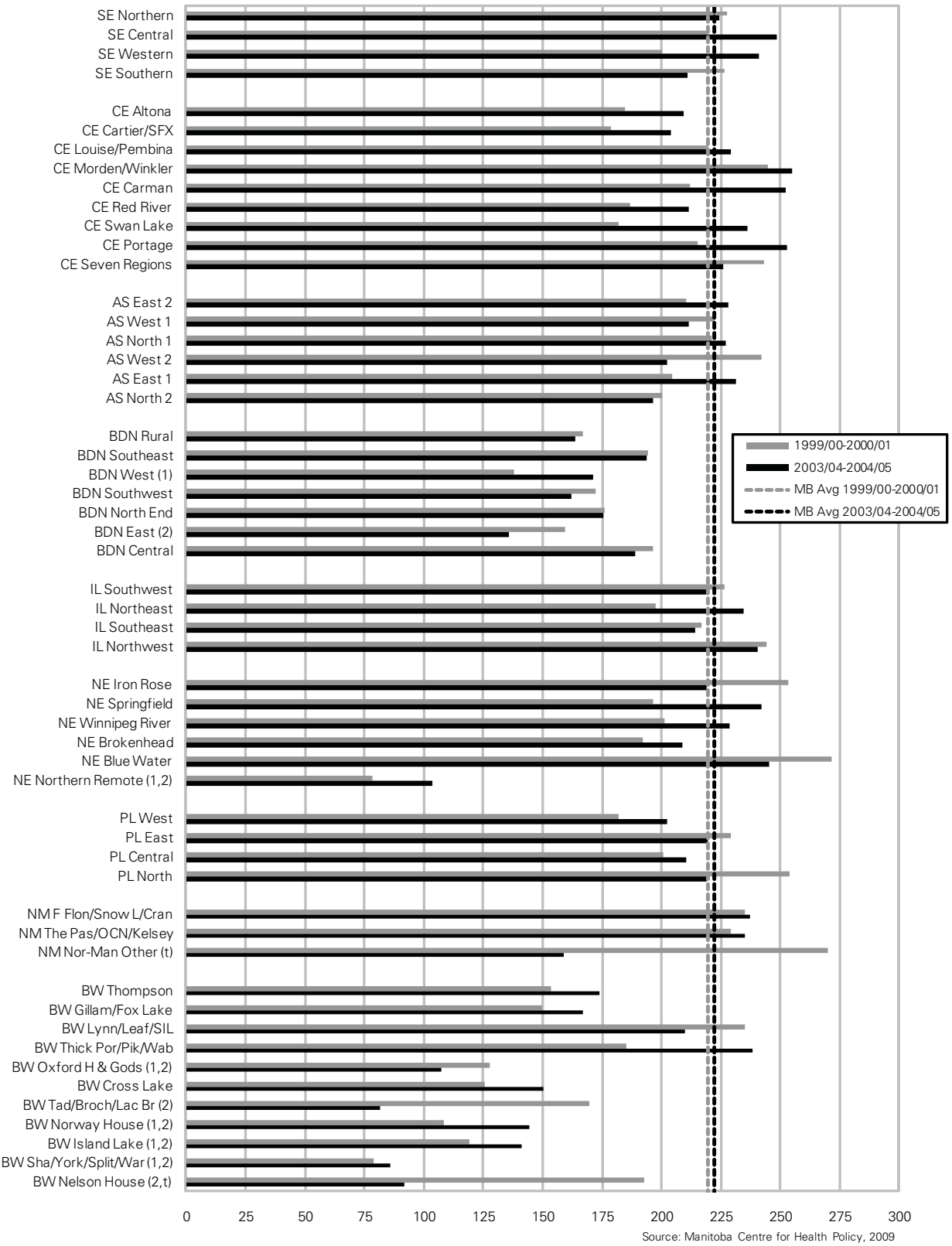



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 9.4.2: Average Length of Home Care Cases by District

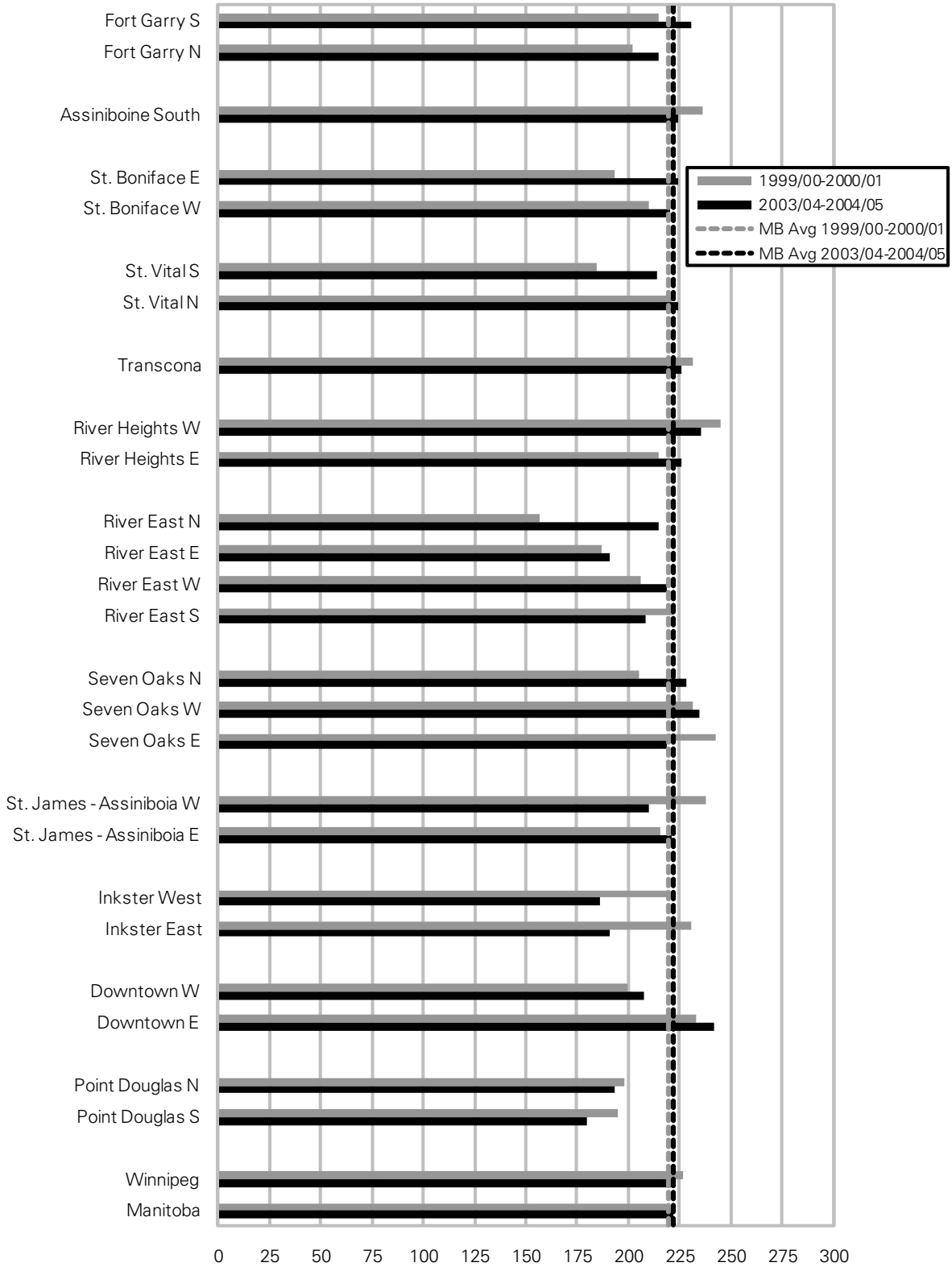
Age- & sex-adjusted annual mean length of home care cases (days) per case




Source: Manitoba Centre for Health Policy, 2009

**Figure 9.4.3: Average Length of Home Care Cases by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted annual mean length of home care cases (days) per case




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, there was a slight, but not significant increase, in the average length of home care cases from 219.7 to 222.0 days.
- The average length of cases was remarkably similar across RHAs, except for Brandon and Burntwood which had considerably shorter cases.
    - These exceptions may reflect real differences in service provision, but may also result from different record–keeping practices. For example, case files may be closed more promptly after the end of actual service provision in Brandon and Burntwood than in other RHAs. This finding requires further study.
- Length of home care cases appears to be inversely related to health status at the aggregate level, but not the RHA level. Cases were longer in the Rural South than in Mid areas and longer in Mid areas than the North. However, the average for the North is strongly influenced by Burntwood RHA, which may be affected by the data issue noted above.
- There was no relationship between length of home care cases and area–level income, in both urban and rural areas.

## Comparison to other findings:

- These results are consistent with and extend those shown in previous MCHP reports. The 2003 Atlas showed a significant increase in length of cases over time, though the actual values shown here are different because of changes to the data system in the early 2000s and slightly different methods were used for calculating the values.

# Chapter 10: Use of Personal Care Homes (PCHs)

## Key Findings for Chapter 10

- Even though there has been a slight decrease in the number of PCH beds per 1,000 residents age 75+, there has also been significantly fewer admissions to, and residents living in, PCHs. This is consistent with the general trend toward reducing the need for institutionalization in favour of community–based care.
- Waiting times for admission to PCHs decreased over time, as did residents' lengths of stay once admitted to a PCH.
- There has been a slight increase in the 'acuity' or 'sickness level' of people being admitted to PCH, shown by the level of care at admission: a higher proportion of residents were admitted at higher levels of care (levels 3 and 4).
- Patterns of location and catchment were remarkably stable: the vast majority of RHA residents were admitted to PCHs in their 'home' RHA and the vast majority of residents served in each RHA's PCHs were residents from that RHA.

## Introduction

This chapter contains a number of indicators of the use of Personal Care Homes (PCH; also known as Nursing Homes) in Manitoba. PCHs are residential facilities for persons with chronic illness or disability, predominantly older residents. In Manitoba, personal care homes can be proprietary (for profit) or non–proprietary. Non–proprietary homes can be secular or ethnocultural (associated with a particular religious faith or language other than English) as well as either freestanding or juxtaposed with an acute care facility.

Given the increasing effort to delay admission to personal care homes by providing adequate home care services and enabling people to live in the community longer, it is expected that there will be an overall decrease in the use of personal care home services over the two time periods.

Indicators in this chapter are based on residents age 75+ only, because they comprise the vast majority of all residents of PCHs in Manitoba (87%). In addition, the rates have all been age– and sex–adjusted (to distinguish within the 75+ population) to enable a fair comparison of regions within Manitoba that have different age and sex compositions. Adjusted rates were calculated using the direct method rather than the more complex modeling methods used for other indicators in this report. Rates are presented for two time periods to show how they are changing over time.

Most values are reported according to the RHA where the PCH is located because once a person is admitted to the PCH, they become residents of that RHA. However, indicators of mobility are also included to describe where RHA residents went when they were first admitted to a PCH (Section 10.7) and where each RHA's PCH residents lived just prior to first PCH admission (Section 10.8). Analyses were done for RHAs and Winnipeg Community Areas only because many rural RHA districts and Winnipeg Neighbourhood Clusters do not have any PCHs within their boundaries.

Analyses were not done by income quintile because they are based on average area–level income reported to the Census. Income data are not collected for institutionalized persons (including PCH residents).

### Data Issues:

It is important to note that complete, individual–level data are not available for all PCH residents in Manitoba: there are facilities in First Nations communities in several RHAs that are supported by the federal government and are not provincially licensed, so individual–level utilization data are not available for these residents. These 'federal' beds are included in the Bed Supply analyses (as bed count data are available) and are shown separately in Figure 10.1.1, but their use cannot be included in other indicators (e.g., admissions, residents, etc.)

### Burntwood and Churchill RHAs:

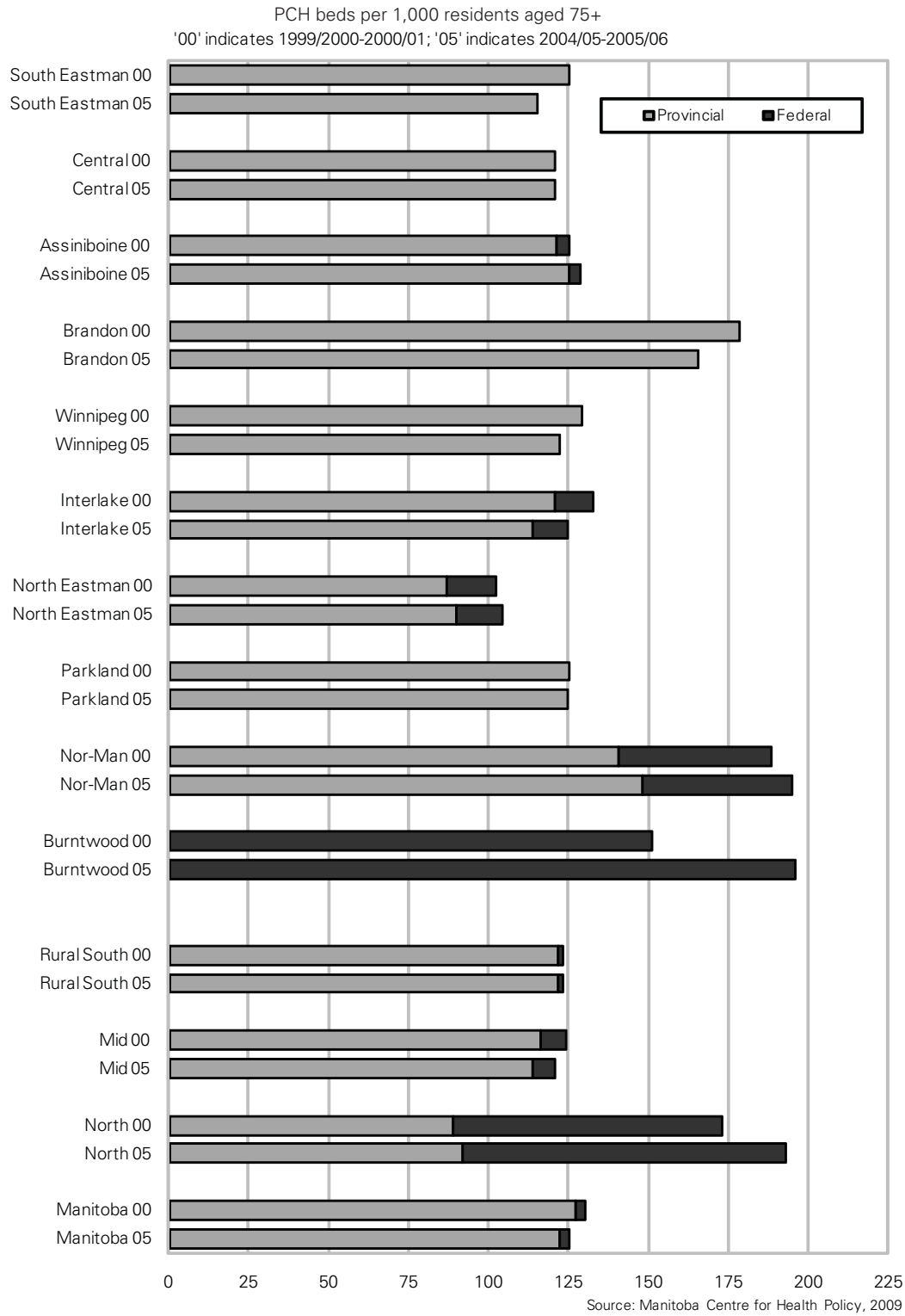
In Burntwood RHA, there are four federally supported facilities. In Time 1 of this report, only one of those facilities was licensed (and therefore required to provide data), whereas in Time 2, two facilities were reporting. This change makes the values for several indicators appear to instantly double, but this is simply an artifact caused by data reporting changes. Despite these large increases, rates for Burntwood in Time 2 are still under–estimates of actual values, as two additional federally–supported facilities remain outside the existing data system. Finally, the Northern Spirit Manor, a new provincial PCH in Thompson, opened after the time periods shown in this report.

Churchill RHA operates several beds in the Churchill Regional Health Centre that function as PCH beds, but this is not a truly separate, licensed PCH. Consequently, data are not reported exactly the same as for other PCHs. However, there are indications in the hospital data system to help identify and separate these residents and services. Churchill's population is quite small, especially its older adult population, so small numbers of events can cause large differences in rates. In the years included in this report, there were no admissions to PCH among Churchill residents, so there are no rates to show for PCH admissions or wait times for admission among Churchill residents.

## 10.1 Supply of PCH Beds (Provincial and Federal)

Definition: The number of PCH beds per thousand residents aged 75+. Bed counts were taken from the Manitoba Health and Healthy Living PCH bed map. Data are shown for two 2–year periods: 1999/00–2000/01 and 2004/05–2005/06.

**Figure 10.1.1: Supply of Personal Care Home Beds by RHA**

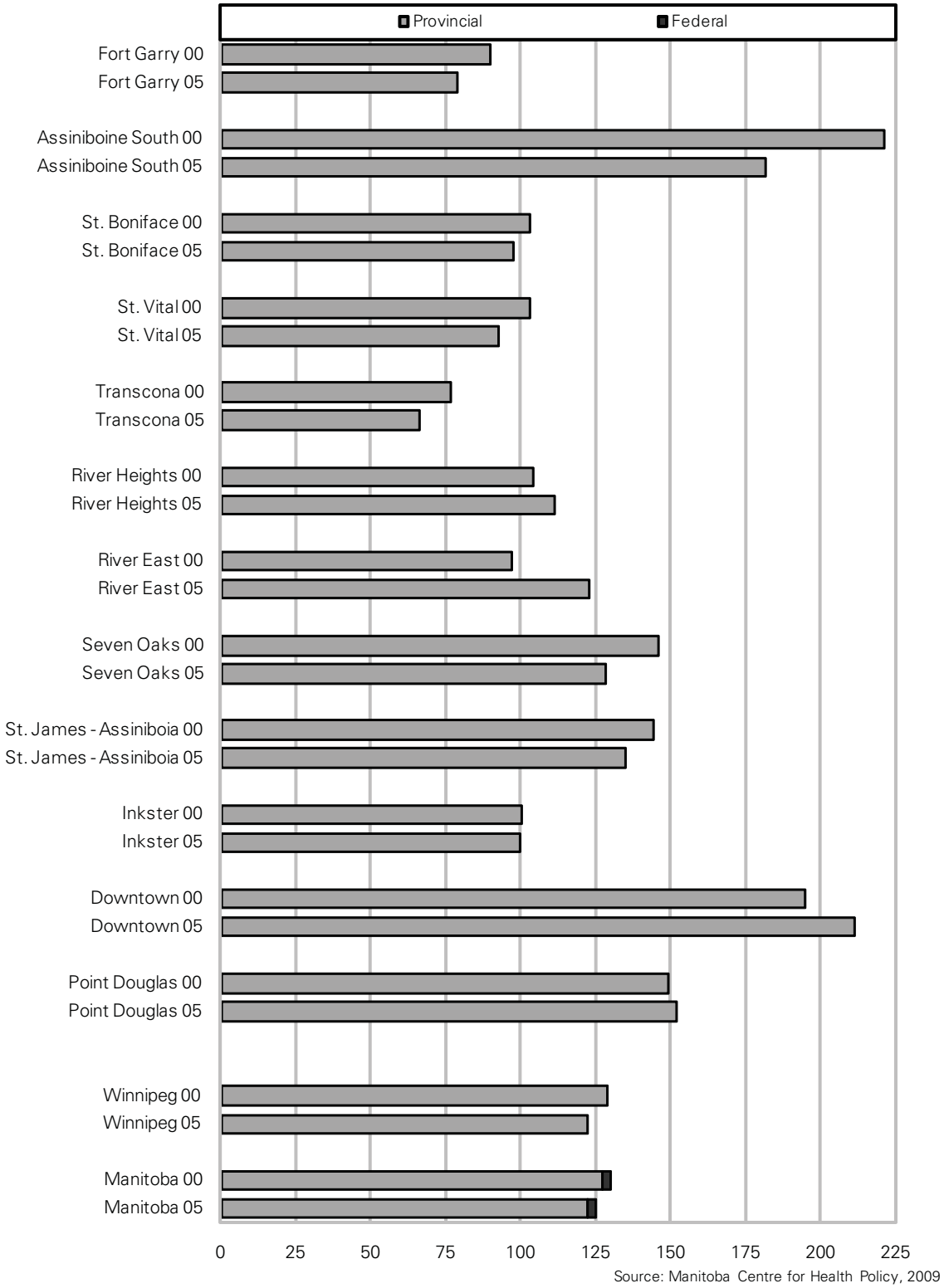



Source: Manitoba Centre for Health Policy, 2009

## Figure 10.1.2: Supply of Personal Care Home Beds by Winnipeg Community Areas

PCH beds per 1,000 residents aged 75+

'00' indicates 1999/2000-2000/01; '05' indicates 2004/05-2005/06




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, the supply of PCH beds has remained relatively stable over time, with a slight decrease from 130.0 to 125.2 beds per 1,000 residents age 75+. The actual number of beds increased by 1%, but the population age 75+ increased by 5%.
- The most noticeable change in PCH bed supply has been in Burntwood RHA, which increased from 151.2 to 195.8 beds per 1,000 residents 75+. This is the result of the PCH opening in Nelson House between the periods shown.
- Burntwood, NOR–MAN, and Brandon RHAs had the highest values; North Eastman had the lowest.
- Among Winnipeg CAs, bed supply varied considerably with Assiniboine South and Downtown having the highest values and Transcona and Fort Garry having the lowest.
- There does not appear to be a relationship between PCH bed supply and health status at the RHA or aggregate levels, though the highest values were in the North.

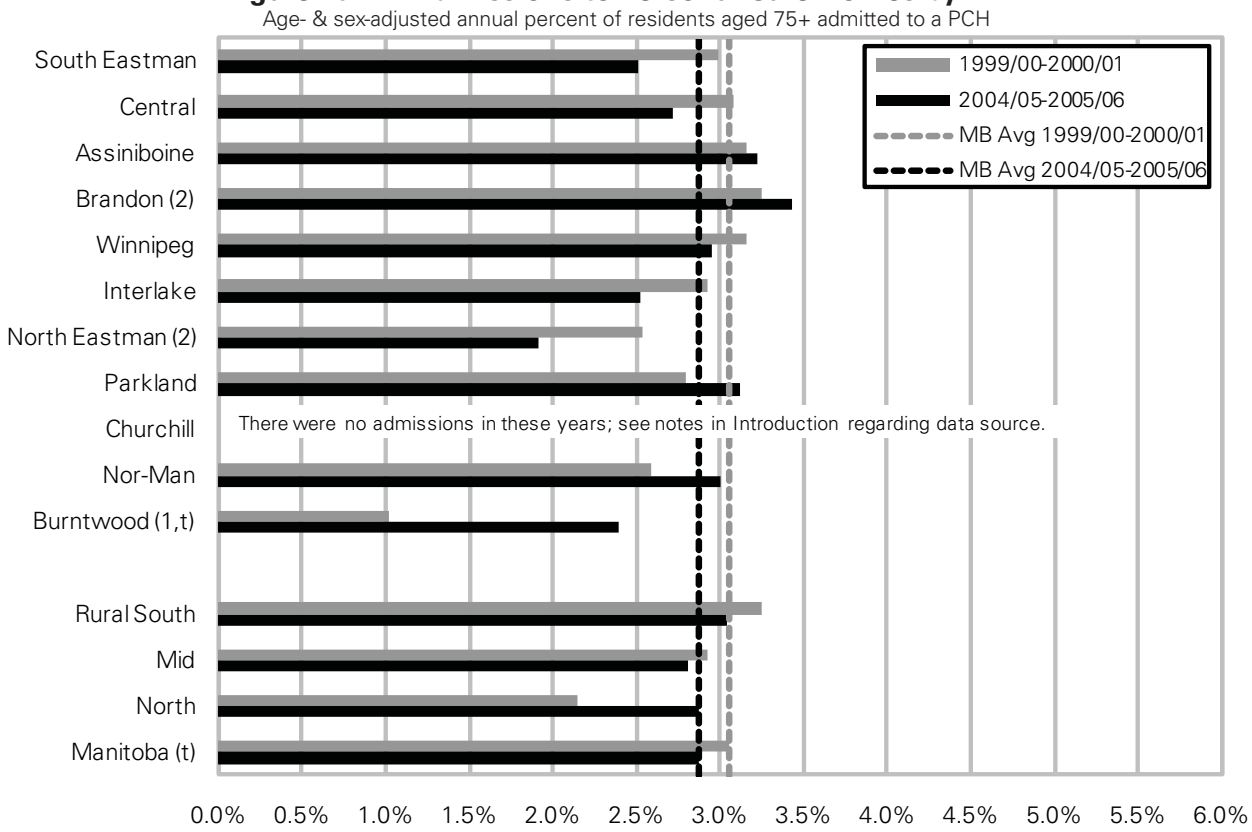
### Comparison to other findings:

- These rates are consistent with previous research on PCH beds in Manitoba. In the 2003 Atlas, the number of PCH beds per 1,000 residents aged 75+ was 131.5 in 1994/95–1995/96 and 130.1 in 1999/00–2000/01.

## 10.2 Admissions to PCH

Definition: The percentage of area residents age 75+ admitted to a PCH in a year (values shown are the annual average for a two–year period). Area of residence was assigned based on where people lived at the time, which is determined by the location of the PCH (see also Sections 10.7 and 10.8). Rates are shown for 1999/00–2000/01 and 2004/05–2005/06, and are age– and sex–adjusted to the population of Manitoba (75+) in the first time period.

**Figure 10.2.1: Admissions to Personal Care Homes by RHA**

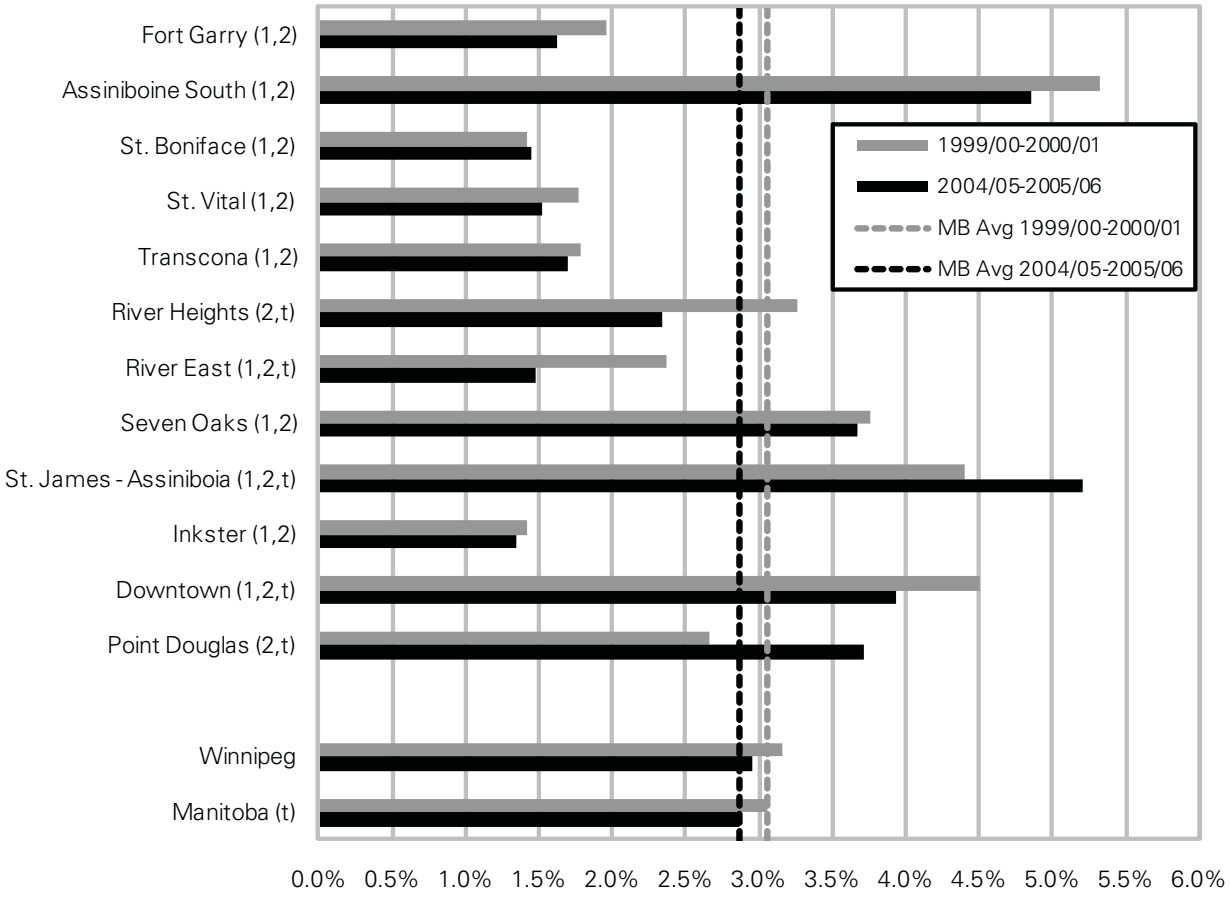



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 10.2.2: Admissions to Personal Care Homes by Winnipeg Community Areas**

Age- & sex-adjusted annual percent of residents aged 75+ admitted to a PCH




'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, there was a decrease in the percentage of area residents age 75+ admitted to a PCH from 3.06% to 2.87%. There was considerable variation in changes across RHAs, with only the change in Burntwood reaching statistical significance.
    - The increase in Burntwood is primarily an artifact caused by an improvement in data reporting: in the first time period, only one facility was reporting data; by the second time period, a second PCH was also reporting data, so the admission rate appears to double. In reality, the rate may not have changed (see Introduction).
- These percentages are related to local bed supply values, which vary considerably by RHA and across Winnipeg CAs (see Section 10.1).
- There appears to be no relationship between PCH admission rates and health status at the RHA or aggregate levels, which takes into account the change in data reporting noted above for Burntwood RHA.

### Comparison to other findings:

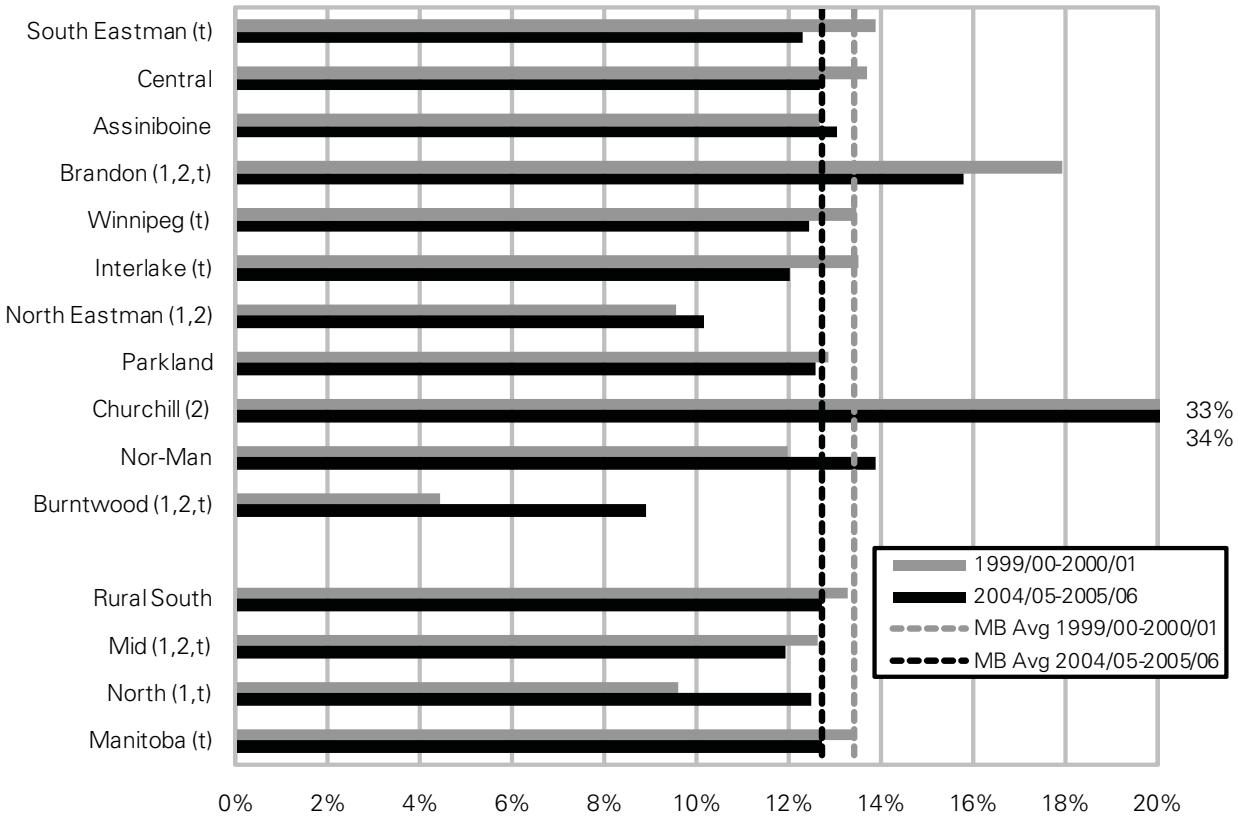
- These results are compatible with those in the 2003 Atlas and document a rise and fall in admission rates over time: the previous report showed an increase from 2.71% to 3.0%, whereas this report shows a decrease from 3.06% to 2.87% of area residents age 75+ being admitted each year.

## 10.3 Residents in PCH

Definition: The percentage of area residents age 75+ living in a PCH in a year (values shown are the annual average for a two–year period). Area of residence was assigned based on where people lived at the time, which is determined by the location of the PCH (see also Sections 10.7 and 10.8). Rates are shown for 1999/00–2000/01 and 2004/05–2005/06 and are age– and sex–adjusted to the population of Manitoba (75+) in the first time period.

**Figure 10.3.1: Residents in Personal Care Homes by RHA**

Age- & sex-adjusted annual percent of residents aged 75+ living in a PCH

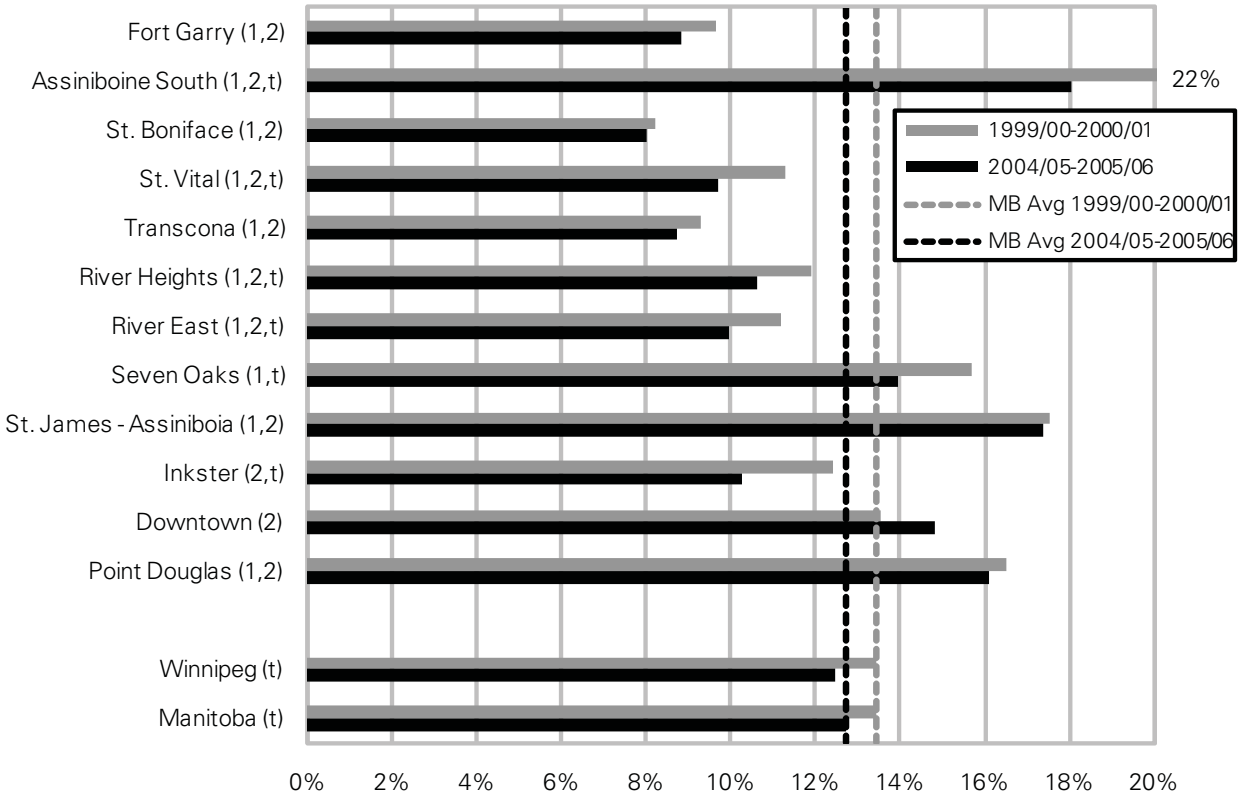



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 10.3.2: Residents in Personal Care Homes by Winnipeg Community Area**

Age- & sex-adjusted annual percent of residents aged 75+ living in a PCH




'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, there was a decrease in the percentage of area residents living in PCH from 13.4% to 12.7% of residents 75+. This decrease was reflected in several, but not all RHAs. Actual rates varied considerably across RHAs:
    - Brandon residents were higher than average in both time periods, but their rate decreased more than average, bringing Brandon closer to the average in the second time period.
    - Rates in North Eastman were lower than average in both periods, which is likely related to their lower than average supply of PCH beds.
    - The rates in Burntwood are affected by the data reporting issue noted in the Introduction. The doubling of the rate over time primarily reflects that two PCHs were reporting data in Time 2 compared to just one PCH in Time 1. The rate in Time 2 is also below average, but this too is an under–estimate, as there remain two additional federally–supported facilities that are not fully represented in the current data system (see Introduction).
    - Rates for Churchill appear extremely high, but this is largely due to two issues. First, as often happens in Churchill, these results involve a small number of people and a small base population, so rates can fluctuate widely based on very small numbers—there were six residents in the first time period and seven in the second, but given the small population over age 75, the rates are dramatically higher than in other RHAs. Second, Churchill PCH residents were younger than average, so their adjusted rates (32.7% and 34.4%) were much higher than their crude rates (18.8% and 20.6%; see Appendix 2).
- There appears to be no relationship between the proportion of residents age 75+ living in PCHs and health status at the RHA or aggregate levels.

## Comparison to other findings:

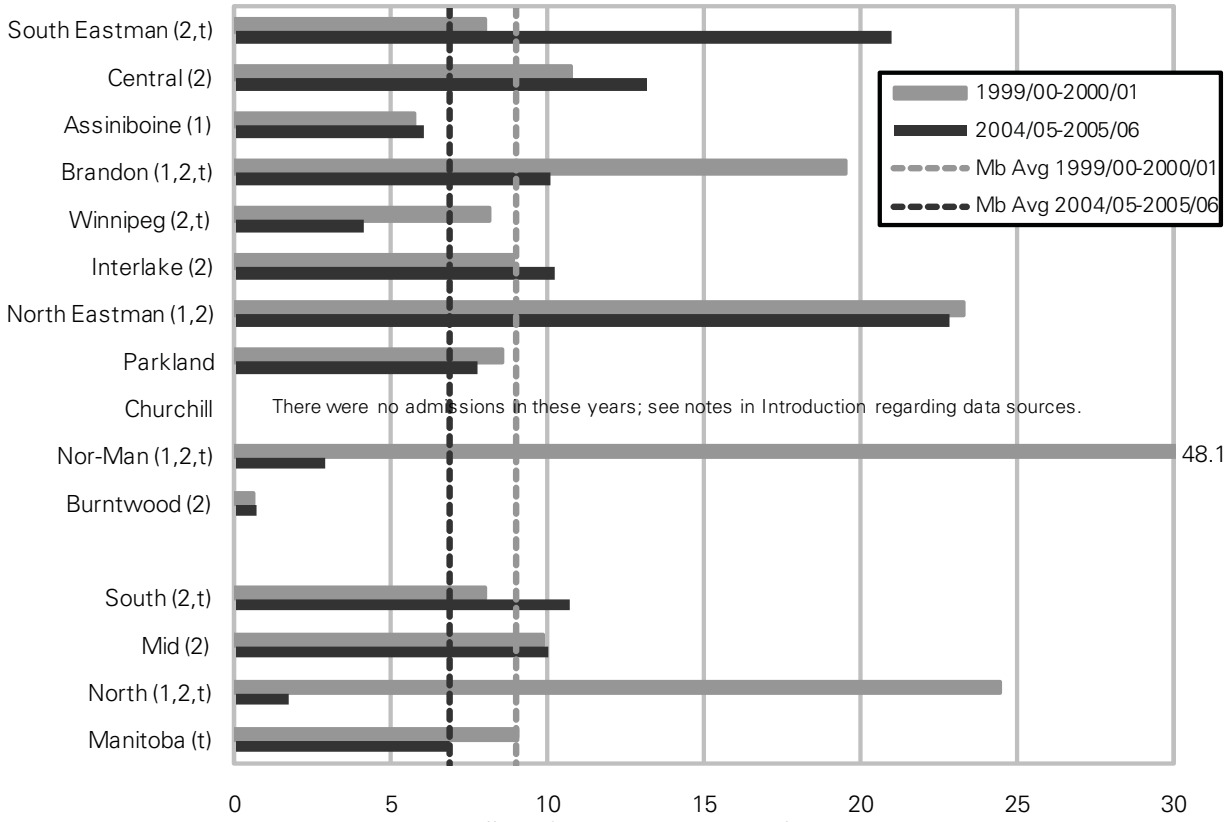
- These results suggest a continuation of the trend shown in the 2003 Atlas, which also reported a decrease in the rate of PCH residents. The actual values are slightly different because of minor changes in data systems and calculation methods.

## 10.4 Median Waiting Times for PCH Admission

Definition: The amount of time it took for half of all residents to be admitted after being assessed as requiring PCH placement. For example, in 1999/00–2000/01, the median wait time was nine weeks, so half of all PCH admittants waited less than nine weeks from assessment to admission, while half waited longer.

**Figure 10.4.1: Median Waiting Times for PCH Admission by RHA**

Median # weeks from assessment to admission, by residence prior to admission, per 1,000 aged 75+

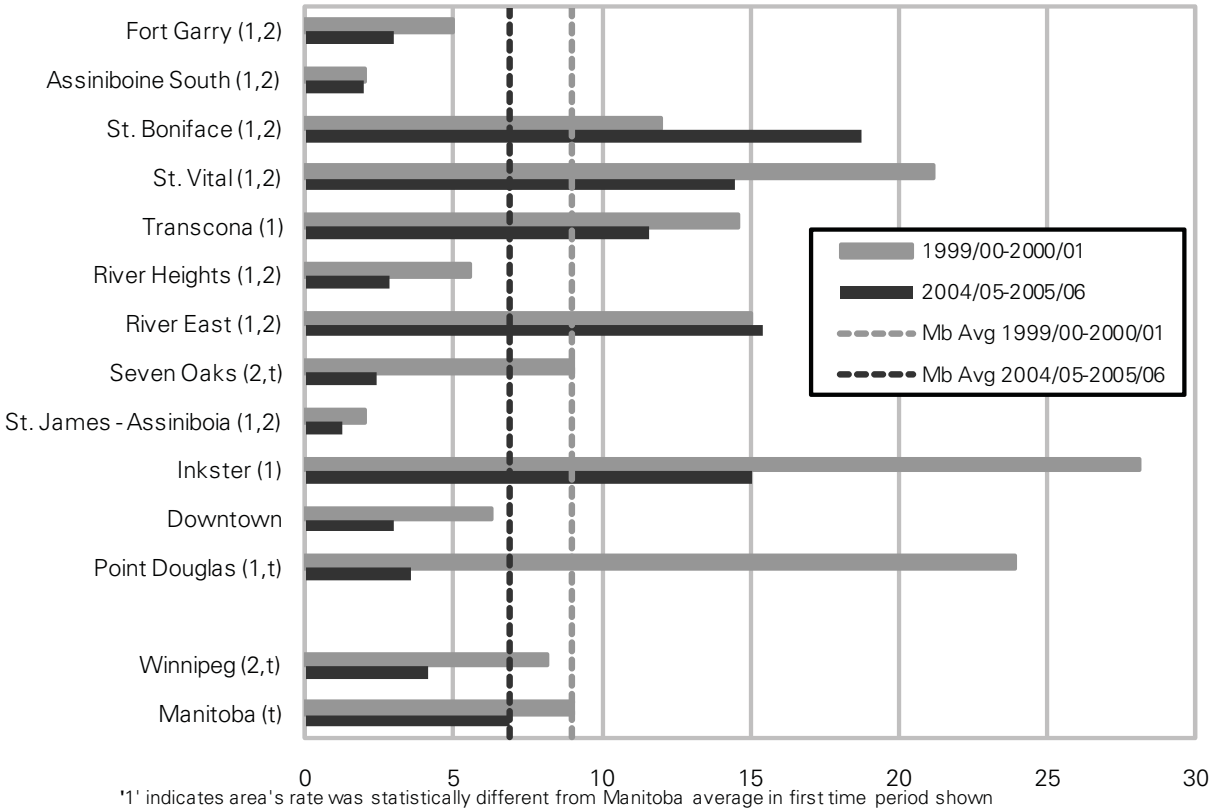



'1' indicates area's rate was statistically different from Manitoba average in first time period shown
'2' indicates area's rate was statistically different from Manitoba average in second time period shown
't' indicates change over time was statistically significant for that area

Source: Manitoba Centre for Health Policy, 2009

**Figure 10.4.2: Median Waiting Times for PCH Admission by Winnipeg Community Areas**

Median # weeks from assessment to admission, by residence prior to admission, per 1,000 aged 75+




'1' indicates area's rate was statistically different from Manitoba average in first time period shown
'2' indicates area's rate was statistically different from Manitoba average in second time period shown
't' indicates change over time was statistically significant for that area

Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, there has been a significant decrease in median wait times for PCH admission from nine weeks to 6.9 weeks. However, there was a lot of variation across RHAs:
    - NOR–MAN had unusually long wait times in the first time period, but well below average in the second time period. This is likely due to significant changes and upgrading of facilities in the first time period. In The Pas, the juxtaposed PCH was being closed down while a new stand–alone facility was being opened. As well, the PCH in Flin Flon was being upgraded.
    - North Eastman had higher than average wait times in both time periods, possibly due to their lower than average bed supply.
    - There were large changes in median wait times for South Eastman, Brandon, and Winnipeg. The former increased significantly and the latter two decreased.
    - Results for the 12 Winnipeg Community Areas were also highly variable. There were many significantly different rates and changes over time (see Figure 10.4.2)

### Comparison to other findings:

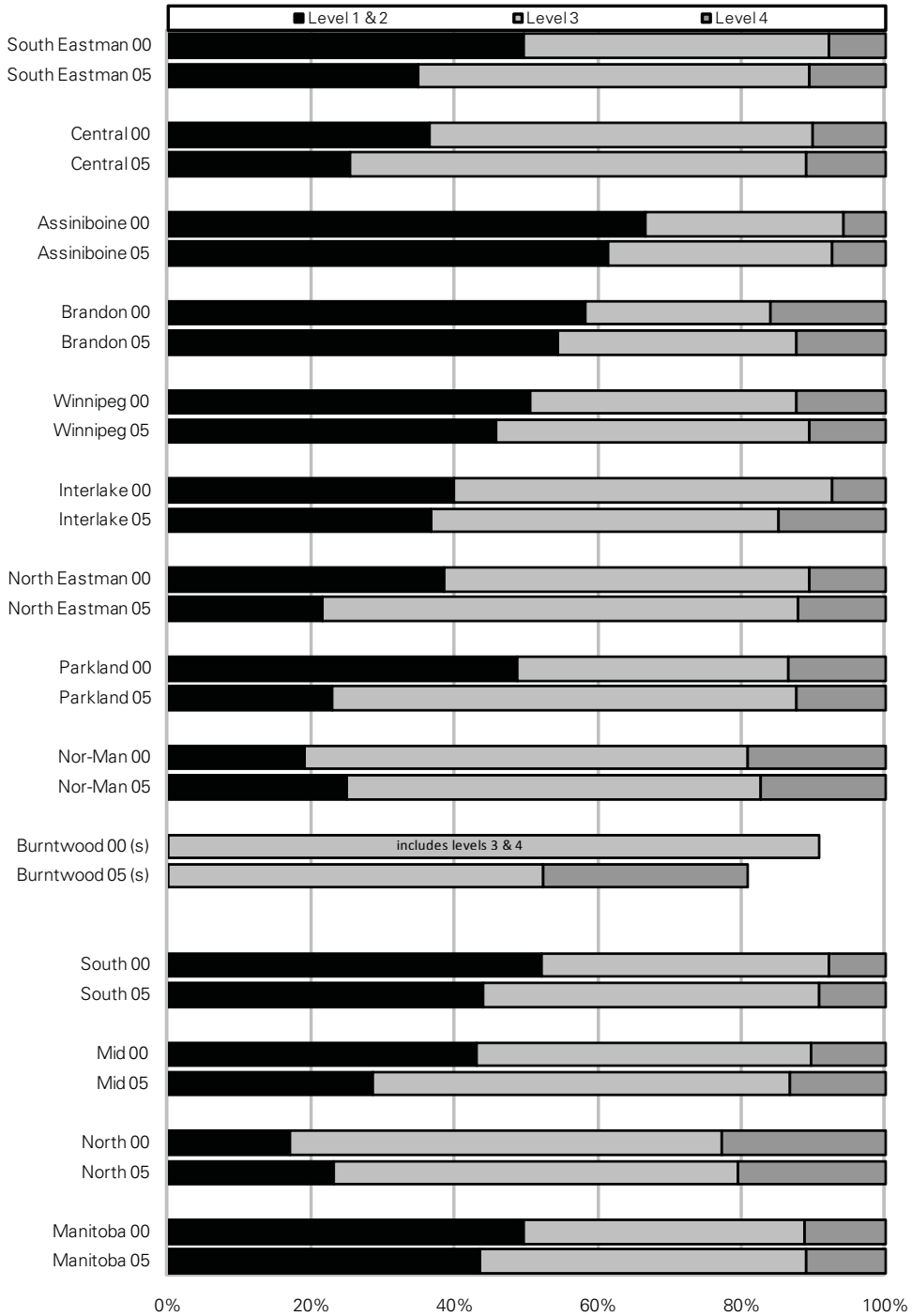
- These results are consistent with those reported in the 2003 Atlas: the median waiting time for PCH admission decreased (though not significantly) from 14 weeks in 1994/95–1995/96 to nine weeks in 1999/00–2000/01.

## 10.5 Level of Care on Admission to PCH

Definition: The distribution of levels of care assigned to PCH residents at the time of their admission. Level 1 represents the lowest level of need; Level 4 represents the highest. These are crude rates only; statistical testing was not done on these values.

**Figure 10.5.1: Level of Care on Admission to PCH Aged 75+ by RHA**

"00" reflects 1999/00-2000/01; "05" reflects 2004/05-2005/06

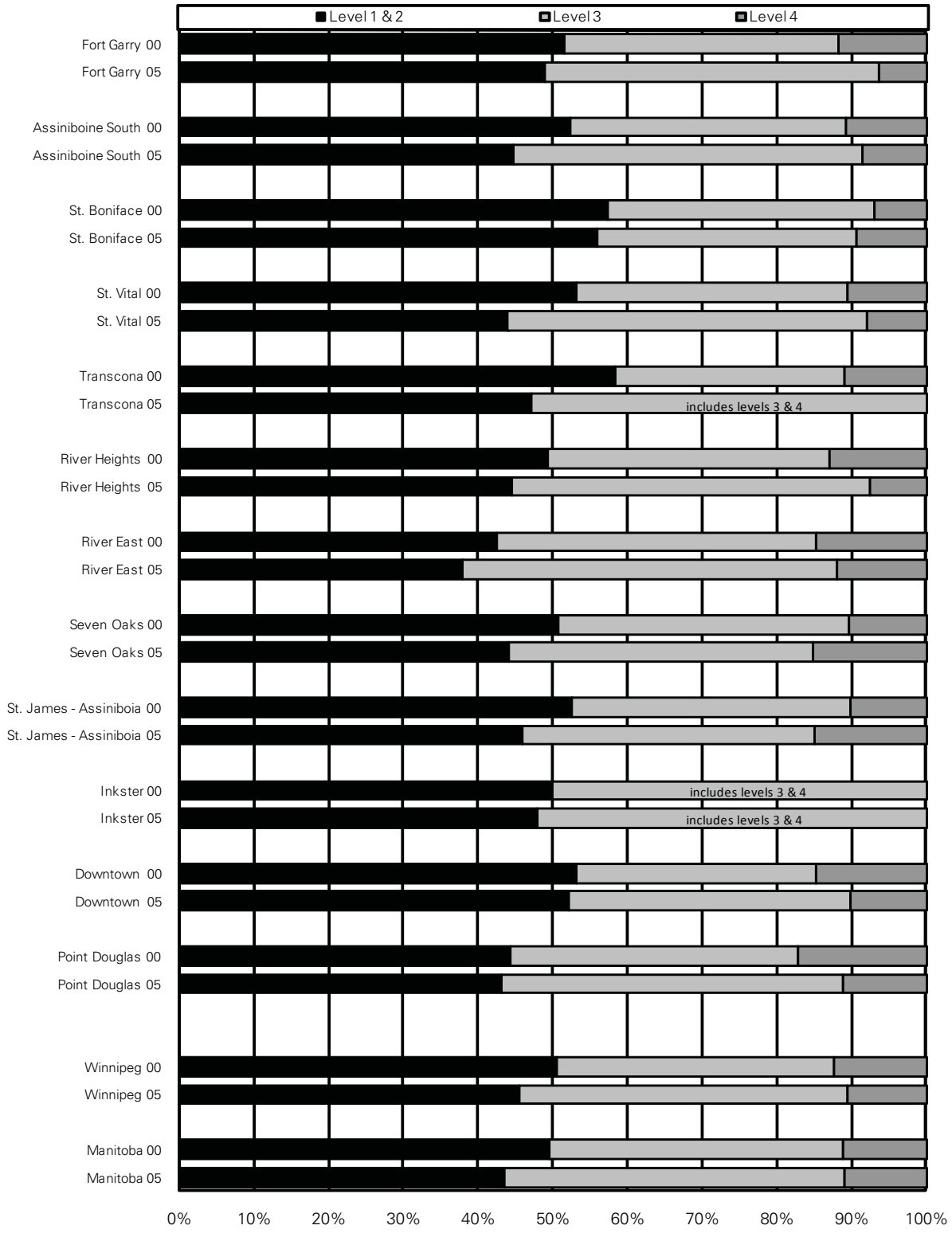



* Churchill not listed because of differences in data systems; see Ch 10 Introduction.
's' indicates values suppressed due to small numbers.

Source: Manitoba Centre for Health Policy, 2009

## Figure 10.5.2: Level of Care on Admission to PCH Aged 75+ by Winnipeg Neighbourhood Clusters

"00" reflects 1999/00-2000/01; "05" reflects 2004/05-2005/06




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- Overall, there has been a slight increase in the level of care on admission to PCHs: a reduction in level 1 and 2 admissions, a corresponding increase in level 3 admissions, and a slight decrease in Level 4 admissions:
  - In the first time period, 49.7% of residents were at Levels 1 or 2, 39.1% were at Level 3, and 11.2% at level 4.
  - In the second time period, the proportion entering at Levels 1 or 2 was 43.5%, whereas 45.5% were at Level 3, and 10.9% at level 4.
  - There is considerable variation in these proportions across RHAs. All RHAs experienced a decrease in the percentage of level 2 admissions, except for NOR–MAN and Burntwood. Changes in level 3 and 4 admissions varied by RHA.
  - Within Winnipeg, there was remarkable consistency in the distribution of level of care across the community areas. All areas saw a decrease in the proportion of level 2 admissions over time.
- There appears to be a relationship between health status and level of care at both the RHA and aggregate area levels. In the less healthy areas (e.g., Northern RHAs), PCH residents are admitted at higher levels of care.

### Comparison to other findings:

- Similar values and trends were shown in the 2003 Atlas: in the first time period, more than half of the admissions were for residents at lower levels of care—56.4% of residents were at Levels 1 and 2 and 43.7% were at Levels 3 and 4. By the second time period, admissions at levels 1 and 2 had decreased to 49.9%, while levels 3 and 4 increased to 50.1%.
- Results from the 2005 Sex Differences report are also consistent with these findings. In 2001/02–2003/04, about 45% of residents were admitted at Levels 1 and 2, while about 55% were admitted at Levels 3 and 4.

## 10.6 Median Length of Stay by Level of Care at Admission to PCH

Definition: The median length of stay (in years) of PCH residents, according to their level of care on admission. The median length of stay is the amount of time which half of all residents stayed. For example, in 1999/00–2000/01, the median was 2.33 years overall, so half of all residents stayed less than 2.33 years and half stayed longer. These are crude values only; statistical testing was not done on these values.

**Table 10.6.1: Median Length of Stay (Years) by Level of Care at Admission to PCH by RHA**

"00" reflects data from 1999/00-2000/01; "05" reflects data from 2004/05-2005/06

| | | Levels of Care | | |
|---|---|---|---|---|
| | All | 1-2 | 3 | 4 |
| South Eastman 00 | 2.89 | 3.55 | 1.53 | 2.83 |
| South Eastman 05 | 2.20 | 2.97 | 2.00 | 1.18 |
| Central 00 | 2.53 | 3.27 | 1.77 | 1.52 |
| Central 05 | 2.05 | 3.17 | 1.74 | 2.01 |
| Assiniboine 00 | 2.35 | 2.83 | 1.68 | 2.39 |
| Assiniboine 05 | 1.98 | 2.25 | 1.29 | 1.60 |
| Brandon 00 | 2.51 | 3.02 | 2.03 | 1.39 |
| Brandon 05 | 1.99 | 2.51 | 1.66 | 1.84 |
| Winnipeg 00 | 2.21 | 2.71 | 1.85 | 1.39 |
| Winnipeg 05 | 1.74 | 2.16 | 1.56 | 1.03 |
| Interlake 00 | 1.96 | 2.49 | 1.78 | 1.11 |
| Interlake 05 | 1.64 | 3.38 | 1.29 | 0.80 |
| North Eastman 00 | 2.20 | 3.23 | 1.62 | 0.70 |
| North Eastman 05 | 2.36 | 3.38 | 1.60 | 1.11 |
| Parkland 00 | 2.03 | 2.61 | 1.97 | 1.34 |
| Parkland 05 | 1.88 | 2.96 | 1.23 | 1.98 |
| Nor-Man 00 | 3.50 | 3.88 | 2.56 | 2.89 |
| Nor-Man 05 | 2.03 | 2.40 | 2.09 | 1.45 |
| Burntwood 00 | 0.87 | 6.44 | 0.60 | 1.81 |
| Burntwood 05 | 0.44 | 1.20 | 0.44 | 0.29 |
| South 00 | 2.51 | 3.09 | 1.69 | 1.78 |
| South 05 | 2.02 | 2.53 | 1.66 | 1.40 |
| Mid 00 | 2.03 | 2.66 | 1.85 | 1.27 |
| Mid 05 | 1.76 | 3.22 | 1.39 | 1.14 |
| North 00 | 3.28 | 3.95 | 1.96 | 2.51 |
| North 05 | 1.64 | 2.00 | 1.67 | 0.74 |
| Manitoba 00 | 2.33 | 2.91 | 1.88 | 1.53 |
| Manitoba 05 | 1.89 | 2.42 | 1.59 | 1.21 |

Churchill not listed because of differences in data systems; see Ch 10 Introduction

Source: Manitoba Centre for Health Policy, 2009

**Table 10.6.2: Median Length of Stay (years) by Level of Care at Admission to PCH by Winnipeg Neighbourhood Clusters**

"00" reflects data from 1999/00-2000/01; "05" reflects data from 2004/05-2005/06

| | Levels of Care | | | |
|---|---|---|---|---|
| | All | 1-2 | 3 | 4 |
| Fort Garry 00 | 2.45 | 2.22 | 2.69 | 2.35 |
| Fort Garry 05 | 1.85 | 1.95 | 1.54 | 4.16 |
| Assiniboine South 00 | 2.31 | 2.60 | 2.04 | 0.33 |
| Assiniboine South 05 | 1.64 | 1.91 | 1.41 | 0.75 |
| St. Boniface 00 | 2.53 | 3.05 | 1.98 | 1.33 |
| St. Boniface 05 | 2.36 | 2.51 | 2.44 | 1.68 |
| St. Vital 00 | 2.35 | 3.15 | 1.93 | 1.88 |
| St. Vital 05 | 1.93 | 2.23 | 1.36 | 1.13 |
| Transcona 00 | 2.11 | 1.84 | 2.16 | 2.88 |
| Transcona 05 | 1.20 | 1.77 | 1.03 | 0.56 |
| River Heights 00 | 2.12 | 2.06 | 2.20 | 2.07 |
| River Heights 05 | 1.79 | 1.96 | 1.66 | 1.06 |
| River East 00 | 2.45 | 3.12 | 1.93 | 1.21 |
| River East 05 | 1.87 | 2.42 | 1.57 | 0.95 |
| Seven Oaks 00 | 2.28 | 3.05 | 1.52 | 1.86 |
| Seven Oaks 05 | 1.55 | 1.88 | 1.47 | 0.70 |
| St. James - Assiniboia 00 | 2.29 | 3.04 | 1.41 | 1.22 |
| St. James - Assiniboia 05 | 1.61 | 1.98 | 1.57 | 0.72 |
| Inkster 00 | 1.83 | 1.98 | 2.04 | 0.78 |
| Inkster 05 | 1.96 | 3.24 | 1.11 | 4.67 |
| Downtown 00 | 1.03 | 1.24 | 1.07 | 0.54 |
| Downtown 05 | 1.63 | 2.00 | 1.57 | 0.80 |
| Point Douglas 00 | 2.77 | 3.46 | 2.31 | 1.93 |
| Point Douglas 05 | 2.24 | 3.06 | 2.06 | 1.10 |

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, the median length of stay decreased from 2.33 to 1.89 years and a decrease was seen in all RHAs.
- There was also a decrease in length of stay for each level of care in Manitoba and within most RHAs.
- There was a sharp gradient with level of care in both time periods—residents admitted at higher levels of care had much shorter stays.

## Comparison to other findings:

- These findings and trends are consistent with and extend findings from the 2003 Atlas, which reported a decrease from 2.55 years in 1994/95–1995/96 to 2.3 years in 1999/00–2000/01.

## 10.7 Where RHA Residents Went for PCH Admission

Definition: The location where RHA residents age 75+ went to for their first PCH admission using the following categories: (i) RHA PCH, (ii) Other RHA PCH, (iii) Winnipeg PCH. This indicator covers two 2–year periods: 1999/00–2000/01 and 2004/05–2005/06. Churchill RHA was excluded as there were no admissions for Churchill residents during the study period. These are crude values only; statistical testing was not done on these values.

### Key findings:

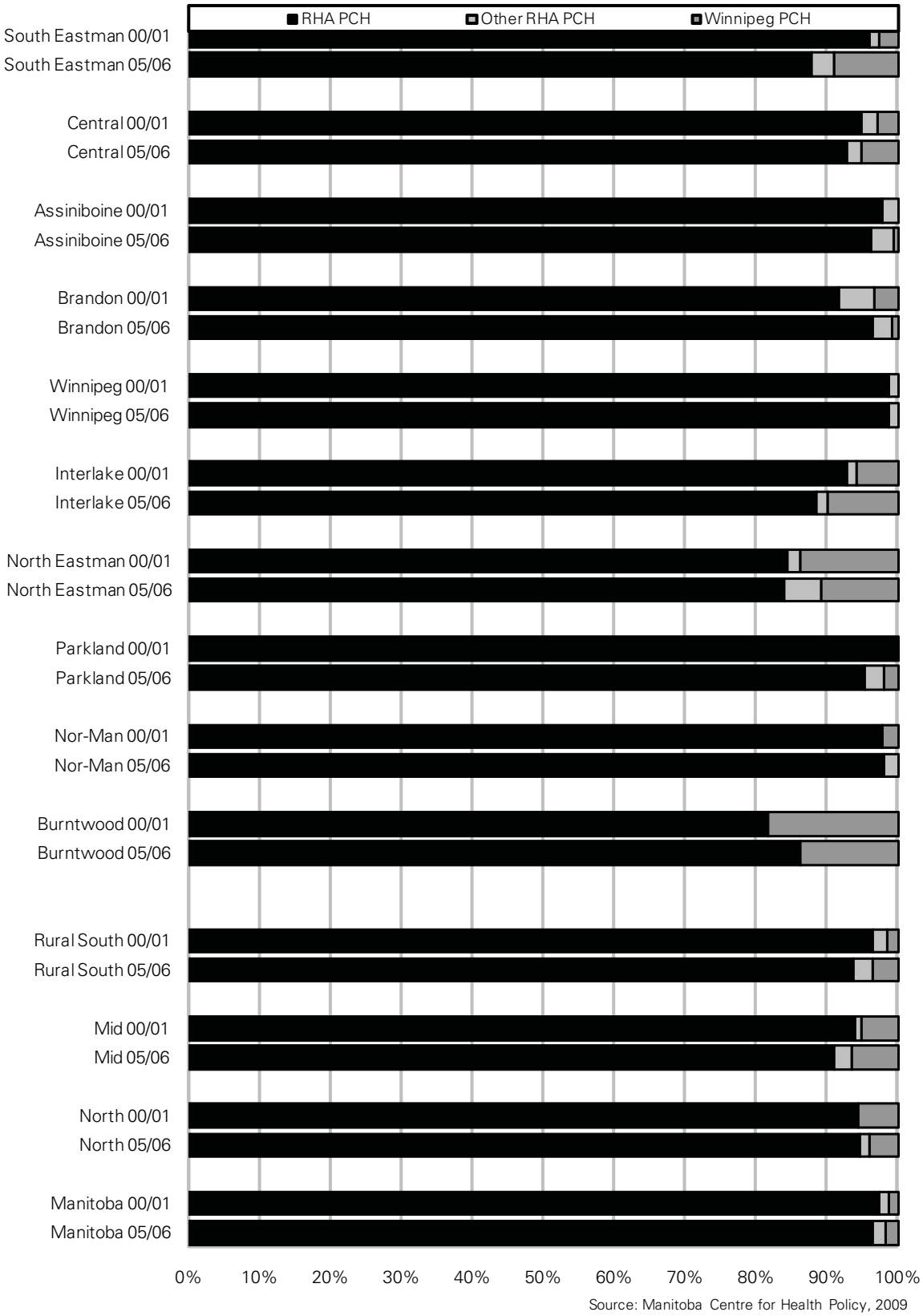
- Overall, there was a slight decrease in the proportion of people admitted to a PCH in their own RHA from 97.4% to 96.6%, but this was still the predominant admission location.
    - Most RHAs have been relatively stable over time, although some had notable changes (South Eastman, Brandon, Interlake, and Parkland).
    - The majority of RHAs have over 90% of their PCH admissions coming from within their own RHA.
    - Winnipeg's rate was 99%, which strongly influences the Manitoba average.
- There was no clear relationship with health status—Mid areas seem to have the highest proportion of residents being admitted out of the RHA, whereas the Rural South and North tend to have more residents stay within the RHA.

### Comparison to other findings:

- Comparable results were not readily available for this indicator.

**Figure 10.7.1: Where RHA Residents Went for PCH Admission**

"00/01" reflects fiscal years 1999/00-2000/01; "05/06" reflects years 2004/05-2005/06




Source: Manitoba Centre for Health Policy, 2009

## 10.8 Where PCH Residents Came From Prior to Admission

Definition: The location where PCH residents age 75+ lived prior to their first admission using the following categories: (i) RHA Residents, (ii) Residents of Other RHAs, (iii) Residents of Winnipeg. This indicator covers two 2–year periods: 1999/00–2000/01 and 2004/05–2005/06. Churchill RHA was excluded as there were no admissions for Churchill residents during the study period. These are crude values only; statistical testing was not done on these values.

### Key findings:

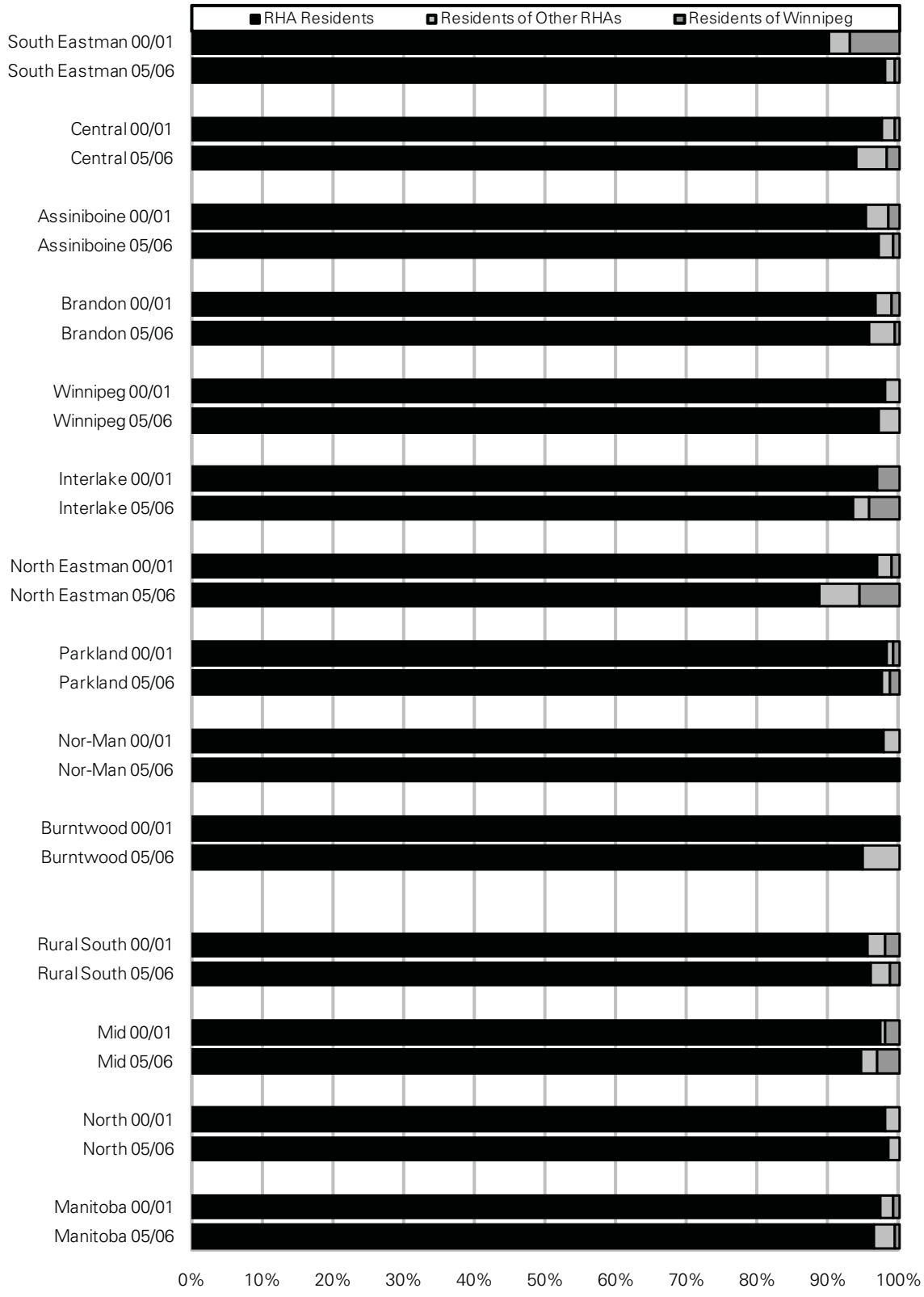
- Overall, these rates have remained remarkably stable over time. There was a slight decrease in the proportion of residents coming from their own RHA from 97.4% to 96.6%, but this was still the predominant source of PCH admissions in both time periods.
- While most RHAs did not change much over time, South Eastman and North Eastman showed some differences:
    - In South Eastman, the proportion of PCH admissions from within that region increased from 90.1% to 98.1%. This appears to have been the result of a decrease in the proportion of residents coming from Winnipeg (from 6.8% to 0.6%).
    - Conversely, in North Eastman, the proportion of PCH admissions from within that region decreased from 97.1% to 88.8%. This appears to have been the result of increases in admissions from Winnipeg and from other RHAs.

### Comparison to other findings:

- Comparable results were not readily available for this indicator.

**Figure 10.8.1: Where PCH Residents Came From Prior to Admission**

"00/01" reflects fiscal years 1999/00-2000/01; "05/06" reflects years 2004/05-2005/06




Source: Manitoba Centre for Health Policy, 2009

# Chapter 11: Preventive and Other Services

## Key Findings for Chapter 11

- The proportion of Manitobans age 65+ receiving a flu shot increased from 54.5% in 2000/01 to 66.4% in 2005/06, and this increase was seen in virtually all areas.
- Rates of pneumococcal vaccination among residents age 65+ increased dramatically from 23.6% as of 2000/01 to 58.7% as of 2005/06.
- Mammography and Pap test rates, for detecting breast and cervical cancer respectively, were stable over time. Rates for both tests also continue to show 'negative' associations with income: women in lower income areas had significantly lower testing rates than women in higher income areas.
    - New or enhanced approaches may be required to equalize rates of these services across income groups.
- The provincial Health Links/Info Sante service was used by 12.9% of Manitobans, but rates varied considerably across RHAs from 3.7% of Burntwood residents to 17.4% of Winnipeg residents.

## Introduction

This chapter contains indicators of several preventive and screening services, as well as, an indicator of the use of the provincial Health Links/Info Sante telephone service.

Indicators of adult immunizations for influenza and pneumonia are included in this chapter. Immunizations for children were not included here, as they are shown in MCHP's Child Health Atlas Update report.

### Note Regarding Under–Reporting of Pap Tests:

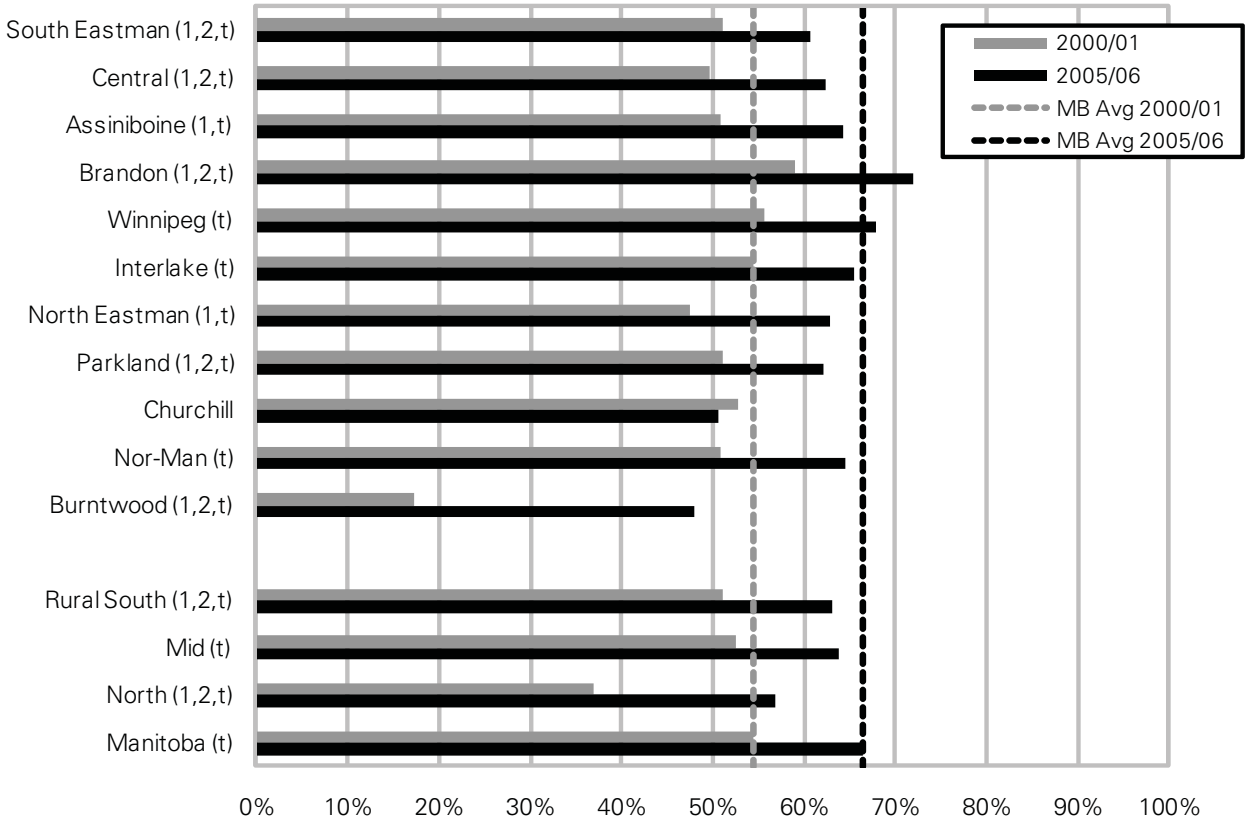
The indicator for cervical cancer testing (Pap tests) is known to under–estimate actual testing rates in some areas, where RHAs have programs allowing specially trained nurses to perform the tests. Unfortunately, data for these tests are not recorded into administrative data systems, so they could be included in our analyses.

## 11.1 Vaccination for Influenza ('Flu Shots') Among Adults 65+

Definition: the proportion of residents age 65 or older who received a vaccine for influenza in a given year. Flu shots were defined by physician tariff codes 8791, 8792, 8793, or 8799 in Manitoba Immunization Monitoring System (MIMS) data. Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population 65+ in 2000/01.

**Figure 11.1.1 Adult Influenza Immunization Rates by RHA**

Age- & sex-adjusted percent of residents aged 65+ who received a flu shot

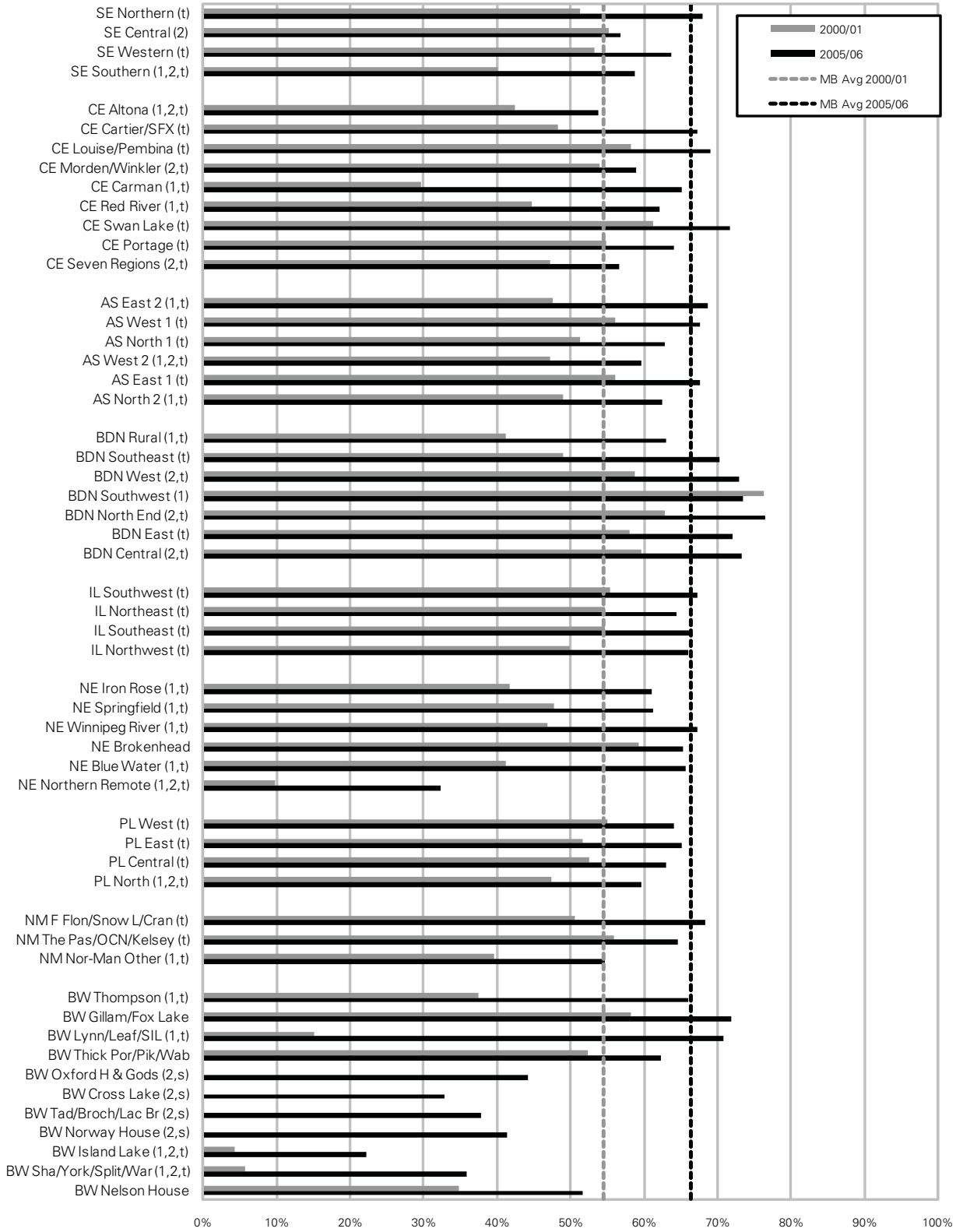



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 11.1.2: Adult Influenza Immunization Rates by District

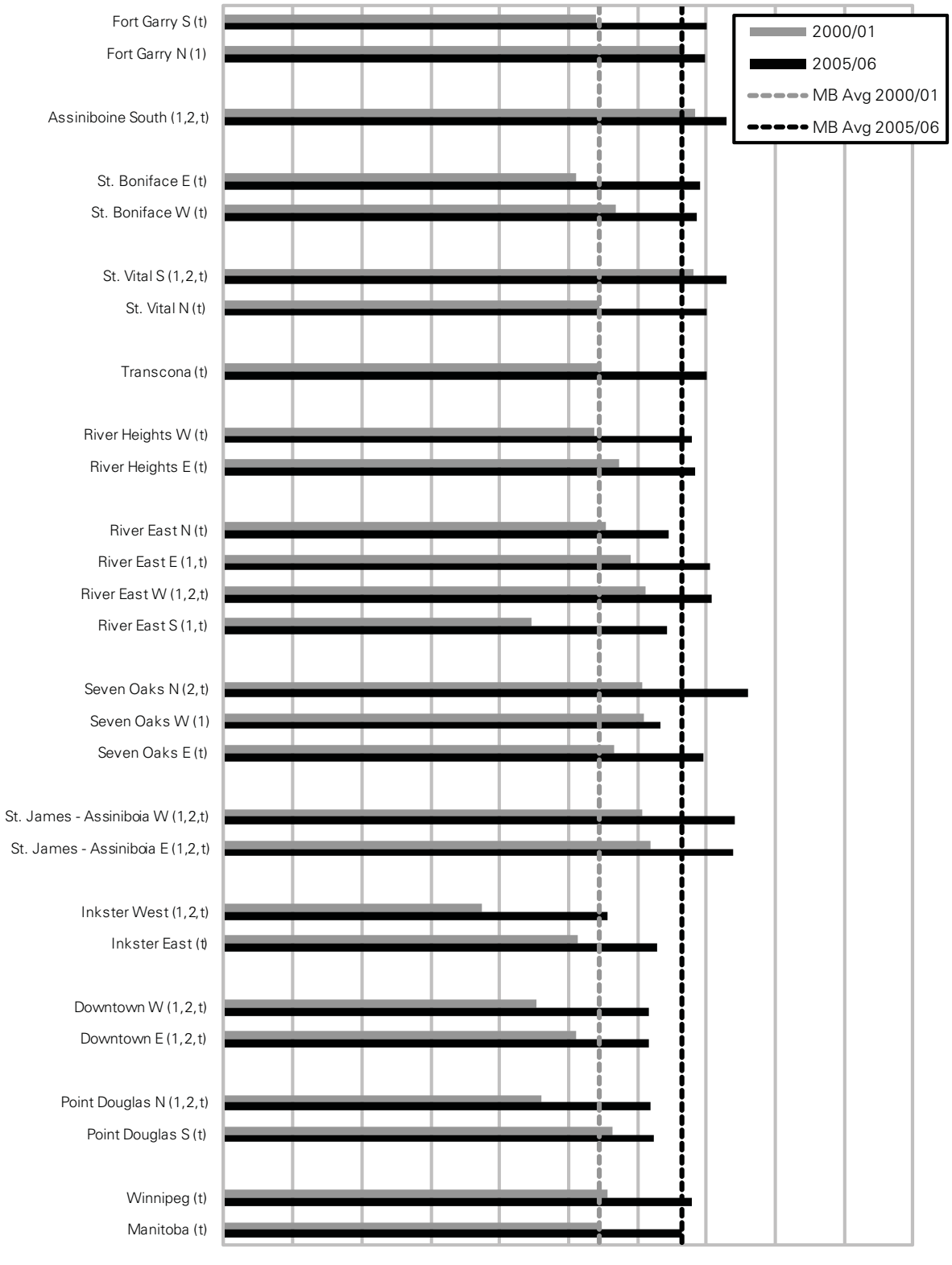
Age- & sex-adjusted percent of residents aged 65+ who received a flu shot




Source: Manitoba Centre for Health Policy, 2009

**Figure 11.1.3: Adult Influenza Immunization Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 65+ who received a flu shot




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of Manitoba seniors (65+) receiving a flu shot increased from 54.5% in 2000/01 to 66.4% in 2005/06, and this increase was seen in virtually all areas.
- Rates do not appear to be related to health status at the RHA or aggregate levels.
- Rates in the North were low in both periods, especially Burntwood RHA, but they also showed the largest increase over time.
- There was no association between flu shot rates and income among urban residents. Among rural residents, there was no relationship in the first time period, but in the second time period, residents of lower income areas had lower rates (Appendix 2).

## Comparison to other findings:

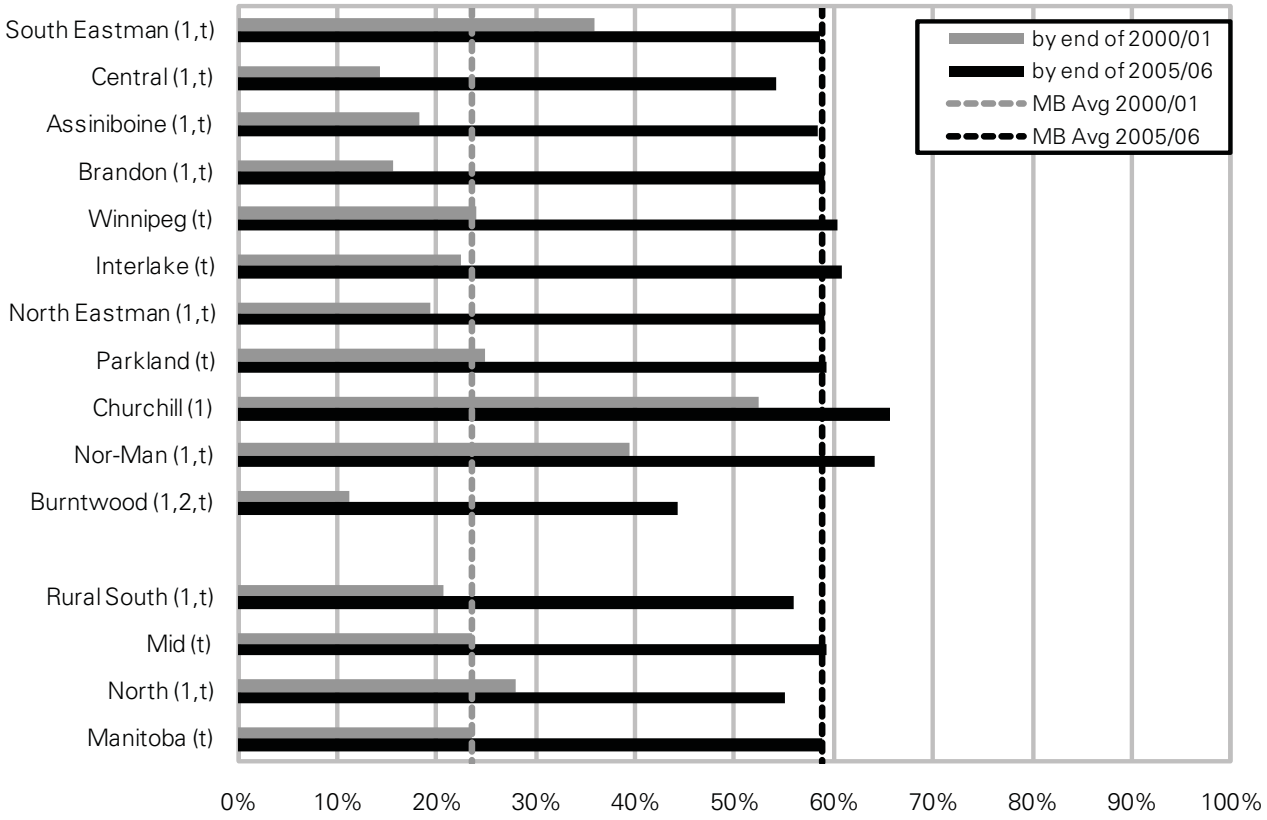
- The results shown here for 2000/01 mirror those shown in the 2003 Atlas (the first time this indicator was reported).
- The 66.4% in 2005/06 is the same as published in a Statistics Canada report for 2005, which showed that Manitoba was right at the Canadian rate of 66.5% (Statistics Canada, 2006b).
- The Public Health Agency of Canada commissioned a study of influenza and pneumonia vaccination rates for 2001 and reported that 69.1% of Canadians age 65+ received an influenza vaccination in the 2000/01 influenza season (Public Health Agency of Canada, 2001).

## 11.2 Vaccination for Pneumonia Among Adults 65+

Definition: the proportion of residents age 65 or older who ever received a vaccine for pneumonia. For most seniors, a pneumococcal vaccination is considered a 'once in a lifetime' event, so these rates show the 'cumulative' percent of residents who ever had a pneumococcal vaccination, as defined by physician tariff codes 8681–8684 and 8961 in MIMS data. Values were calculated as of 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population 65+ in 2000/01.

**Figure 11.2.1: Pneumococcal Immunization Rates by RHA**

Age- & sex-adjusted percent of residents aged 65+ who received a pneumococcal vaccination after April 2000

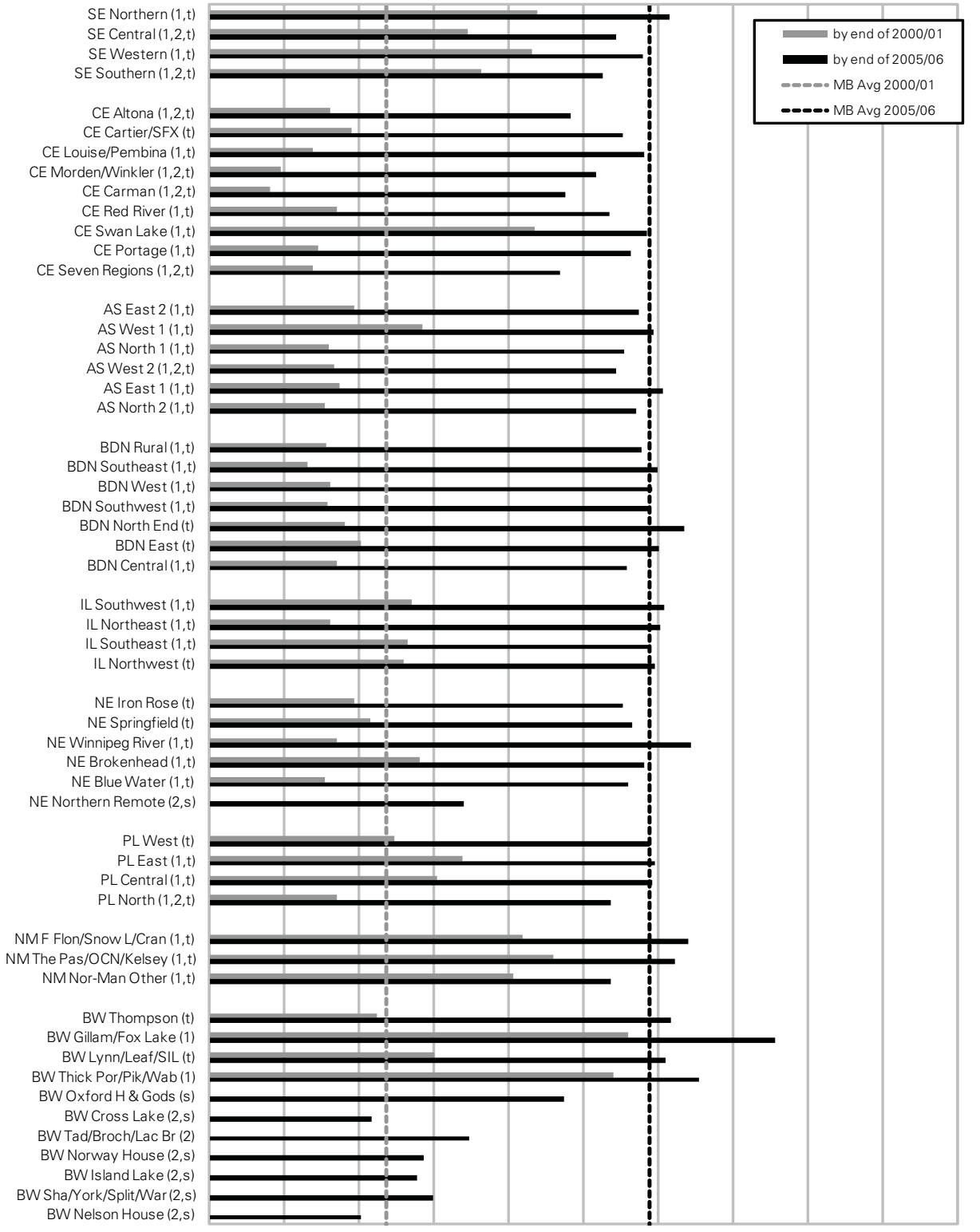



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 11.2.2: Pneumococcal Immunization Rates by District

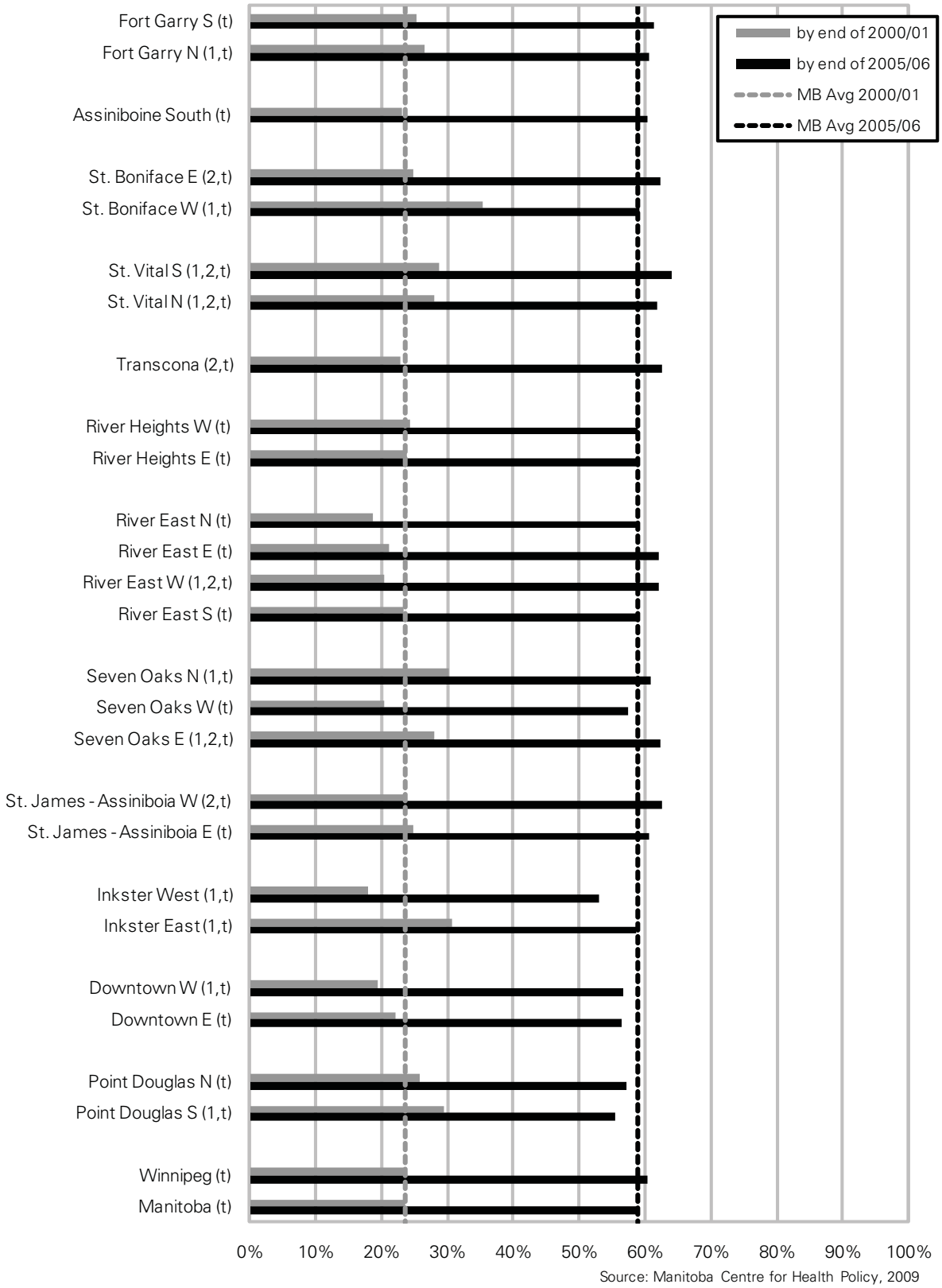
Age- & sex-adjusted percent of residents aged 65+ who received a pneumococcal vaccination after April 2000




Source: Manitoba Centre for Health Policy, 2009

**Figure 11.2.3: Pneumococcal Immunization Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents aged 65+ who received a pneumococcal vaccination after April 2000




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The cumulative percentage of residents age 65+ receiving a pneumococcal vaccination more than doubled in Manitoba from 23.6% as of 2000/01 to 58.7% as of 2005/06. Significant increases were seen in virtually all areas.
- There appears to be no association between pneumonia vaccination rates and health status at the RHA or aggregate levels.
    - There was relatively little variation in percentages across RHAs, especially in Time 2. Burntwood RHA was the exception, but appears to be 'catching up' to other RHAs over time.
- The relationship between pneumococcal vaccination rates and income was mixed (Appendix 2): overall, the relationships were modest compared to many other indicators. In urban areas, in Time 1, those in lower income areas were more likely to be vaccinated; whereas in Time 2, there was no difference. By contrast, rural areas showed the opposite trend: residents of lower income areas were less likely to be vaccinated, in both time periods.

## Comparison to other findings:

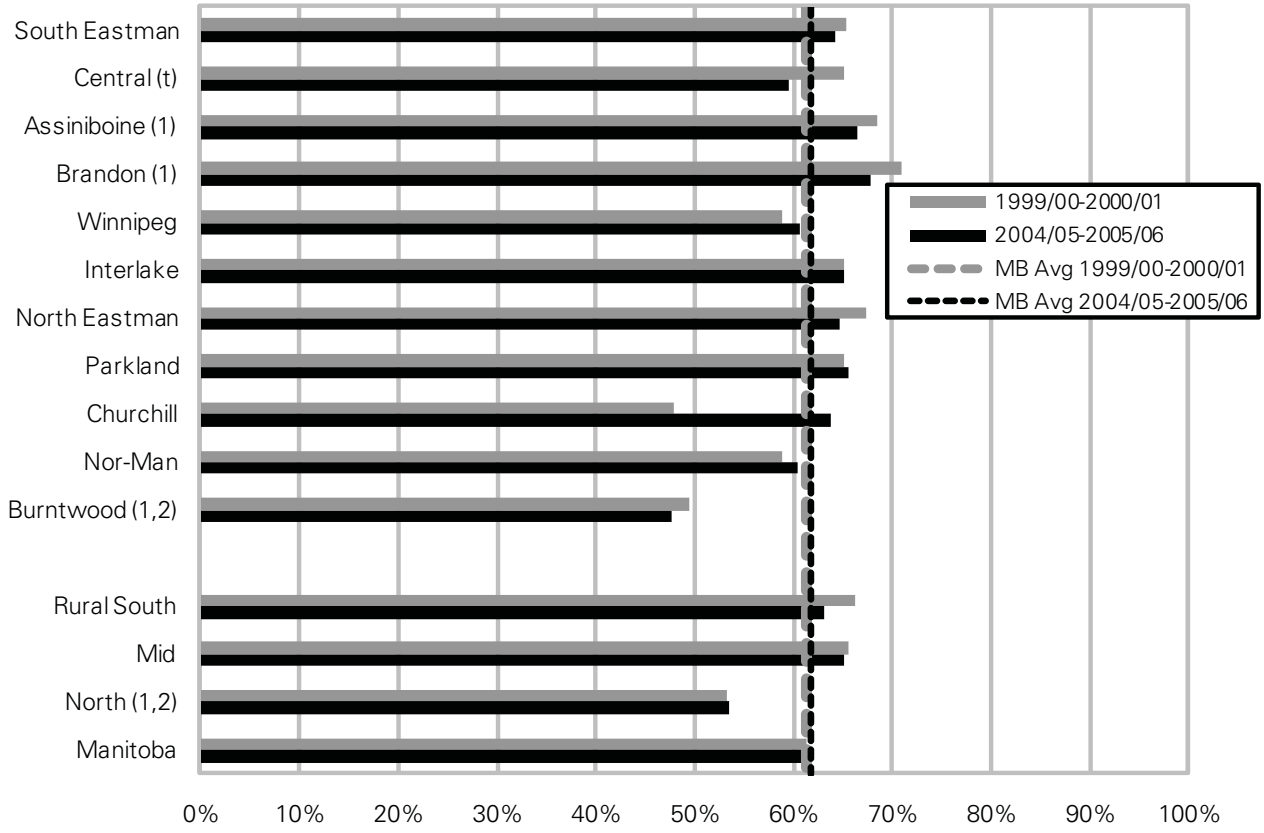
- This indicator was not included in the 2003 Atlas.
- The Public Health Agency of Canada commissioned a study of influenza and pneumonia vaccination rates for 2001 and reported that 42.2% of Canadians age 65+ received a pneumonia vaccination in their life. This rate is much higher than the 23.6% in Manitoba around that time (Public Health Agency of Canada. 2001).
- Results from a research project in Toronto also showed higher rates: in 2001, approximately 43% of residents 65+ had ever received a pneumococcal vaccination (Al–Sukhni, Avarino, McArthur, McGeer, 2008).

## 11.3 Mammography Rates (Breast Cancer Detection)

Definition: the proportion of women age 50–69 that had at least one mammogram in a two–year period. This included screening and diagnostic mammograms, identified by physician tariffs 7098, 7099, or 7104 (see Glossary for description of each). Rates were calculated for two 2–year periods, 1999/00–2000/01 and 2004/05–2005/06, and adjusted to the female population age 50–69 in the first period.

**Figure 11.3.1: Mammography Rates by RHA**

Age-adjusted percent of women aged 50-69 receiving at least one mammogram in two years

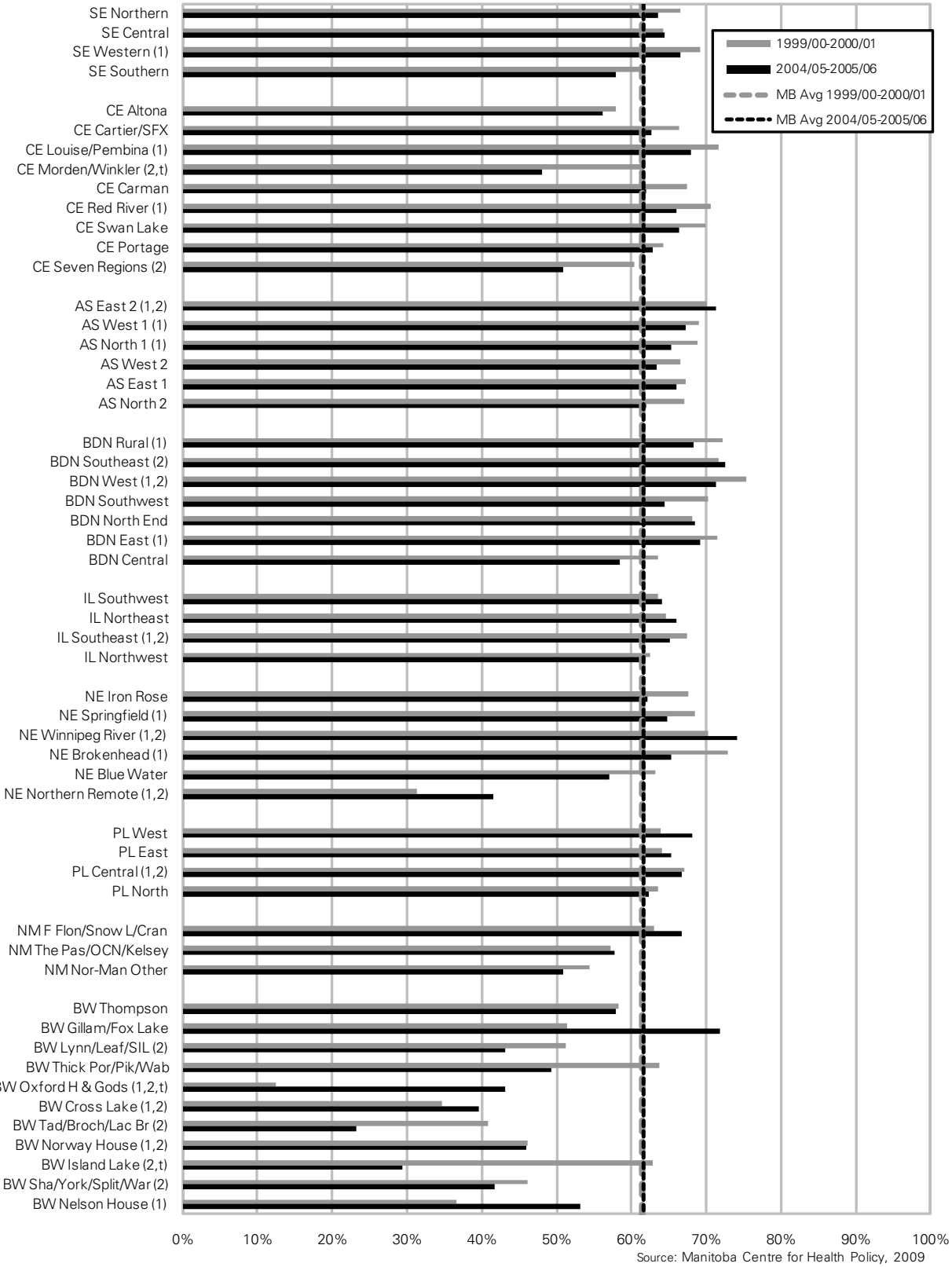



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 11.3.2: Mammography Rates by District

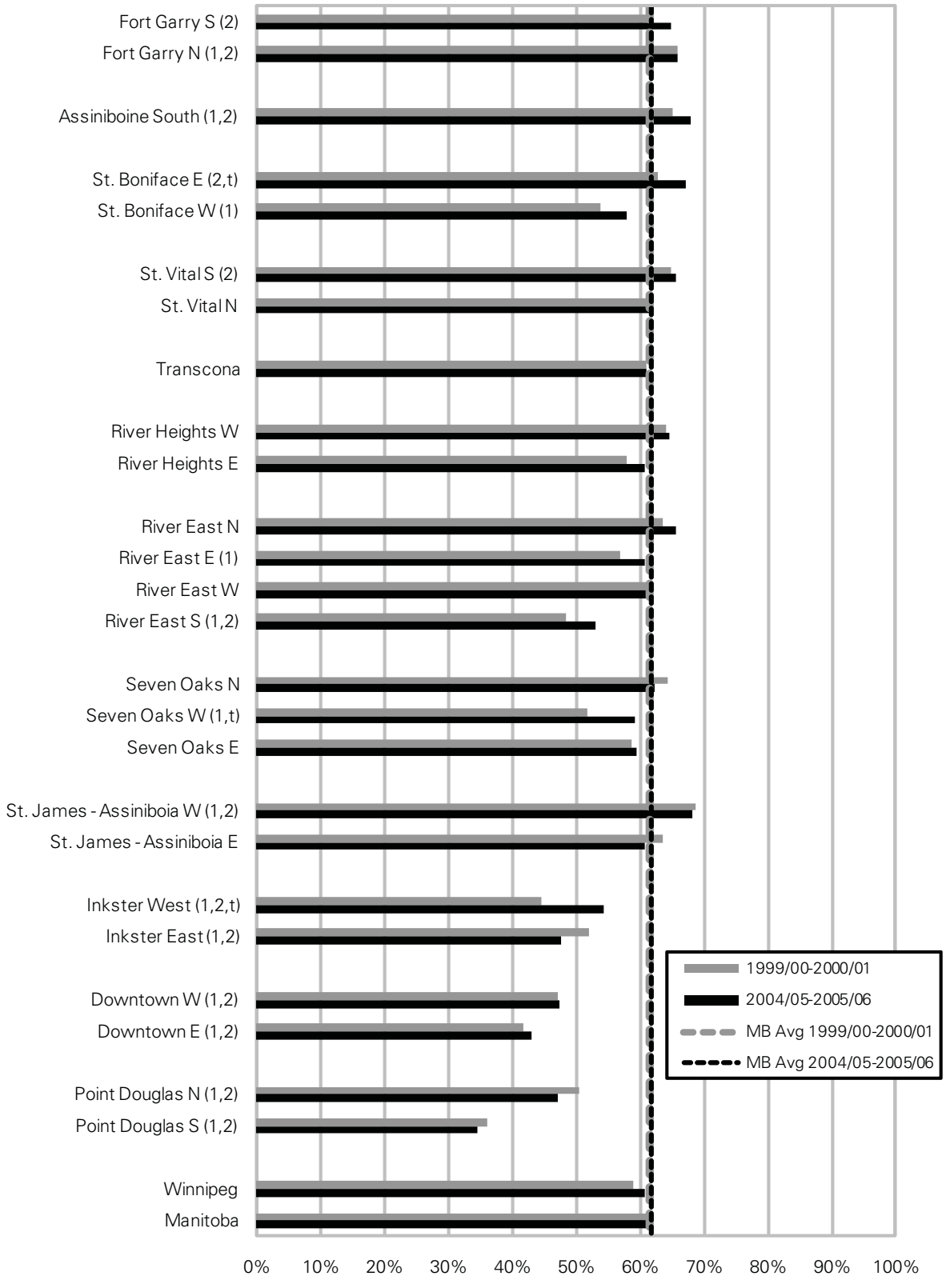
Age-adjusted percent of women aged 50-69 receiving at least one mammogram in two years




Source: Manitoba Centre for Health Policy, 2009

**Figure 11.3.3: Mammography Rates by Winnipeg Neighbourhood Cluster**

Age-adjusted percent of women aged 50-69 receiving at least one mammogram in two years




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of 50–69 year old women receiving at least one mammogram in two years was virtually unchanged in Manitoba, at 61.4% in 1999/00–00/01 and 61.7% five years later. Rates were also stable in most RHAs except Central which showed a decrease over time.
- There was no association between mammography rates and health status at the RHA level.
- Women in Burntwood RHA had lower than average rates in both periods.
    - Note: this finding is known by the provincial Breast Screening Program, which has introduced new initiatives to increase screening mammography rates of women in remote northern communities.
- Within Winnipeg, lower rates were seen among women in several high–need areas: Inkster, Downtown, and Point Douglas.
- There were strong associations between mammography rates and income in rural and urban areas, in both time periods: women in lower income areas had lower mammography rates than women in higher income areas (Appendix 2).

## Comparisons to other findings:

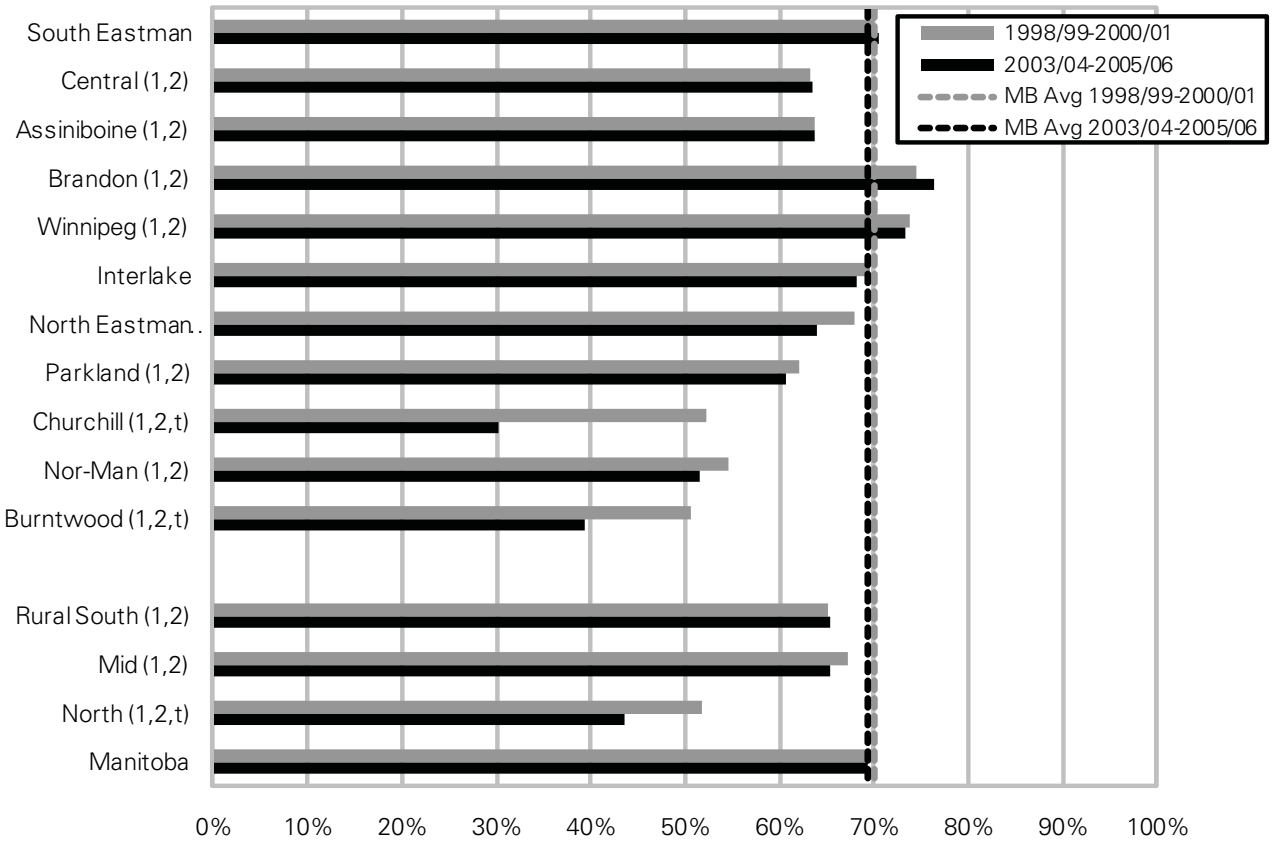
- The What Works report showed that mammography rates increased dramatically from 1984 to 2000, then leveled off at about 61% through 2004. This report extends that through 2006.
- These rates are lower than the 65.6% reported for Manitoba (70.4% for Canada) reported by Statistics Canada, based on data from the Canadian Community Health Survey (2006). However, rates based on administrative data (including MCHP) may be more accurate, as they include all residents of Manitoba. In particular, Aboriginal women are under–represented in CCHS data, as Statistics Canada does not conduct surveys in First Nations communities.

## 11.4 Papanicolauo ('Pap') Test Rates (Cervical Cancer Detection)

Definition: The proportion of women age 18–69 who received at least one Pap test in a three–year period. This was defined by a physician visit with a tariff code for a Pap test, including a visit for a physical or regional exam with a Pap test (tariffs 8470, 8495, 8496, 8498) or a visit for a Pap test only (9795), or a laboratory tariff code 9470. Rates were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and adjusted to the female population age 18–69 in the first period. See Glossary for additional details, exclusions, and descriptions of tariffs.

**Figure 11.4.1: Papanicolauo Test Rates by RHA**

Age-adjusted percent of women aged 18-69 with one or more PAP smears in a three-year period

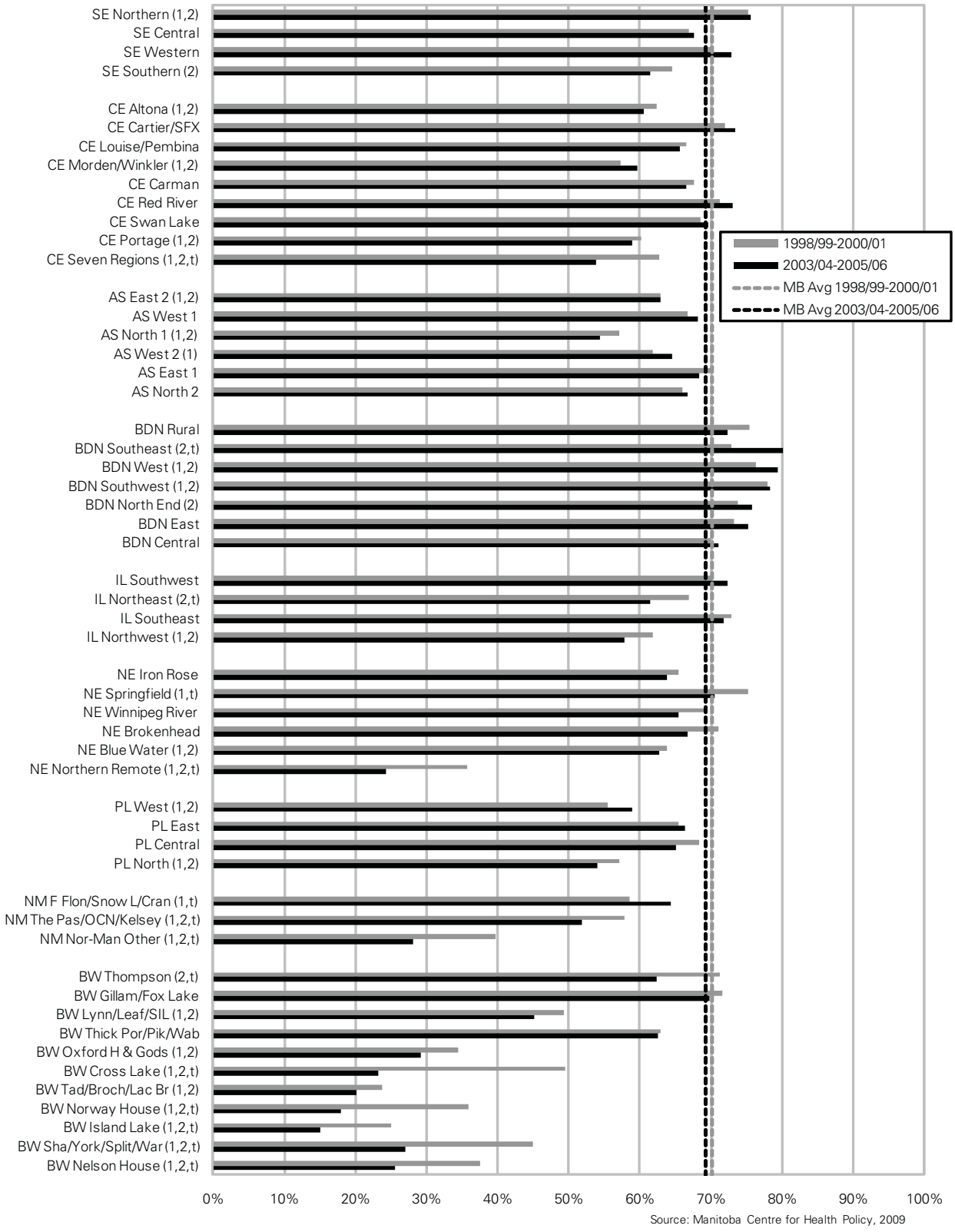



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 11.4.2: Papanicolauo Test Rates by District

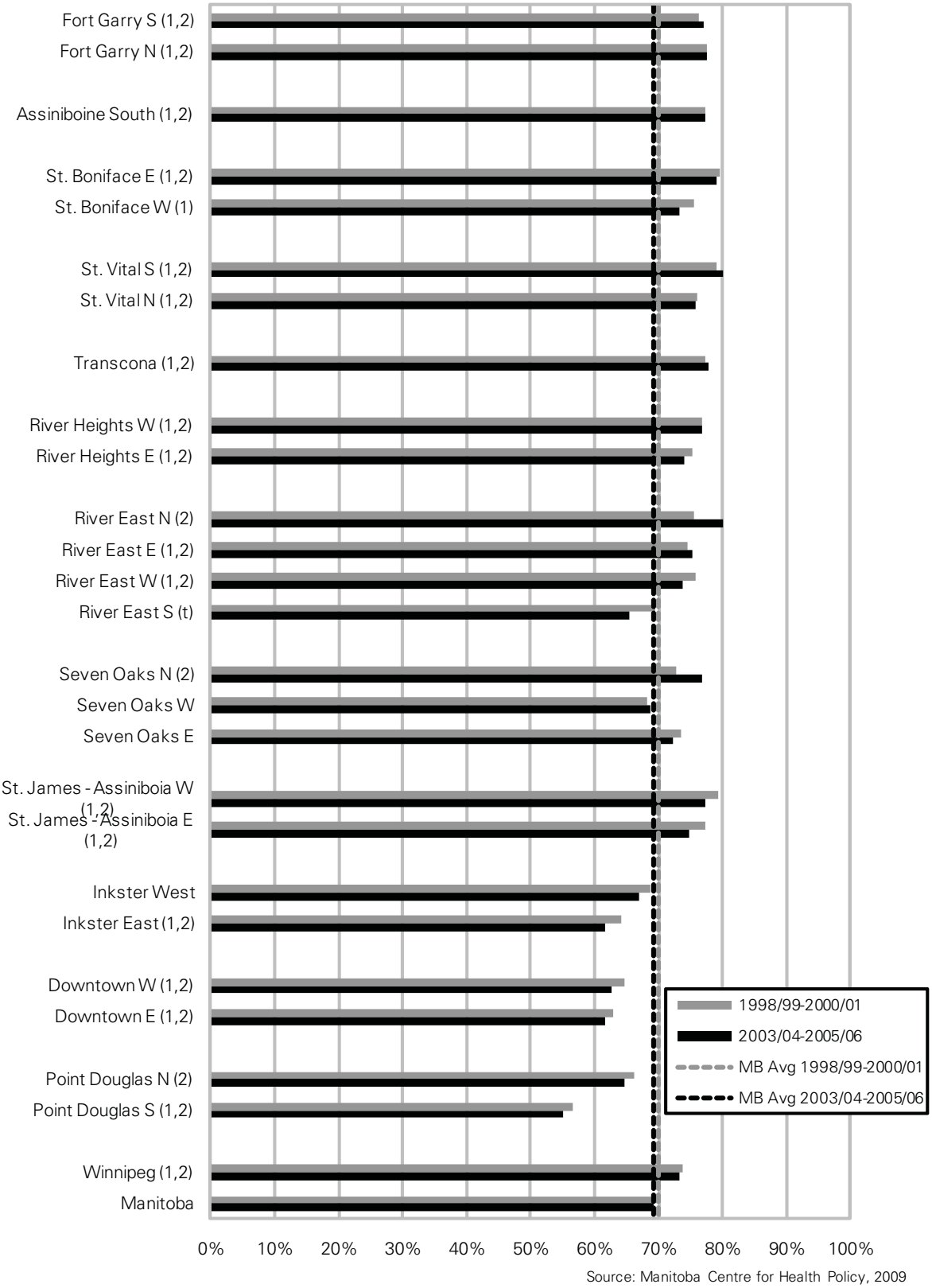
Age-adjusted percent of women aged 18-69 with one or more PAP smears in a three-year period




Source: Manitoba Centre for Health Policy, 2009

**Figure 11.4.3: Papanicolauo Test by Winnipeg Neighbourhood Clusters**

Age-adjusted percent of women aged 18-69 with one or more PAP smears in a three-year period




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The rate of Pap testing was stable over time: the slight decrease from 70.1% to 69.2% was not significant. Rates were stable in most RHAs, though Burntwood, North Eastman and Churchill showed decreases (some portion of these decreases may be related to data collection issues; see Introduction).
- Pap test rates were not related to health status at the RHA level, though women in the North had lower rates in both time periods.
- There were strong 'negative' associations between pap test rates and income in rural and urban areas, in both time periods: women in lower income areas had lower Pap test rates than women in higher income areas (Appendix 2).

## Comparison to other findings:

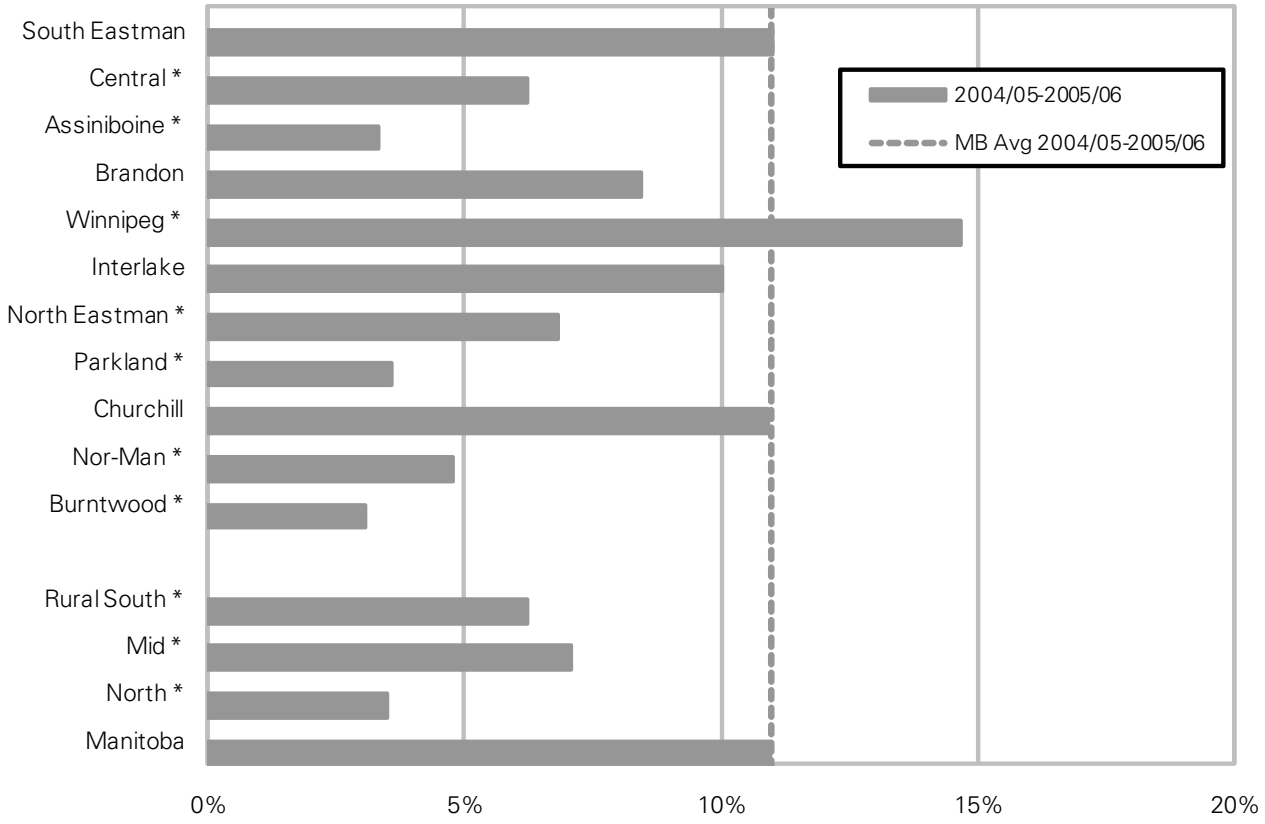
- The What Works report showed that cervical cancer screening rates were remarkably stable from 1986 to 2004; this report extends that finding to 2006. The rates in this report appear somewhat lower than in What Works, but this difference is simply an artifact caused by different years being used for statistical adjustment. In all years, the crude rate of pap testing was steady at about 69%.
- These values are close to the national average, and those from several provinces; see the What Works report for a more thorough review of comparable studies.

## 11.5 Health Links/Info Sante Service

Definition: the proportion of residents who contacted Manitoba's toll–free Health Links/Info Sante service at least once in two years: 2004/05–2005/06. Rates were adjusted to the Manitoba population in that period. This includes calls placed on a person's behalf by another person (i.e., a family member calling on behalf of a child or parent).

**Figure 11.5.1: Health Links Contact Rates by RHA**

Age- & sex-adjusted percent of residents with 1+ Healthlinks contacts in 2 years

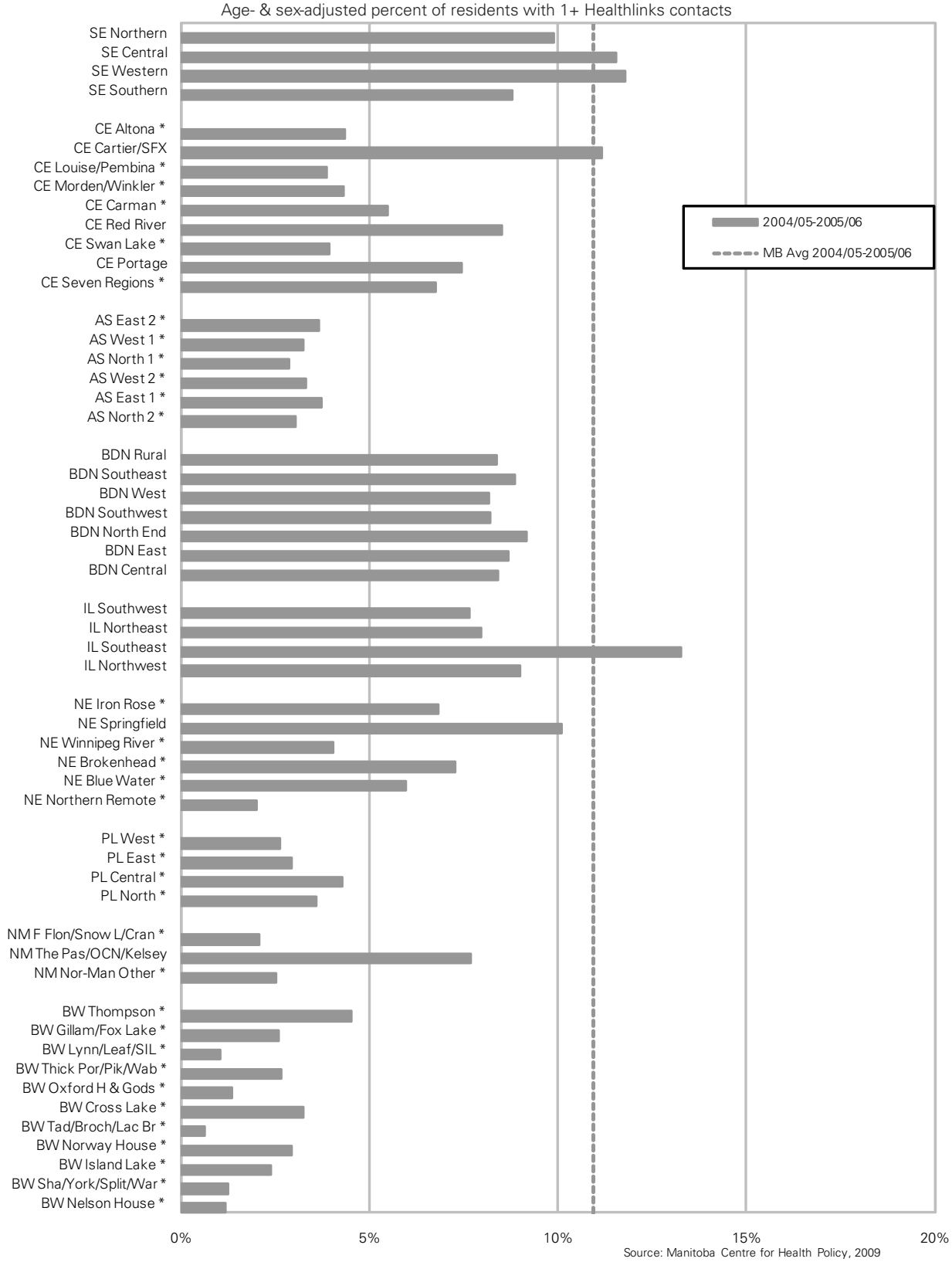



'*' indicates area's rate was statistically different from Manitoba average
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 11.5.2 Health Links Contact Rates by District

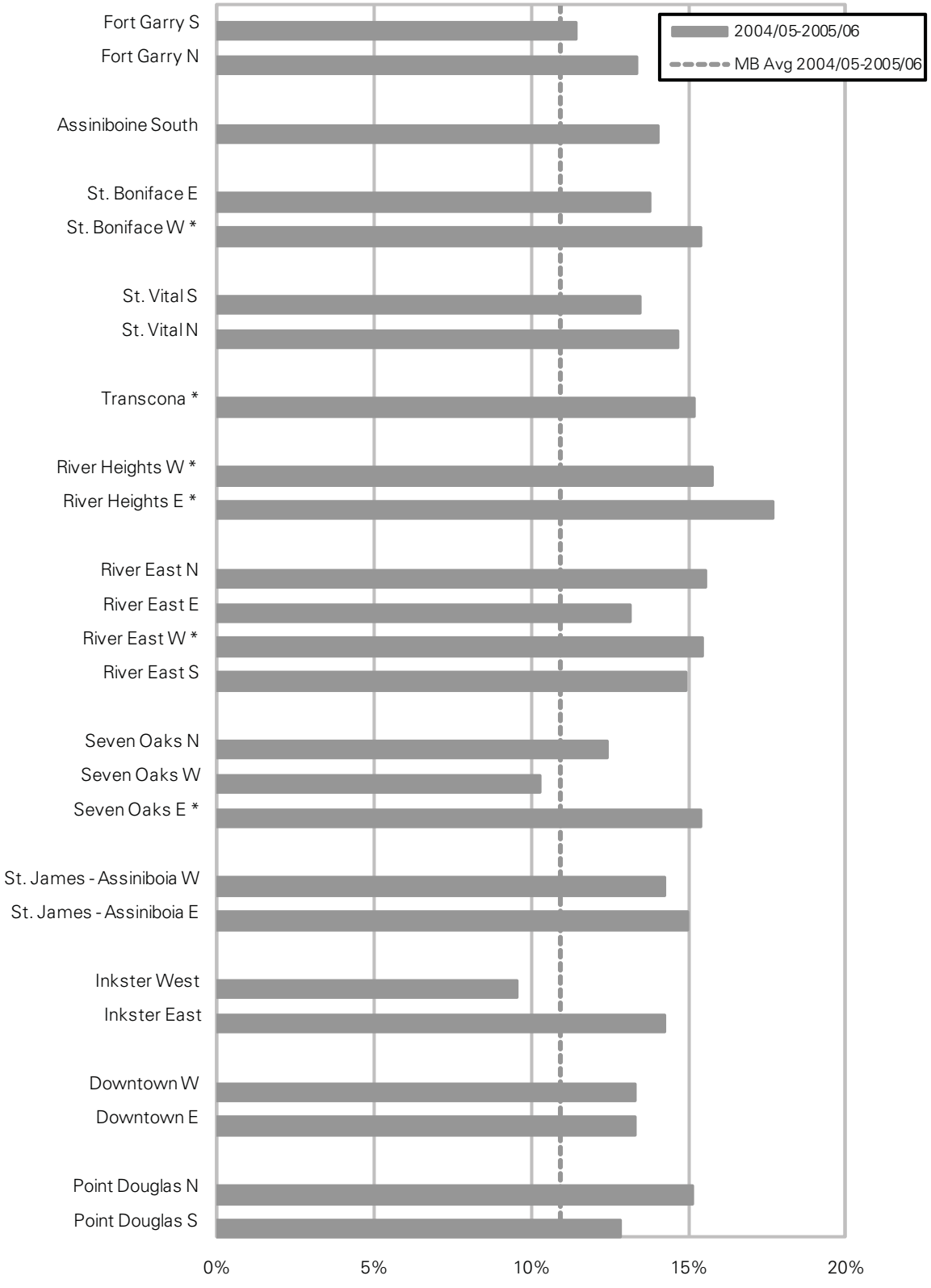
Age- & sex-adjusted percent of residents with 1+ Healthlinks contacts




Source: Manitoba Centre for Health Policy, 2009

**Figure 11.5.3: Health Links Contact Rates by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents with 1+ Healthlinks contacts




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 10.9% of Manitobans contacted the Health Links/Info Sante service at least once in the two year period 2004/05–2005/06.
- There was large variation in rates across RHAs from 3.1% of Burntwood residents to 14.7% of Winnipeg residents.
- Rates were not related to health status at the RHA level, though residents of the North had the lowest rates.
- Rates across NCs within Winnipeg were much more consistent, ranging from 9.5% in Inkster West to 17.7% in River Heights East.
- There was no relationship between Health Links/Info Sante contact rates and area–level income in urban areas but a significant negative relationship in rural areas, where lower income residents had lower contact rates than those from higher income areas (Appendix 2).

## Comparison to other findings:

- This indicator was not included in previous MCHP reports because data only recently became available.
- These values are consistent with, but slightly higher than, those reported by Statistics Canada: 8.5% for Manitoba and 10.0% for Canada. However, their indicator used only the last 12 months (vs. 24 months used here) and included only those age 15+ (vs. all ages here). Also, Statistics Canada results were based on data from the Canadian Community Health Survey (2006), which excludes residents of First Nations communities.

# Chapter 12: Prescription Drug Use

## Key Findings for Chapter 12

- The proportion of the population receiving at least one prescription in a year was stable at 68%, after years of slow but steady increases.
    - Rates were relatively comparable across RHAs, and stable over time within most RHAs except Burntwood, where improvements in the data recording system explain a portion of the increase seen.
- The number of different types of drugs dispensed per user increased over time from 3.6 to just under 4 in 2005/06. Rates appear to be related to the health status of the population at the RHA and aggregate levels: residents of areas with poorer health status received more prescriptions.
- The proportion of the population receiving at least 2 prescriptions for antidepressants also continues to increase over time, consistent with the increasing prevalence of depression (see Chapter 5).

## Introduction

This chapter includes a number of indicators of prescription drug use, derived from data in the Drug Program Information Network (DPIN) system. This data includes records for all prescriptions dispensed from community–based pharmacies in Manitoba. In this respect, Manitoba has a unique advantage in terms of including all residents (i.e., all ages, all income levels, etc). On the other hand, it means that for many drug indicators, comparable rates from other jurisdictions are not readily available. Data for drugs provided to patients while in hospital are not included, nor are drugs provided to Personal Care Home residents living in facilities serviced by hospital pharmacies.

Data for prescriptions dispensed from nursing stations improved dramatically in late 2004, as a result of improvements in information systems. Therefore, increases in the rates of drug use are expected for residents of northern/remote areas served by nursing stations.

There are millions of prescriptions dispensed to Manitobans every year, so the data system is large. This provides very high statistical power, with the consequence that most comparisons among areas and over time show statistically significant differences. While these are technically correct, some discretion should be exercised to not over–interpret differences which are substantively small, even though they may be indicated as statistically significant.

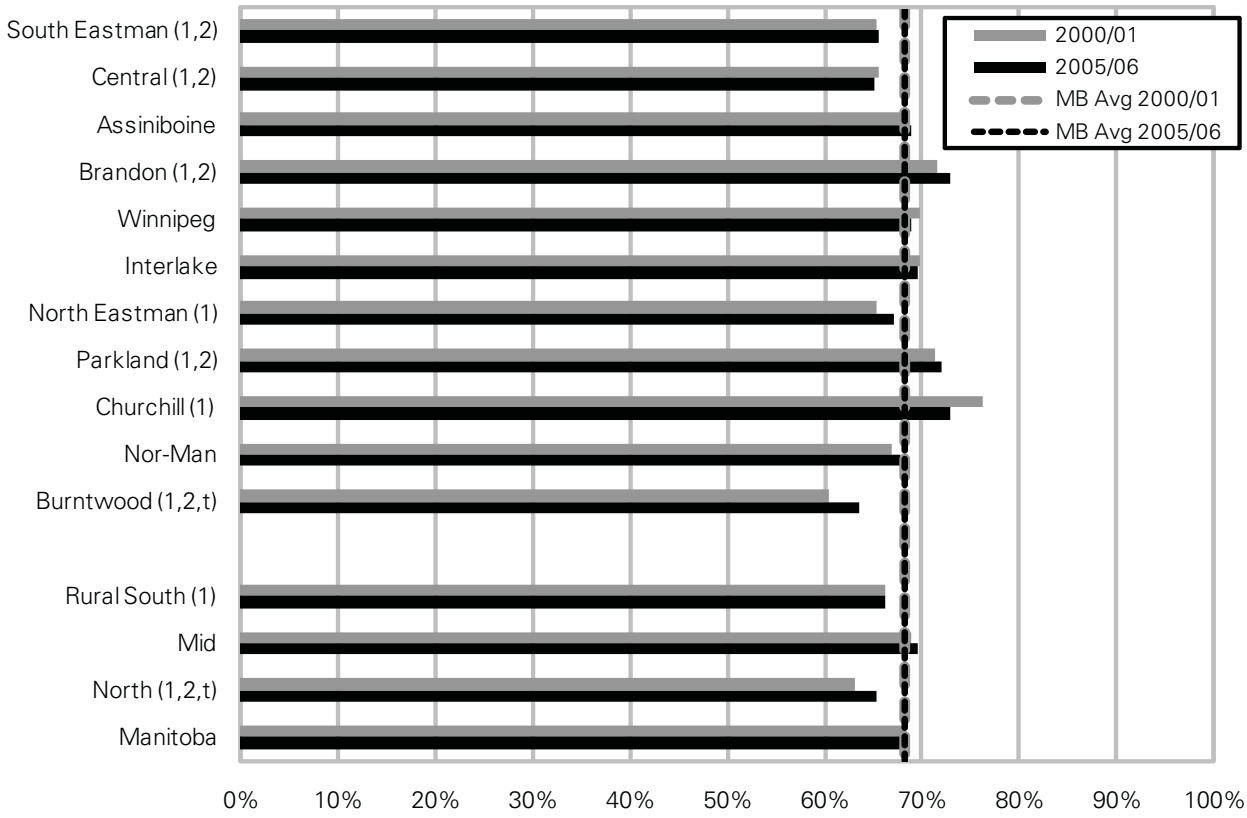
The analyses in this chapter cover the entire population; for results specific to children, see MCHP's 2008 Child Health Atlas Update.

## 12.1 Pharmaceutical Use

Definition: the proportion of residents who had at least one prescription dispensed in a given year. This includes all prescriptions dispensed from community–based pharmacies across the province (prescription drugs given to hospitalized patients are not included). Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 12.1.1: Pharmaceutical Use by RHA**

Age- & sex-adjusted percent of residents with at least one prescription dispensed for any drug

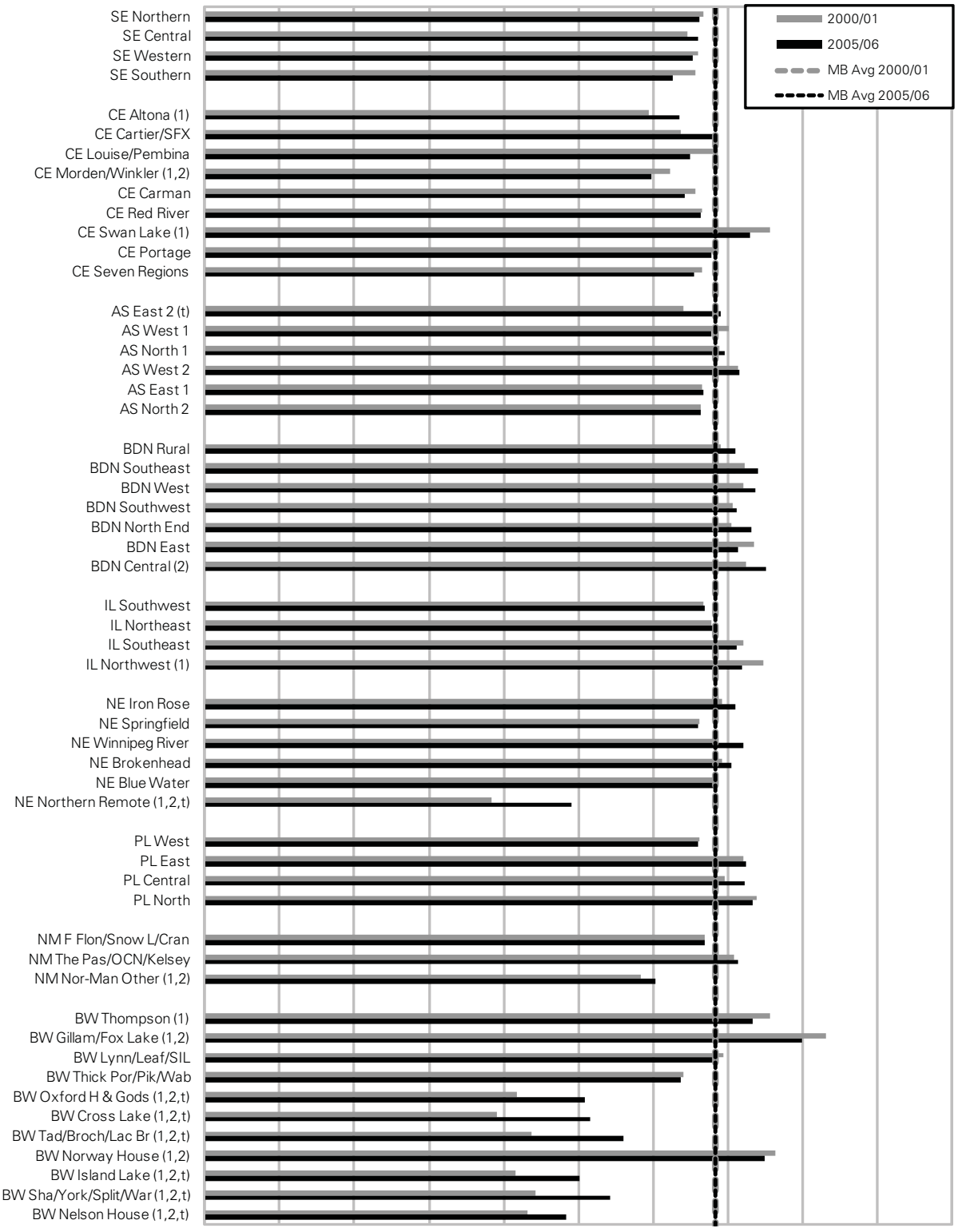



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 12.1.2: Pharmaceutical Use by District

Age- & sex-adjusted percent of residents with at least one prescription dispensed for any drug




Source: Manitoba Centre for Health Policy, 2009

**Figure 12.1.3: Pharmaceutical Use by Winnipeg Neighbourhood Clusters**

Age- & sex-adjusted percent of residents with at least one prescription dispensed for any drug


Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of Manitobans with at least one prescription dispensed in a year did not change: it was 68.3% in 2000/01 and in 2005/06. Among RHAs, only Burntwood had a significantly higher value in 2005/06 than in 2000/01, though part of this difference is attributable to improvement in the data system (see Introduction).
- Values were also relatively similar across RHAs: ranging (in 2005/06) from 63.5% in Burntwood to 72.9% in Brandon. There was remarkably little variation across most NCs in Winnipeg.
- Despite this relative similarity in values, rates for several RHAs were statistically different from the provincial average. These differences should be interpreted with caution, as the statistical significance is strongly affected by the high statistical power associated with large numbers (see Introduction).
- There appears to be no association between the proportion of residents receiving at least one prescription and health status at the RHA level.
- Relationships between pharmaceutical use and income were substantively modest but statistically significant in both time periods and in opposite directions for urban versus rural residents:
    - In urban areas, a higher proportion of residents of lower income areas had at least one prescription dispensed.
    - In rural areas, a higher proportion of residents of higher income areas had at least one prescription dispensed.

## Comparison to other findings:

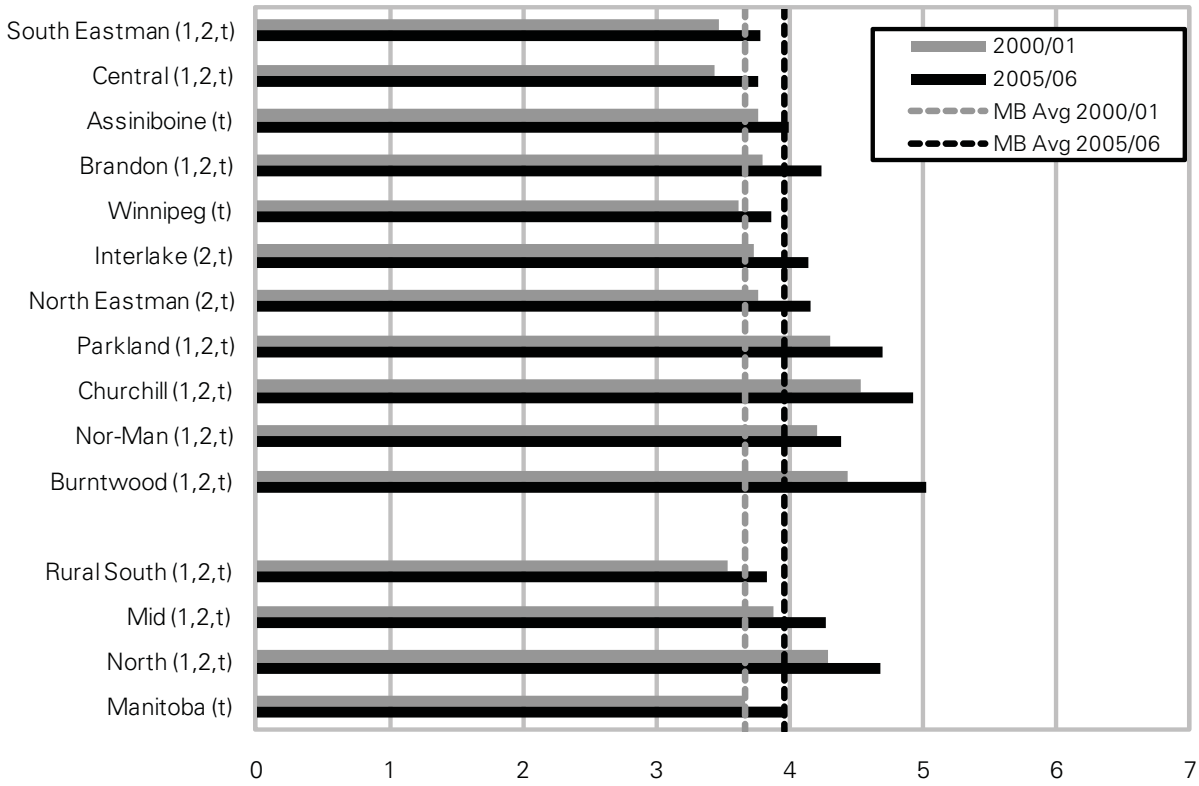
- Values in this report are consistent with those shown in the 2003 Atlas. Results for 2000/01 appear slightly higher in this report because slightly different time periods were used and increasing rates over time.
- Results from this report suggest that rates may be stabilizing.
- These results are also consistent with those shown in the Sex Differences report and with MCHP's 2003 Pharmaceuticals: Focusing on Appropriate Utilization report.

## 12.2 Number of Different Types of Drugs Dispensed per User

Definition: the average number of different types of drugs dispensed to each resident who had at least one prescription in the year. A 'different' drug type was determined by fourth–level class of the Anatomic, Therapeutic, Chemical (ATC) classification system. This level essentially separates drugs used for different health problems. A person could have several prescriptions for drugs in the same 4th level ATC class, but this would only count as one drug type in that year. Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Figure 12.2.1: Number of Different Drug Types Dispensed per User by RHA**

Age- and sex-adjusted average number of of different drugs used per resident with one or more prescriptions dispensed

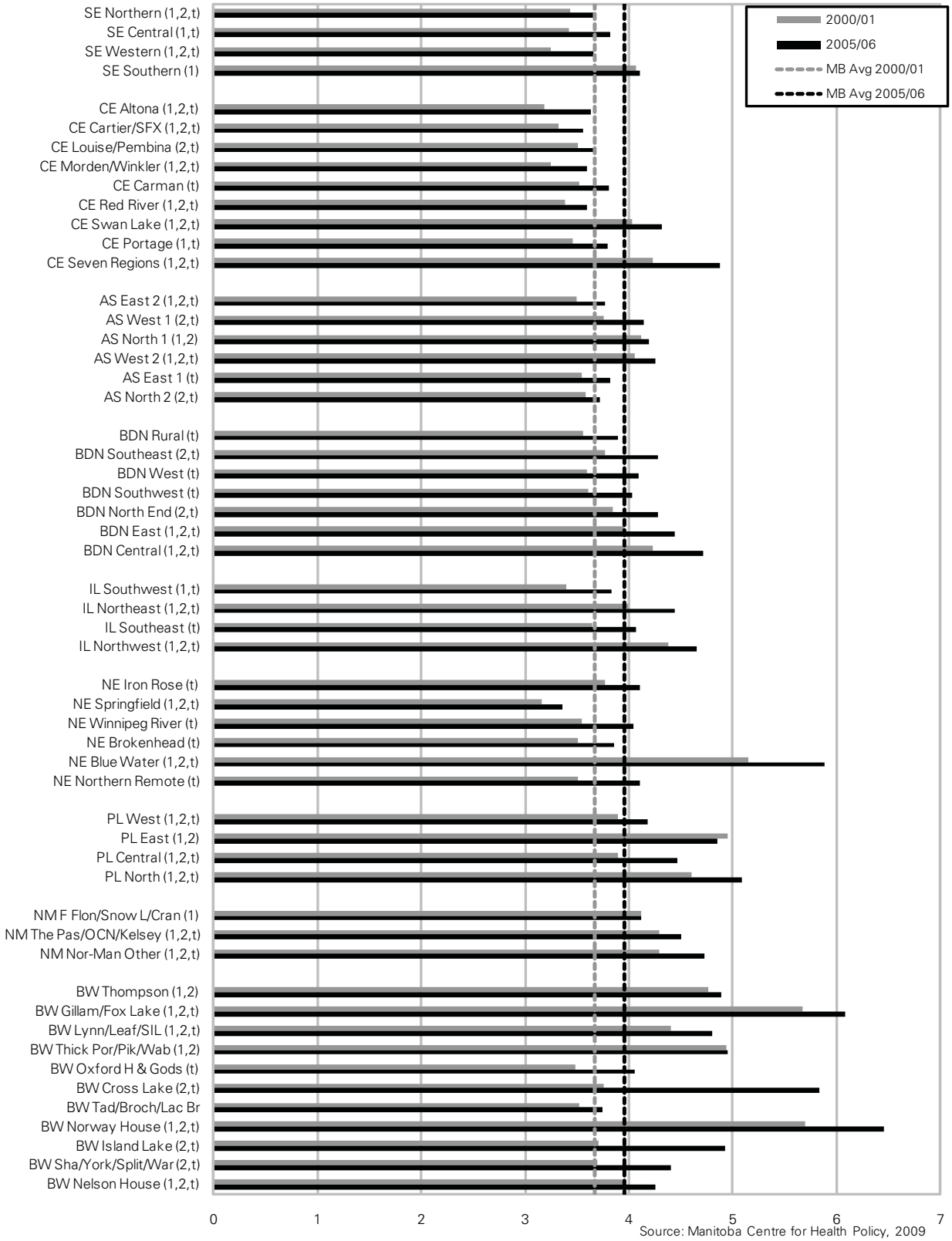



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 12.2.2: Number of Different Drug Types Dispensed per User by District

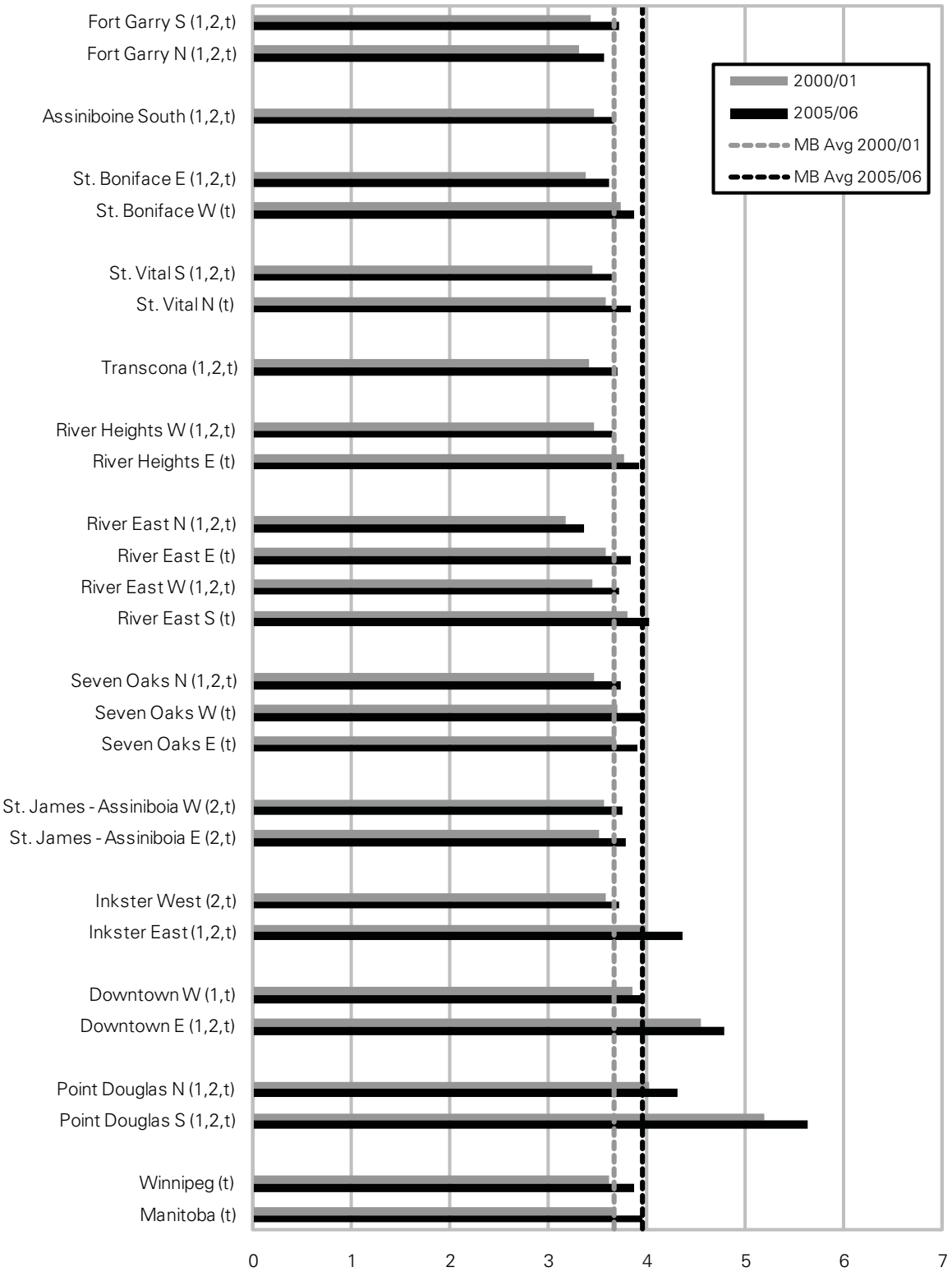
Age- and sex-adjusted average number of of different drugs used per resident with one or more prescriptions dispensed




Source: Manitoba Centre for Health Policy, 2009

**Figure 12.2.3: Number of Different Drug Types Dispensed per User by Winnipeg Neighbourhood Clusters**

Age- and sex-adjusted average number of of different drugs used per resident with one or more prescriptions dispensed




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The number of different drug types dispensed per user increased from 3.66 to 3.95. Similar increases were seen in almost all areas across the province and within Winnipeg.
- Rates appear to be related to health status at the RHA level: they are low in the relatively healthy Rural South, higher in the Mid areas, and highest in the North (the least healthy area).
- The number of different drug types dispensed were strongly related to income in urban and rural areas in both time periods: residents of lower income areas used a higher number of different drug types (Appendix 2). This is consistent with their presumed higher need for healthcare due to their poorer overall health status.
    - These trends and, in particular, the high rates among residents of the lowest income quintiles suggest that provincial policies for prescription drug coverage appear to be working. Without coverage, we would expect lower income residents to have low prescription drug use rates.

## Comparison to other findings:

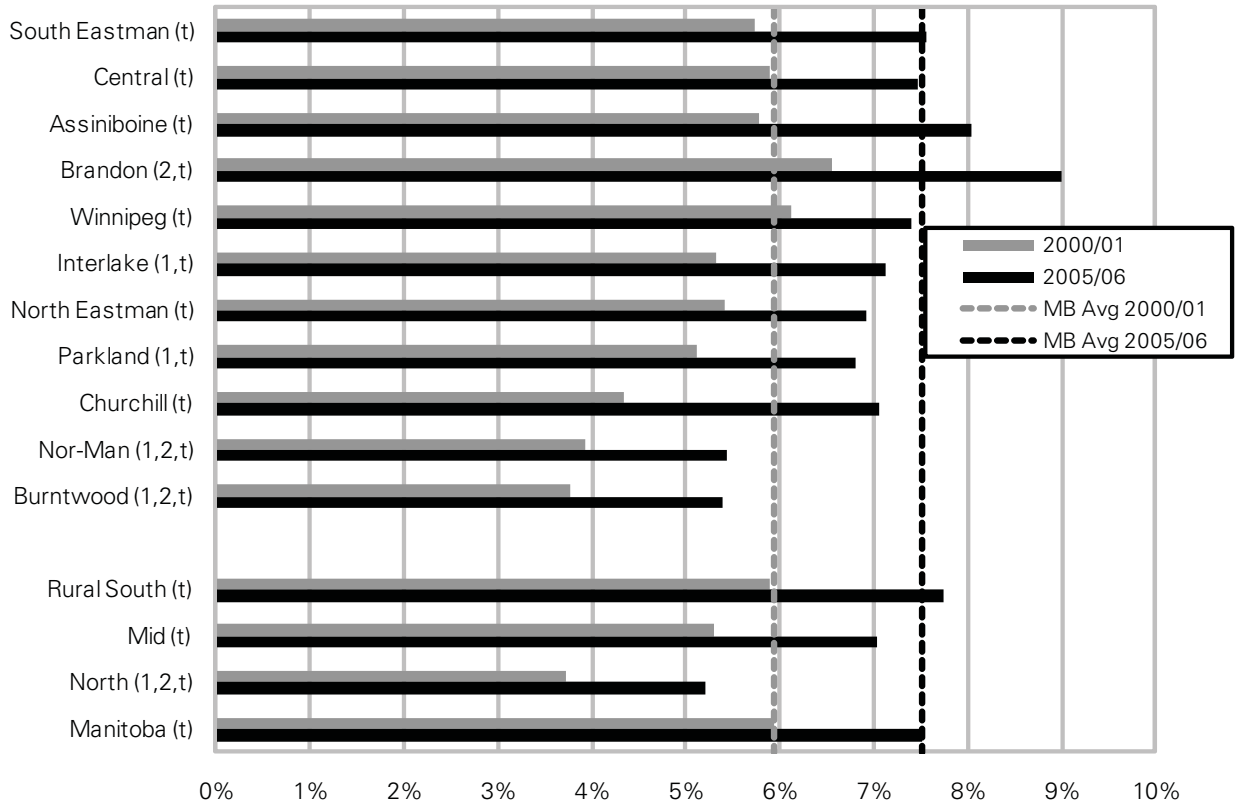
- These values are consistent with results shown in the 2003 Atlas, though somewhat higher for the 2000/01 time period because of slightly different time periods were used and increasing rates over time.
- Taken together, the reports show that the number of different drugs dispensed per user continues to increase over time.
    - This may be related to the increasing prevalence of a number of chronic diseases in the population.
    - The improvement in the data system for Northern residents (see Introduction) also contributes to this increase, though would have a small impact on the provincial averages.

## 12.3 Antidepressant Use

Definition: the proportion of residents who have had at least two prescriptions for antidepressants (ATC code N06A) in a given year. This includes all sub–types of antidepressants; some of which are sometimes prescribed for issues other than depression. (Note: these rates include residents of all ages. Analysis based specifically on children can be found in the Child Health Atlas Update report).

**Figure 12.3.1: Antidepressant Use by RHA**

Age- and sex-adjusted percent of residents with two or more prescriptions dispensed for antidepressants

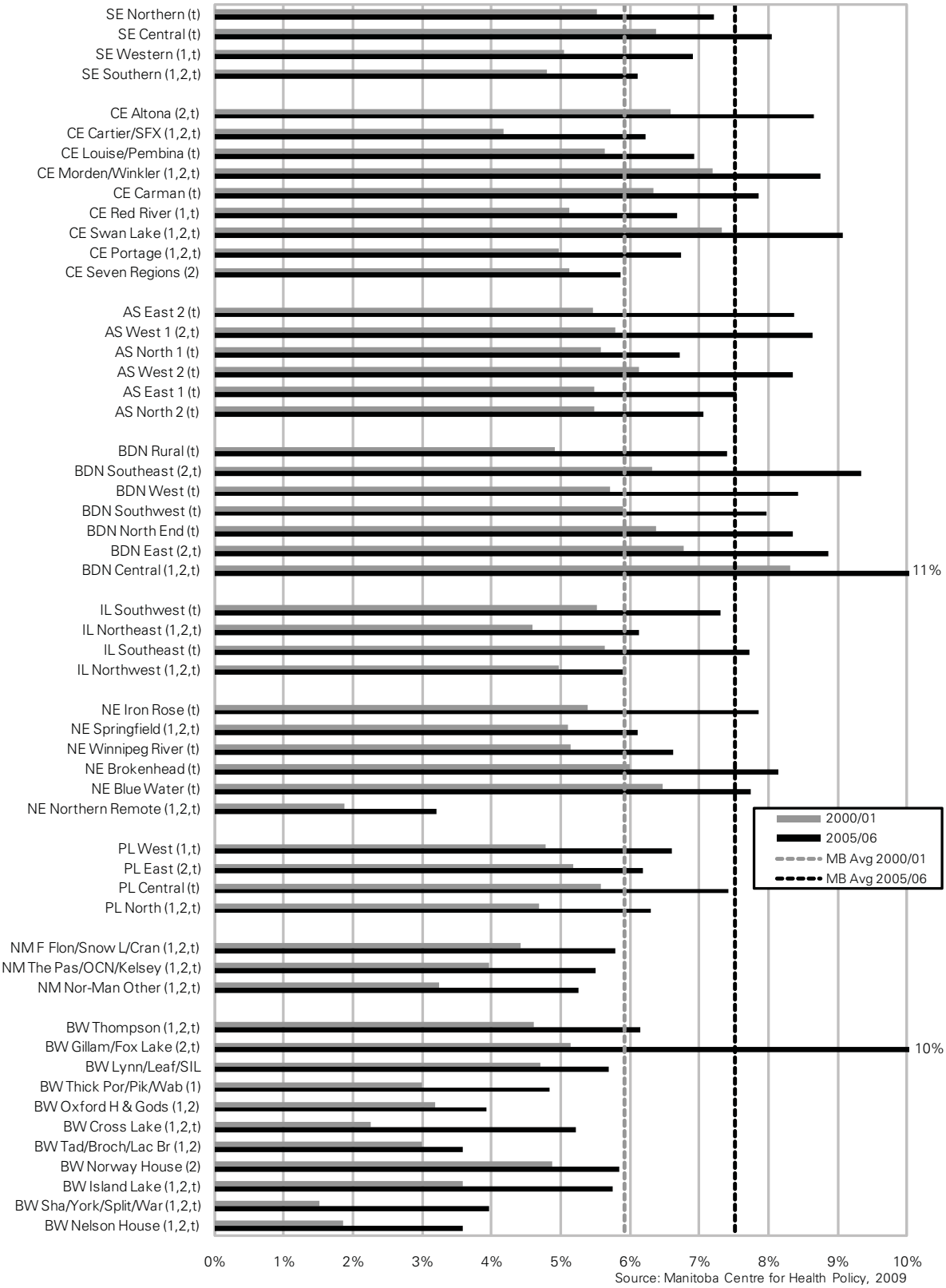



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 12.3.2: Antidepressant Use by District

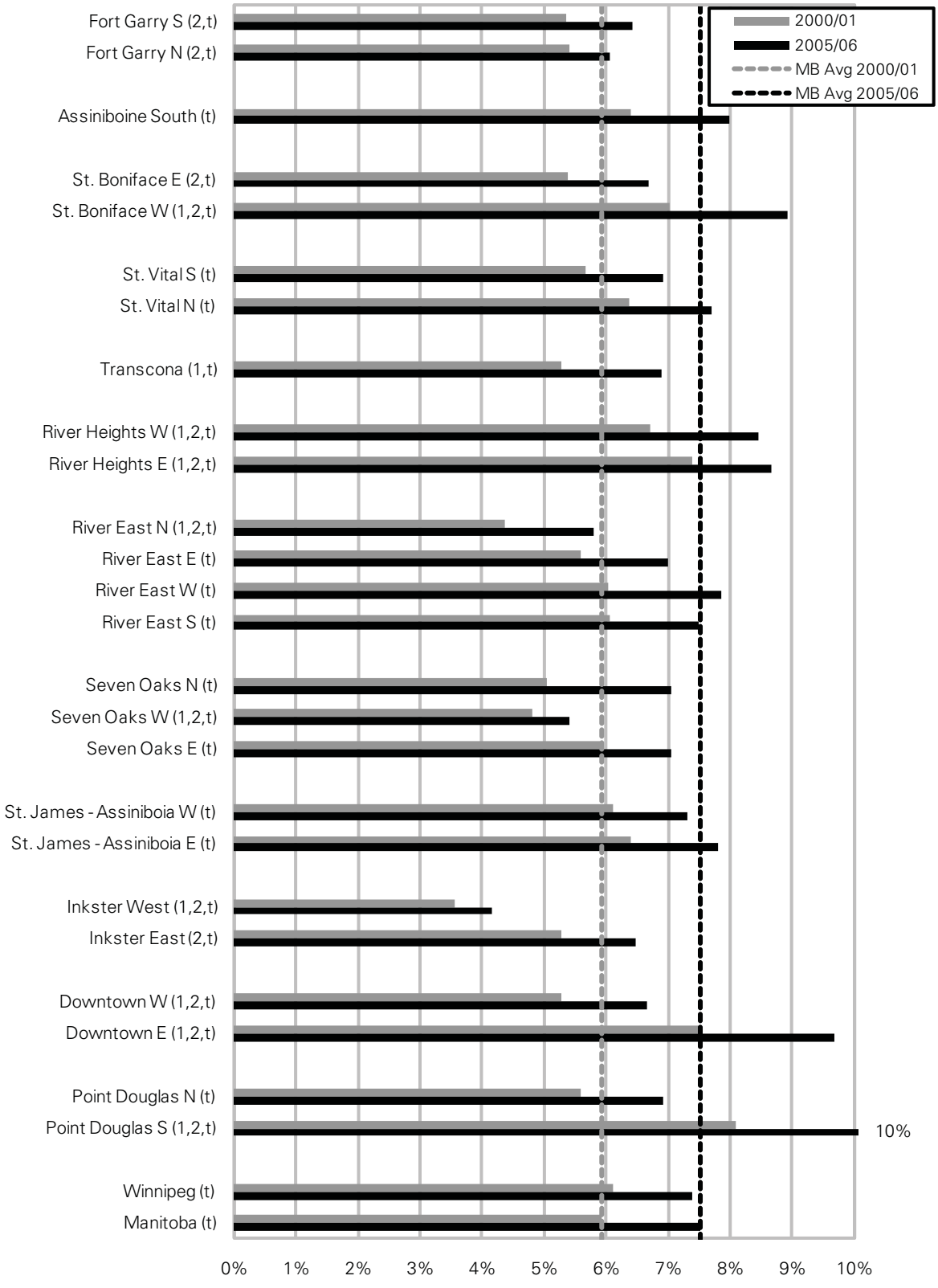
Age- and sex-adjusted percent of residents with two or more prescriptions dispensed for antidepressants




Source: Manitoba Centre for Health Policy, 2009

**Figure 12.3.3: Antidepressant Use by Winnipeg Neighbourhood Clusters**

Age- and sex-adjusted percent of residents with two or more prescriptions dispensed for antidepressants




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The proportion of the population being dispensed at least two prescriptions for antidepressants increased over time from 5.9% to 7.5%. Similar increases were seen across virtually all areas of Manitoba, including NCs within Winnipeg.
- Rates of antidepressant use appear to be related to health status at the RHA and aggregate levels, though perhaps in the opposite direction to what might have been expected. Rates were highest in the healthiest areas and lowest in the least health areas.
- Rates were low in the North, and this corresponds with the lower prevalence of diagnosed depression in residents of the North. However, as noted in Chapter 5, this lower prevalence of depression in the North is offset by a higher prevalence of substance abuse (see Chapter 5).
- Brandon residents had higher than average rates in both time periods, though the difference in Time 1 did not quite reach statistical significance.
- The relationships with income differed by area (Appendix 2): in rural areas, there was no significant relationship in either time period; whereas in urban areas, a significantly higher proportion of residents of lower income areas received antidepressants in both time periods.
    - Data from rural quintiles 1–4 suggest a trend in the opposite direction to that seen in urban areas; however, the much lower rate in rural quintile 5 (highest income) prevented the trend from being significant.
- In interpreting these results, it is important to bear in mind that some antidepressants continue to be used for issues other than depression.

### Comparison to other findings:

- These values are consistent with results shown in the 2003 Atlas, though somewhat higher because slightly different time periods were used and increasing rates over time.
- Taken together, the reports show that the proportion of residents receiving antidepressants continues to increase significantly over time.
- This increasing trend is also consistent with results from British Columbia, which found an increasing prevalence over time. Their values were considerably higher (over 10% in 2000/01 and over 12% in 2005/06) because their definition used just one prescription; whereas in this report, two prescriptions were required (Raymond, Morgan, & Caetano, 2007).

# Chapter 13: Quality of Primary Care

## Key Findings for Chapter 13

- Results from the indicators in this chapter suggest a mixed picture regarding changes in rates of quality of primary care over time:
  - Significant improvement was noted for Post–Myocardial Infarction care, asthma care, and diabetes care (eye exams)
  - Rates were basically stable for antidepressant follow–up
  - Rates got slightly worse for benzodiazepine prescribing among seniors age 75+, in both community–dwelling and Personal Care Home settings.
- Relationships with population health status and with income were mixed. Some indicators showed strong trends; others showed weak or no association.
  - For diabetes care and post–AMI care, there were strong 'negative' associations—indicating that residents of lower income areas were less likely to receive quality care.

## Introduction

This chapter contains a number of indicators of the quality of primary care received by Manitoba residents. The indicators were adapted from MCHP's 2004 report Using Administrative Data to Develop Indicators of Quality in Family Practice, with some revisions and with different years of data used. Also, the original Quality Indicators report included only those patients that could be assigned to a medical practice, whereas this report includes all residents of Manitoba. Therefore, the values shown are not directly comparable, though most are relatively close. The "Comparisons to other findings" sections in this chapter are limited to results from the original Quality Indicators report and MCHP's Sex Differences report because these used the same data source and similar methods.

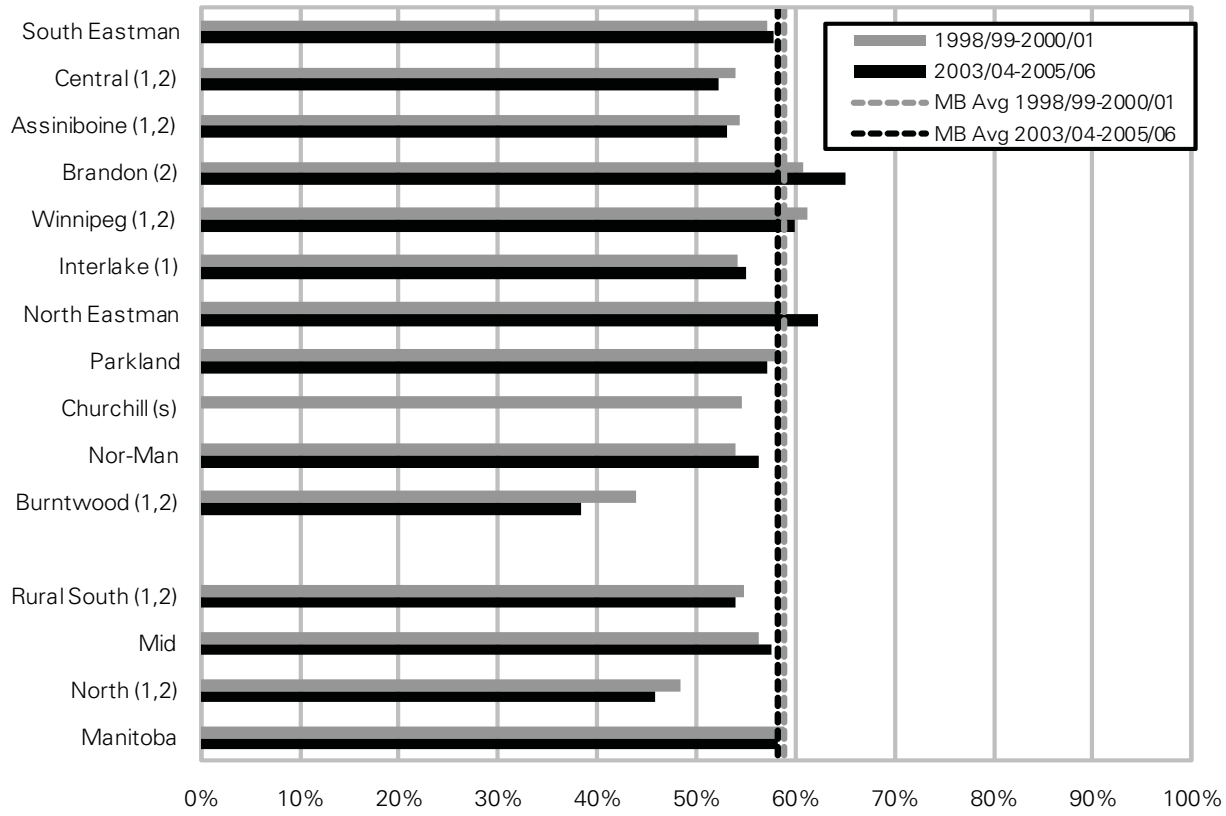
Because all of the indicators in this chapter relate to quality of care, crude rates are shown, rather than adjusted rates, because quality care should be provided to all patients regardless of age. (For most other indicators in this report, adjusted rates are used because many health conditions and health services are more common among older residents, so rates for different areas cannot be fairly compared without accounting for differences in age structure of local populations.)

## 13.1 Antidepressant Prescription Follow–up

Definition: the proportion of patients with a new prescription for antidepressants (ATC class N06A) and a physician diagnosis of depression (ICD–9 CM codes 296, 311) who had at least three physician visits within four months of the prescription being filled. Crude rates were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06. See Glossary for further details.

**Figure 13.1.1: Antidepressant Prescription Follow-Up by RHA**

Crude annual percent of new depression patients who received at least 3 physician visits in 4 months

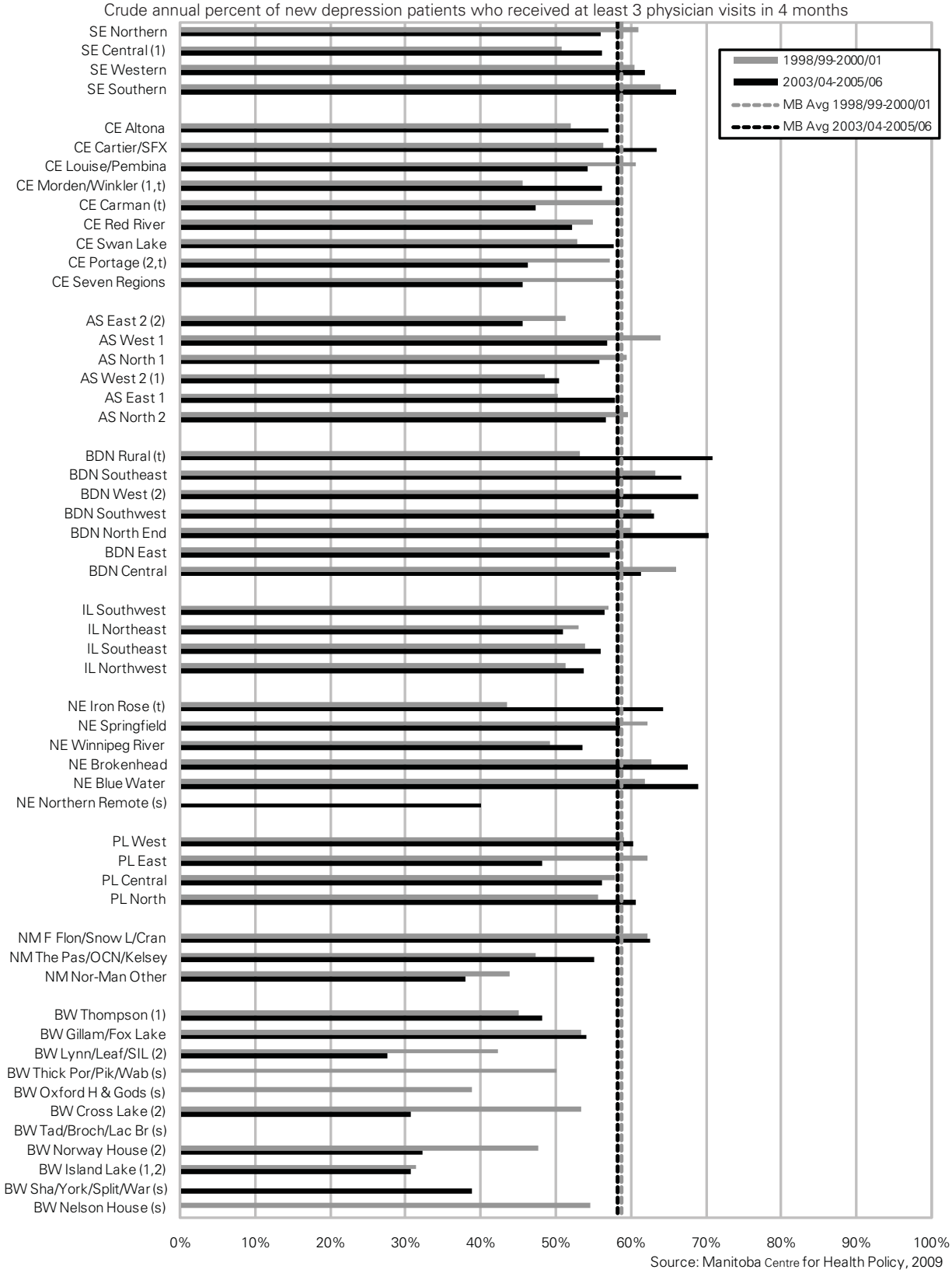



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 13.1.2: Antidepressant Prescription Follow-Up by District

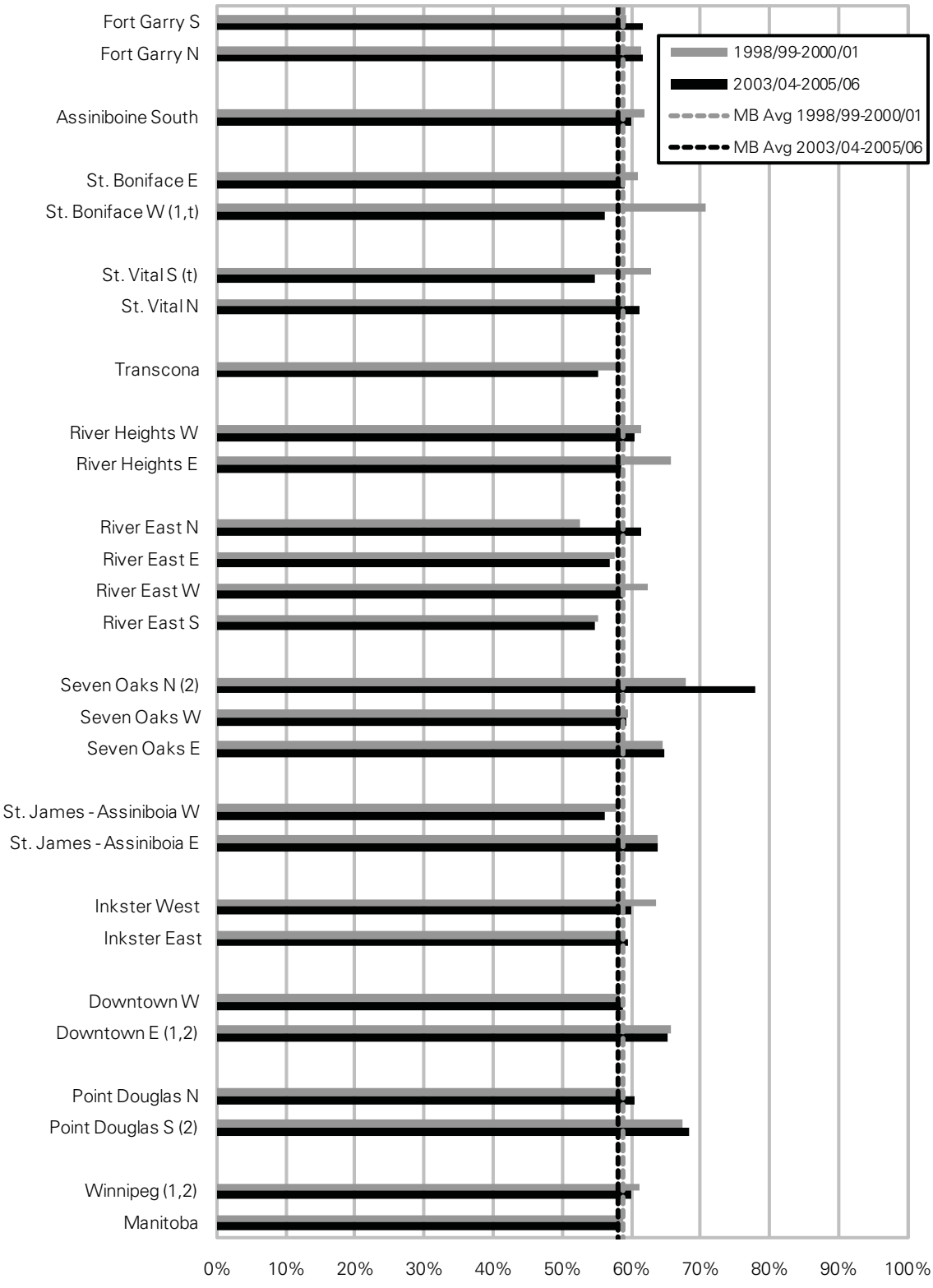
Crude annual percent of new depression patients who received at least 3 physician visits in 4 months




Source: Manitoba Centre for Health Policy, 2009

**Figure 13.1.3: Antidepressant Prescription Follow-Up by Winnipeg Neighbourhood Cluster**

Crude annual percent of new depression patients who received at least 3 physician visits in 4 months




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The rate of antidepressant prescription follow–up was stable over time at 58% and was reflected in virtually all areas of Manitoba, including Winnipeg NCs.
- There was no relationship between antidepressant follow–up and health status at the RHA or aggregate levels.
- Burntwood RHA had the lowest rates across RHAs in both time periods and their rate decreased slightly (but not significantly) over time.
- The relatively high rates in Seven Oaks North NC in Winnipeg are influenced by the Middlechurch PCH located in that area: PCH residents often have high physician visit rates, so they are more likely to receive three visits within four months.
- Relationships with income were mixed (Appendix 2). In the first time period, neither trend was significant; whereas in the second time period both were significant, but in opposite directions. In urban areas, a higher proportion of residents of lower income areas received the recommended care, while in rural areas, higher income residents had higher rates of quality care.

### Comparison to other findings:

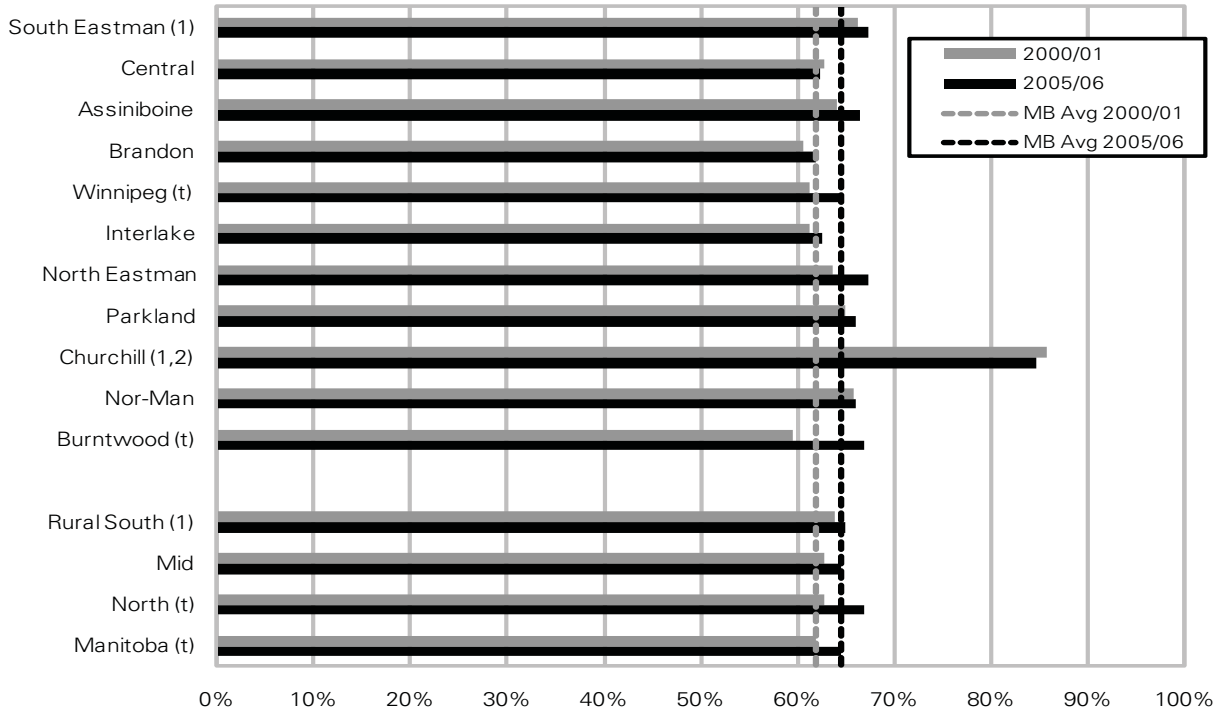
- The values shown here are slightly lower than those in the Sex Differences report, but well above those shown in the Quality Indicators report. These differences reflect a combination of changes over time and the revised definition used in this report—from a one year clearance time (without a prescription) to two years (without a prescription OR a physician visit for depression).

## 13.2 Asthma Care: Controller Medication Use

Definition: the proportion of residents with asthma receiving medications recommended for long–term control of their disease. Asthma was defined by two or more prescriptions for beta 2–agonists (ATC codes R03AA, R03AB, R03AC). Recommended long–term controller medications included inhaled corticosteroids (ATC R03BA), leukotriene modifiers (ATC R03DC), or combination drugs (R03AK). Patients receiving ipratropium bromide (ATC codes R01AX03, R03AK04, R03BB01) were excluded as likely Chronic Obstructive Pulmonary Disease (COPD) patients. Crude rates were calculated for 2000/01 and 2005/06.

**Figure 13.2.1: Asthma Care by RHA**

Crude percent of residents with asthma receiving 1+ prescriptions for inhaled steriods

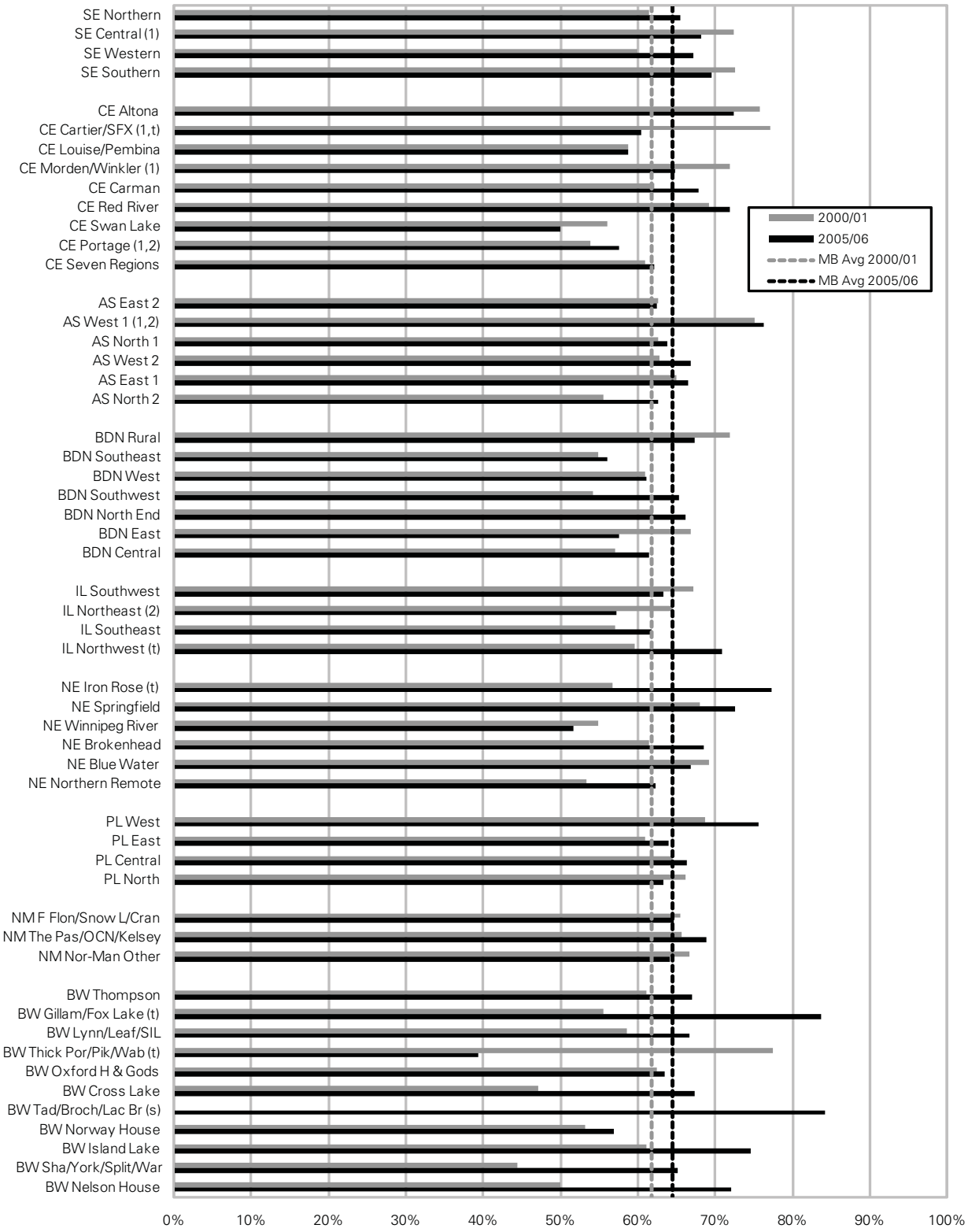



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 13.2.2: Asthma Care by District

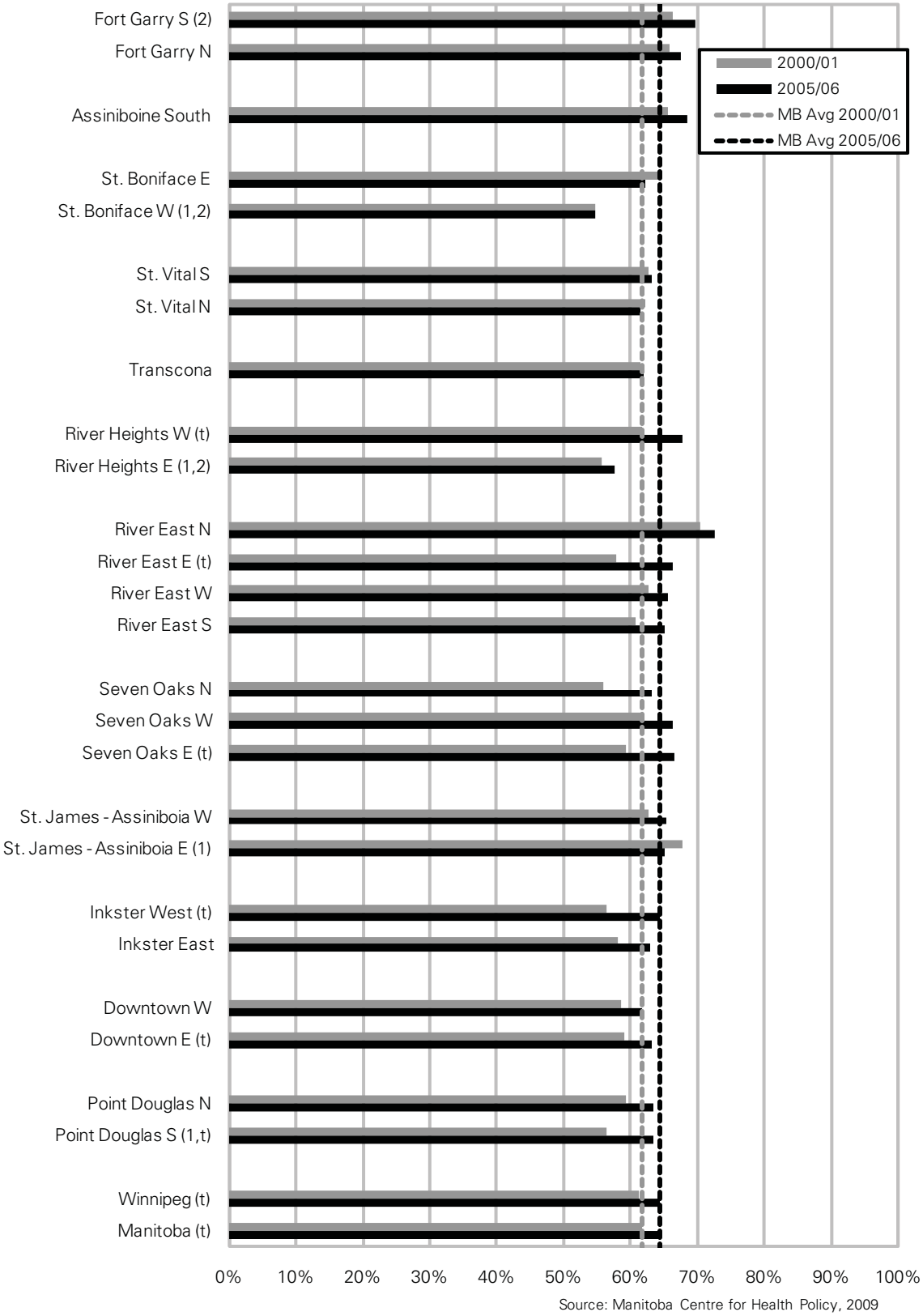
Crude percent of residents with asthma receiving 1+ prescriptions for inhaled steriods




Source: Manitoba Centre for Health Policy, 2009

**Figure 13.2.3: Asthma Care by Winnipeg Neighbourhood Cluster**

Crude percent of residents with asthma receiving 1+ prescriptions for inhaled steriods




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall there was an increase in the proportion of residents with asthma receiving the prescriptions recommended for long–term control from 61.8% to 64.4%. However, within most areas, the change was not statistically significant.
- In both years, rates were remarkably similar across all areas (e.g., RHAs) with few showing significant differences from the provincial averages.
- There was no relationship between asthma care and health status at the RHA or aggregate levels.
- Relationships with income were mixed (see Appendix 2). In rural areas, there were no significant trends. In urban areas, residents of low income areas were less likely than those in high income areas to be receiving recommended asthma care in both years, though the relationship was weaker in 2005/06 than in 2000/01.

## Comparison to other findings:

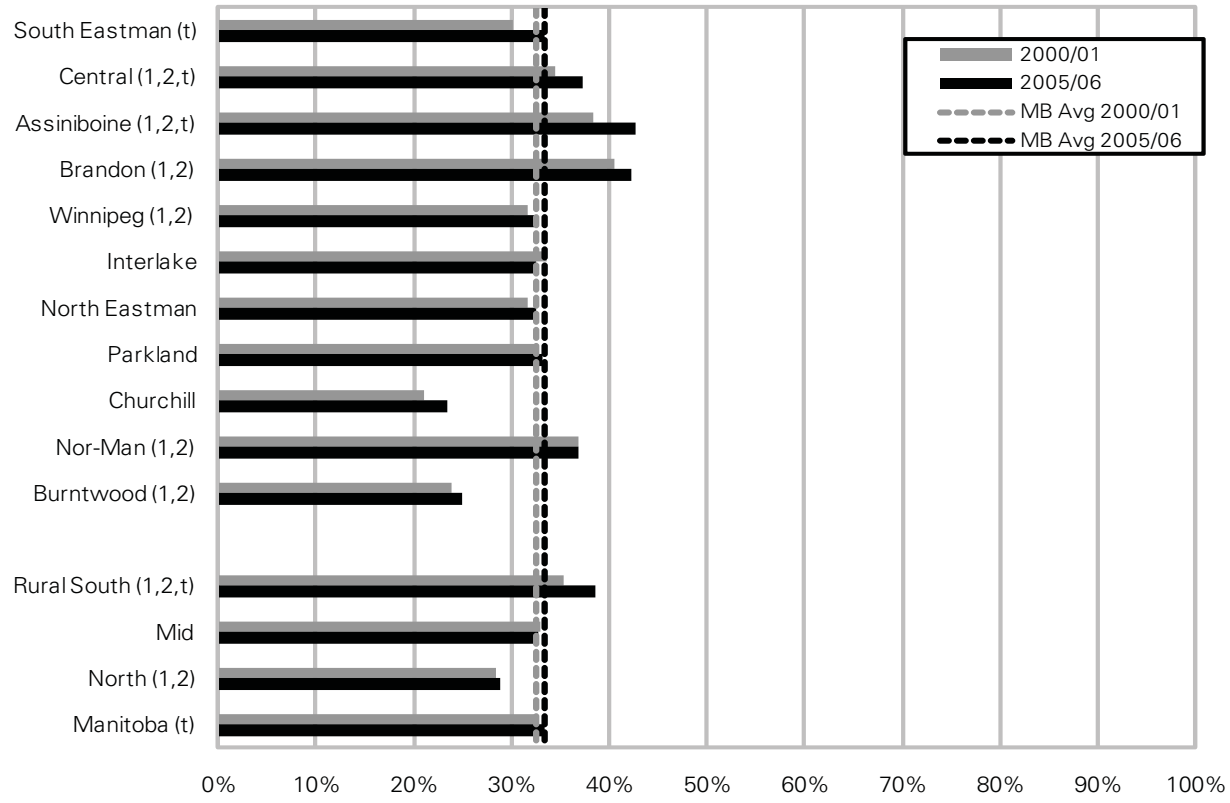
- These results are similar to those shown in the Quality Indicators report, but considerably higher than those in the Sex Differences report. This suggests there is large variation over time in this indicator. It is encouraging that these most recent results indicate higher quality.

## 13.3 Diabetes Care: Eye Examinations

Definition: the proportion of residents age 19+ with diabetes who had an eye exam in a given year, defined by a visit to an Ophthalmologist or an Optometrist. Diabetes was defined as described in Chapter 4. Crude rates were calculated for 2000/01 and 2005/06. Note: although all residents with diabetes qualify for annual eye exams without having to pay for the service, some may not indicate their diabetic status to the provider, in which case the provider may bill the patient directly. If that occurs, there would be no record of the visit in medical claims data. Furthermore, services provided by General and Family practitioners could not be included, as there is no specific tariff for this service. As a result, this indicator under–estimates eye exam rates to some degree.

**Figure 13.3.1: Diabetes Care: Eye Examinations by RHA**

Crude percent of residents with diabetes who had an eye examination

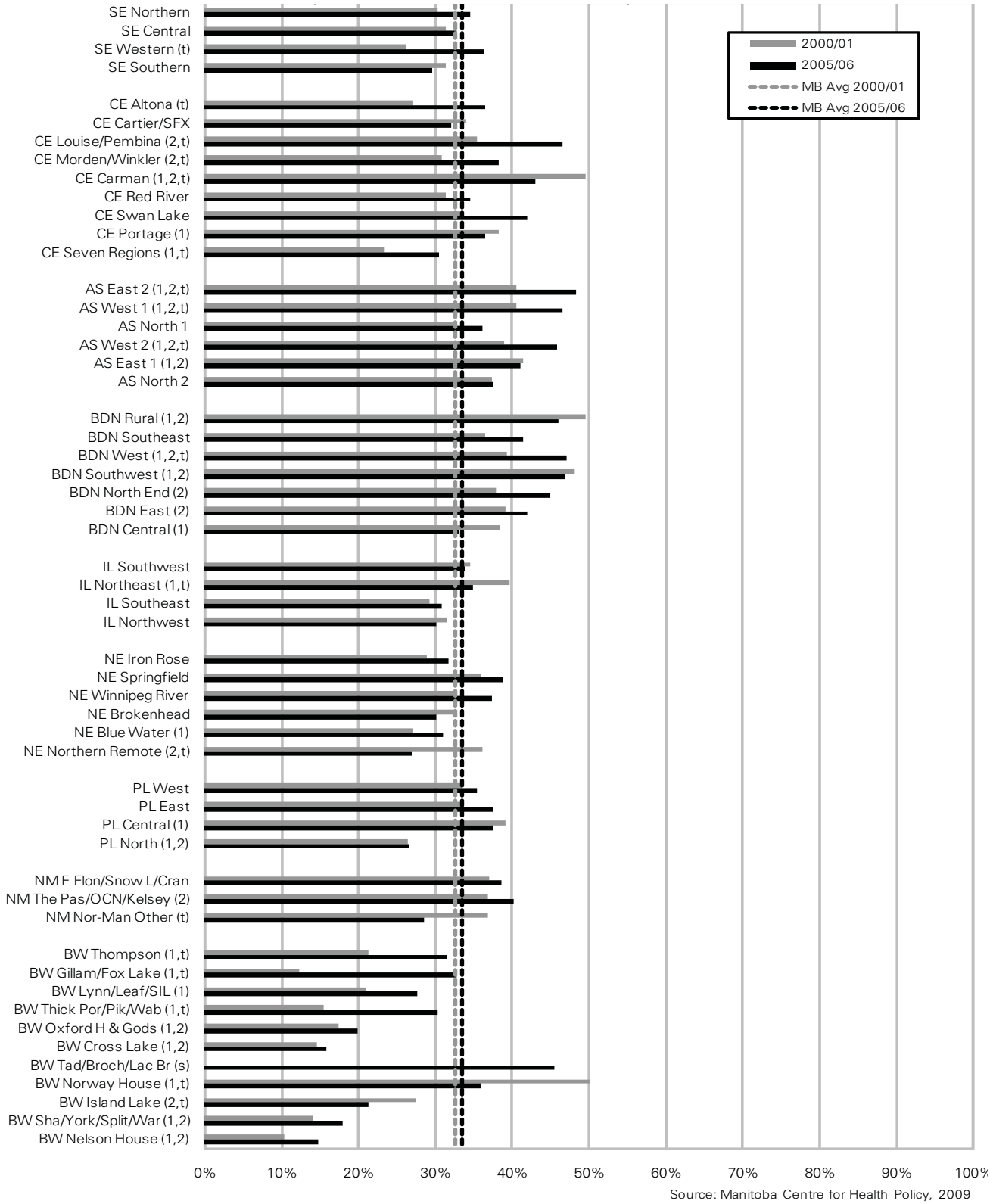



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 13.3.2: Diabetes Care: Eye Examinations by District

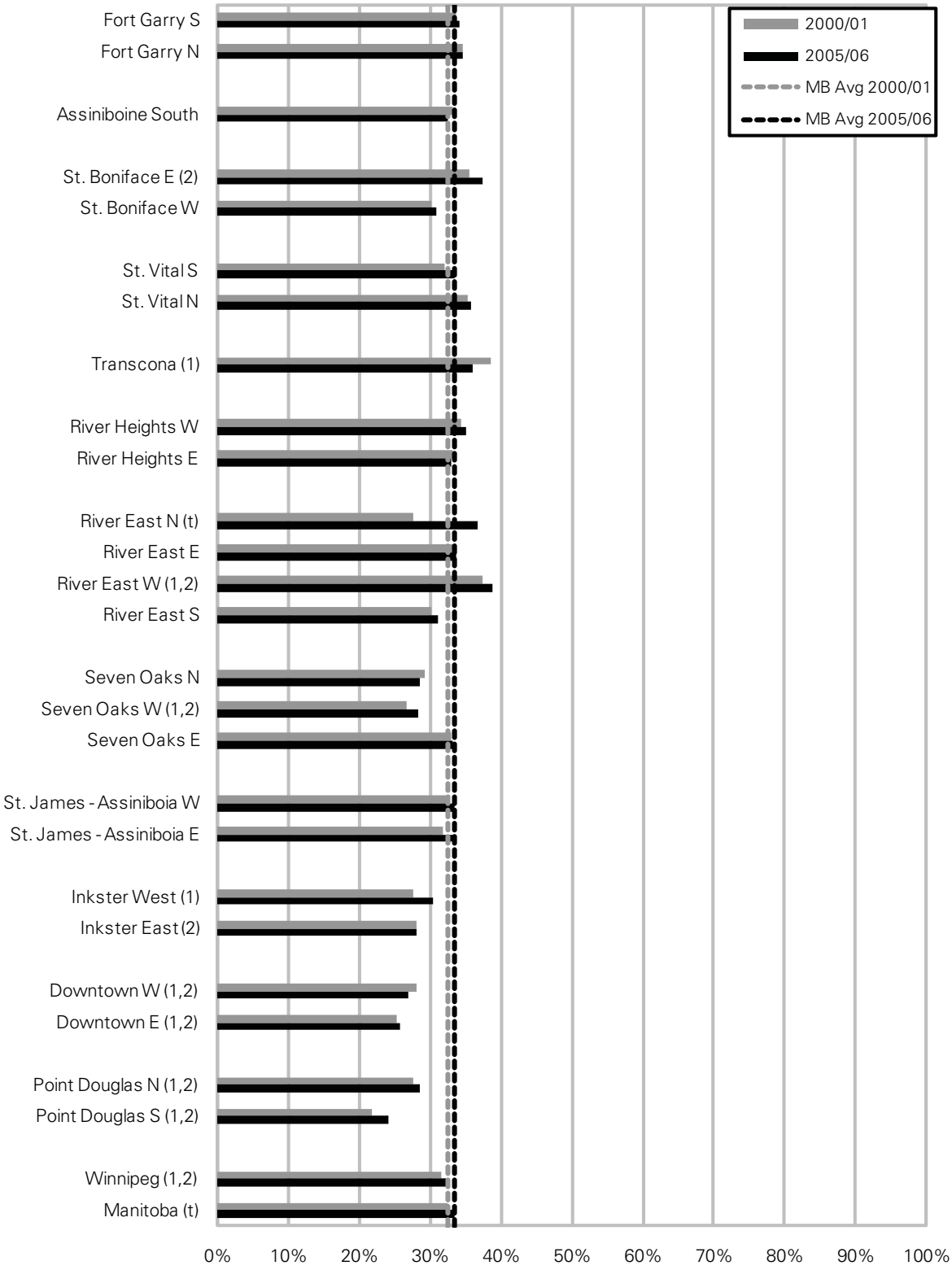
Crude percent of residents with diabetes who had an eye examination




Source: Manitoba Centre for Health Policy, 2009

**Figure 13.3.3: Diabetes Care: Eye Examinations by Winnipeg Neighbourhood Cluster**

Crude percent of residents with diabetes who had an eye examination




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of residents with diabetes receiving an eye exam increased slightly but significantly from 32.5% to 33.5%. Some areas reflected this increase, whereas others showed no significant change over time.
- Eye exam rates do not appear to be related to health status at the RHA level, but aggregate level results showed a clear 'negative' pattern. Rates were highest in the Rural South, average in Mid areas, and lowest in the North (driven mostly by low rates in Burntwood RHA as the rates for NOR–MAN were above average).
- The low rate in Burntwood is a potential concern, as the prevalence of diabetes is higher among Burntwood residents. However, it is possible that some of these residents received eye exams which were not captured because of the billing issues noted above or because of missing medical claims from salaried physicians.
- There were significant 'negative' relationships between eye exam rates and income in both urban and rural areas and in both time periods: a lower proportion of diabetic residents from lower income areas had eye exams (Appendix 2). However, results among rural areas showed a less consistent pattern and weaker associations.

## Comparison to other findings:

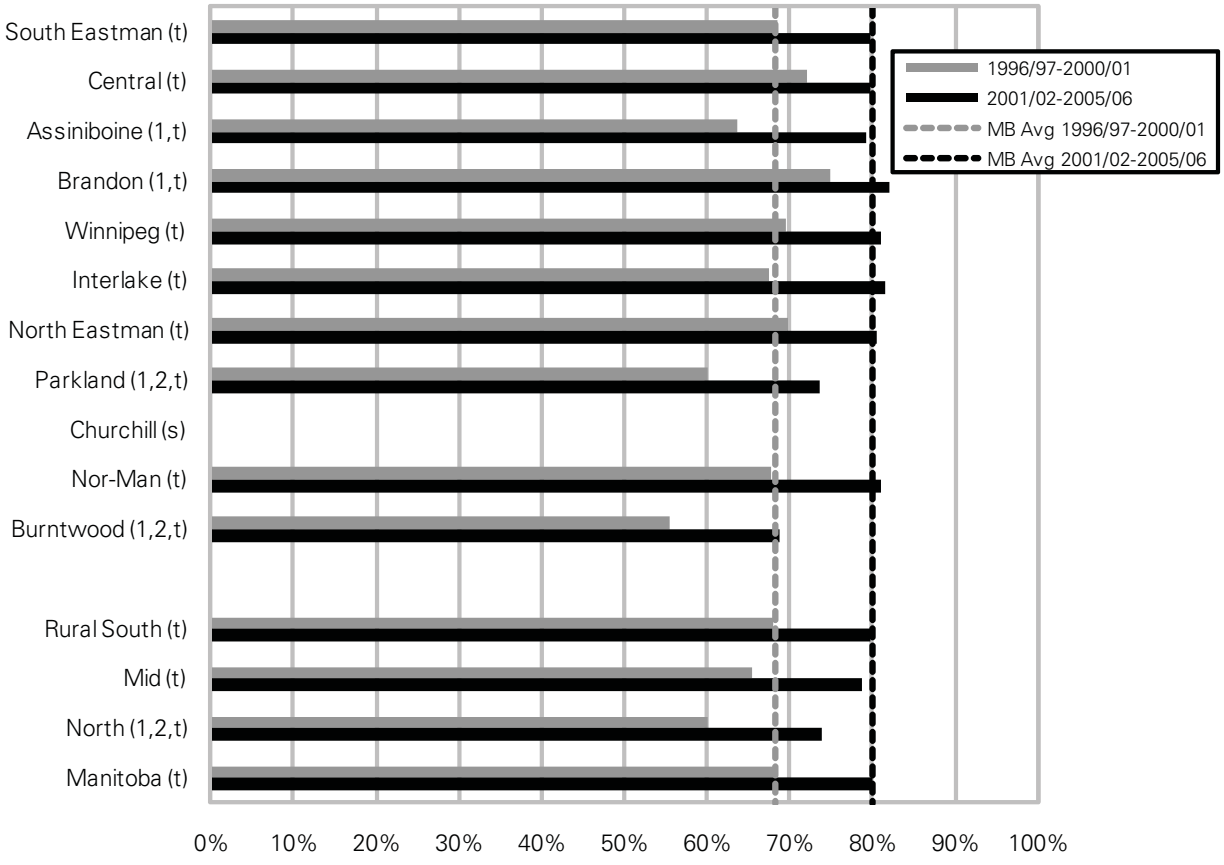
- The rates shown here are relatively close to those in the Sex Differences report and the Quality Indicators report, but are not directly comparable because a revised definition of diabetes was used here. Eye exam rates in this report represent results for people with diabetes as defined in Chapter 4 of this report.

## 13.4 Post–AMI Care: Beta–Blocker Prescribing

Definition: the proportion of patients age 20+ hospitalized for Acute Myocardial Infarction (ICD–9 CM code 410; ICD–10 code I21) who filled at least one prescription for a beta–blocker (ATC C07AA, C07AB) within four months of their AMI. Patients with a diagnosis of asthma, COPD or peripheral vascular disease (coding details in Glossary) were excluded because beta–blockers are contra–indicated for those patients. Crude rates were calculated for two 5–year periods: 1996/97–2000/01 and 2001/02–2005/06.

**Figure 13.4.1: Post-AMI Care: Beta-Blocker Prescribing by RHA**

Crude annual percent of AMI patients who received a prescription for a beta-blocker within 4 months

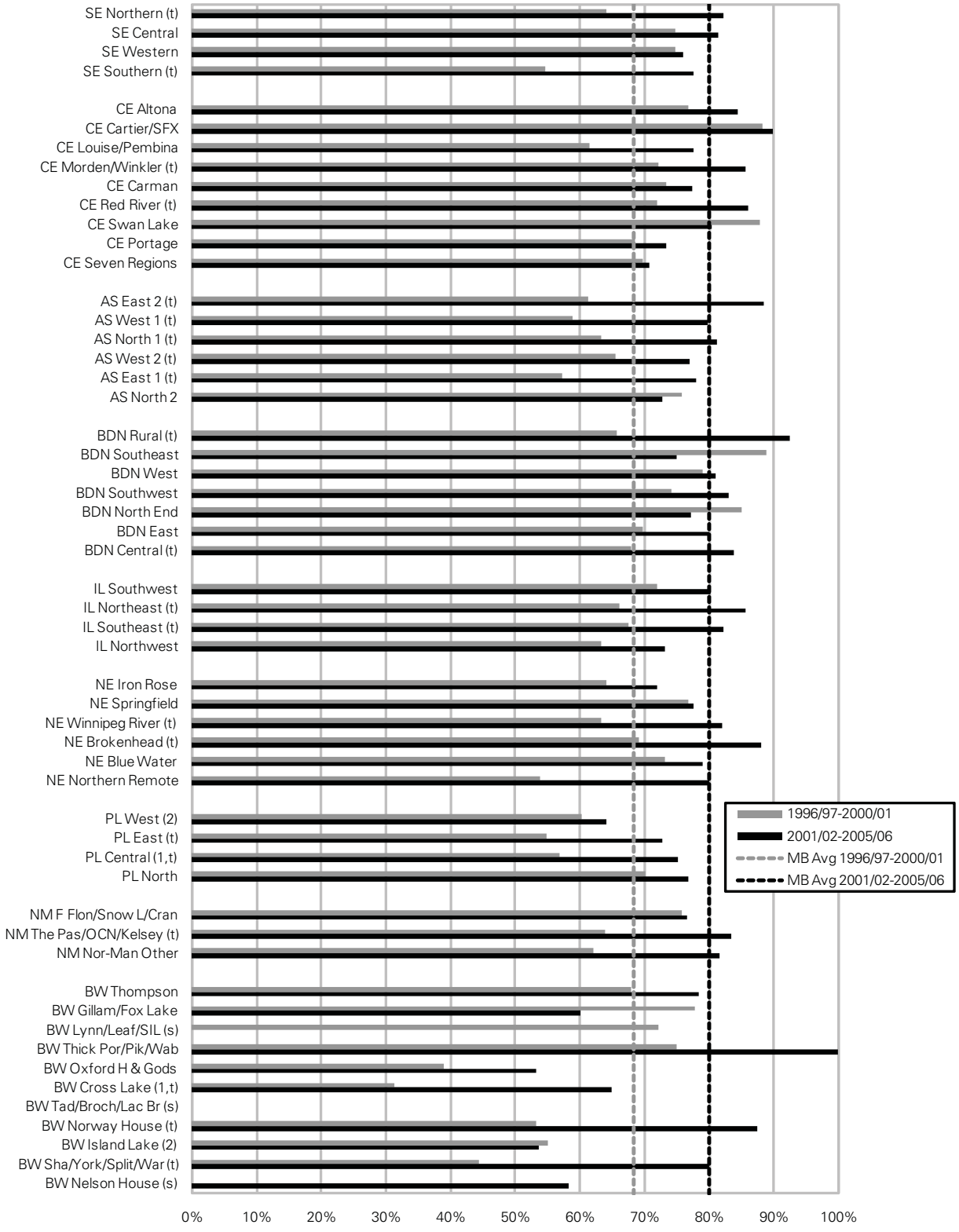



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

## Figure 13.4.2: Post-AMI Care: Beta-Blocker Prescribing by District

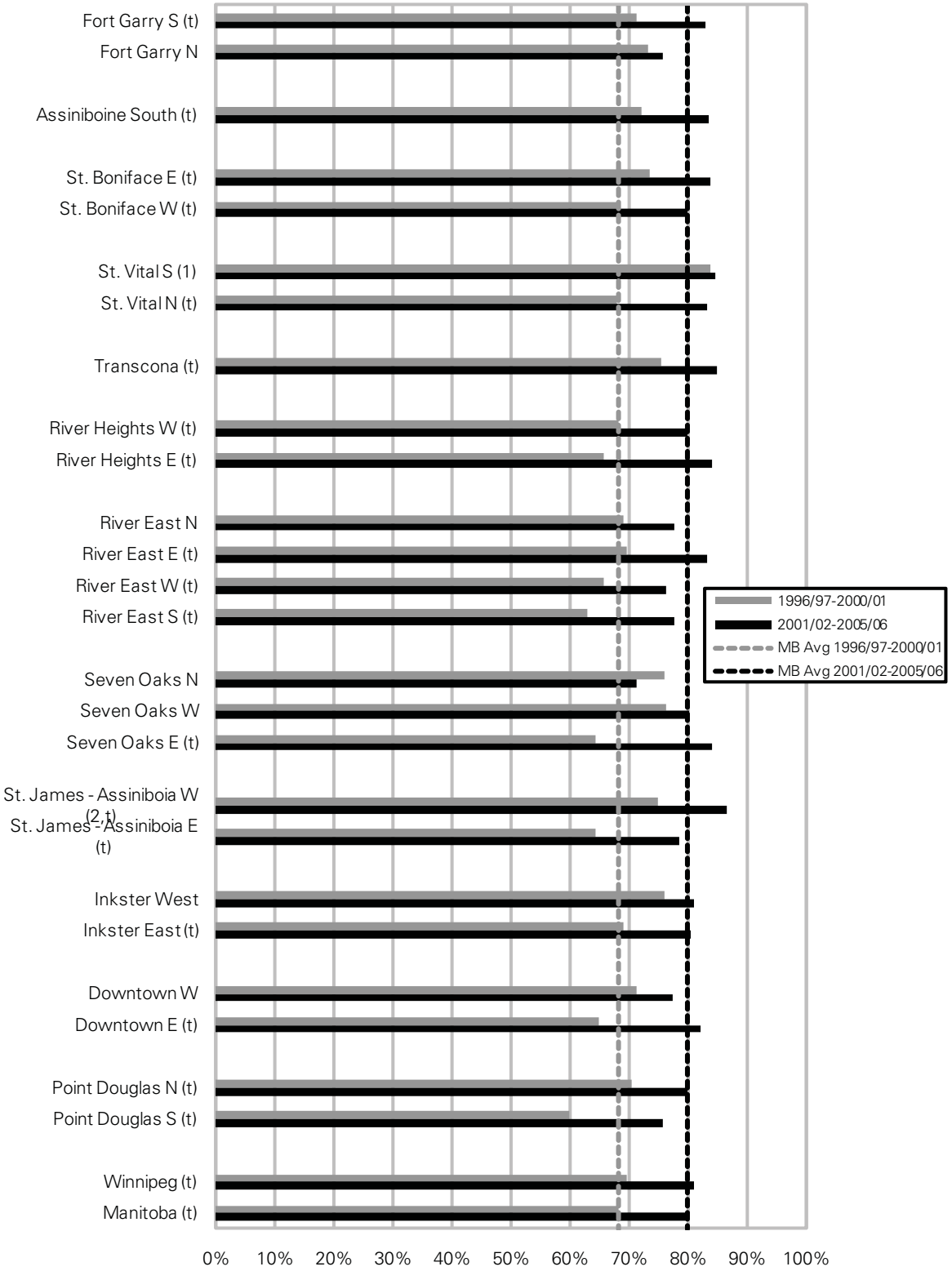
Crude annual percent of AMI patients who received a prescription for a beta-blocker within 4 months




Source: Manitoba Centre for Health Policy, 2009

**Figure 13.4.3: Post-AMI Care: Beta-Blocker Prescribing by Winnipeg Neighbourhood Cluster**

Crude annual percent of AMI patients who received a prescription for a beta-blocker within 4 months




Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The proportion of AMI patients receiving recommended beta–blockers increased substantially from 68.3% to 80.0%. Increases were seen in all virtually areas of Manitoba, including most Winnipeg NCs.
- There does not appear to be any relationship between beta–blocker receipt and health status at the RHA level.
- Residents of Burntwood had the lowest rates in both time periods, but their increase over time was larger than the provincial average, so they appear to be 'catching up'.
- There were significant relationships between beta–blocker use rates and income in both urban and rural areas: in both time periods, a lower proportion of AMI patients in lower income areas received the drugs (Appendix 2).

### Comparison to other findings:

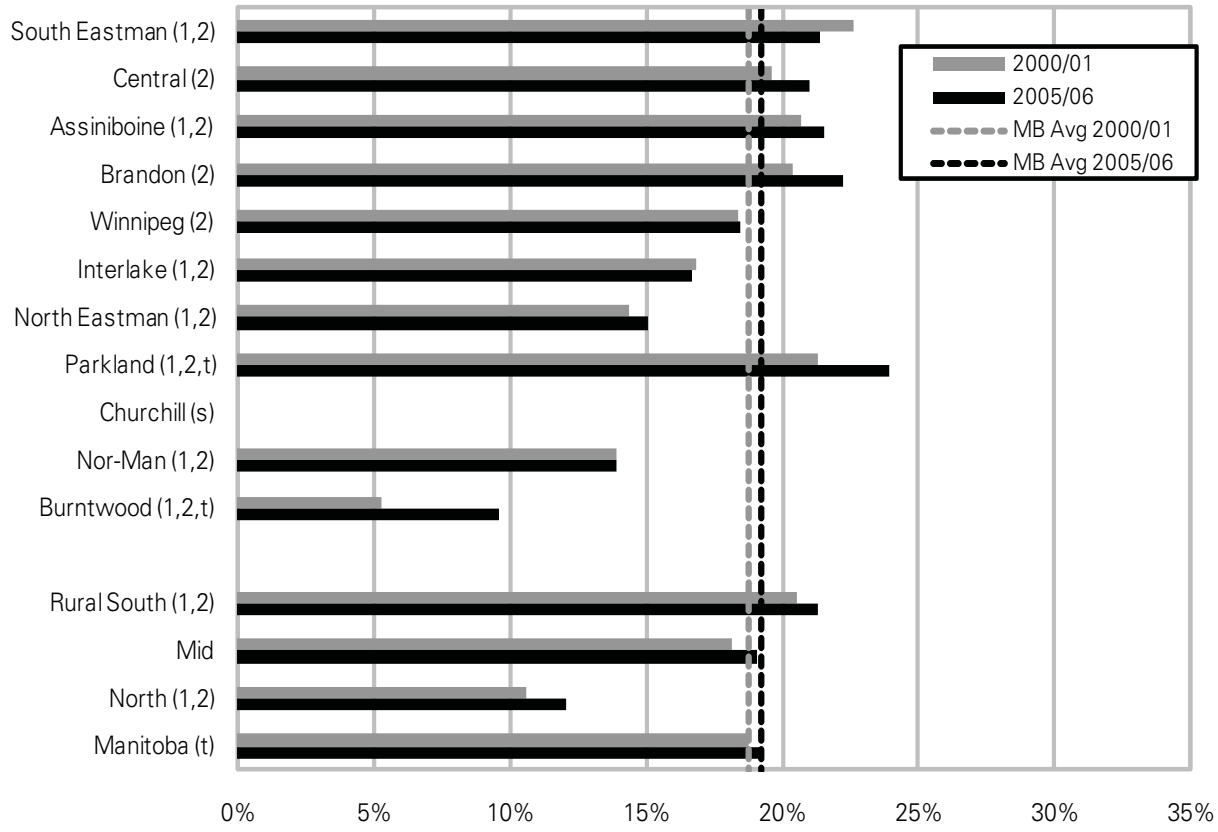
- The values shown here (in Time 2) are higher than those in the Sex Differences report and those in the Quality Indicators report. The increase over time documented here shows that quality of care is improving.

## 13.5 Benzodiazepine Prescribing for Community–Dwelling Seniors

Definition: the crude percentage of residents age 75+ living in the community (i.e., not in a personal care home) who had at least two prescriptions for benzodiazepines or a greater than 30 day supply dispensed. Use of benzodiazepines is not recommended for seniors, so lower rates are better. Crude rates were calculated for 2000/01 and 2005/06.

**Figure 13.5.1: Benzodiazepine Prescribing for Community-Dwelling Seniors by RHA**

Crude percent of non-PCH seniors aged 75+ with 2+ prescriptions or greater than 30 day supply

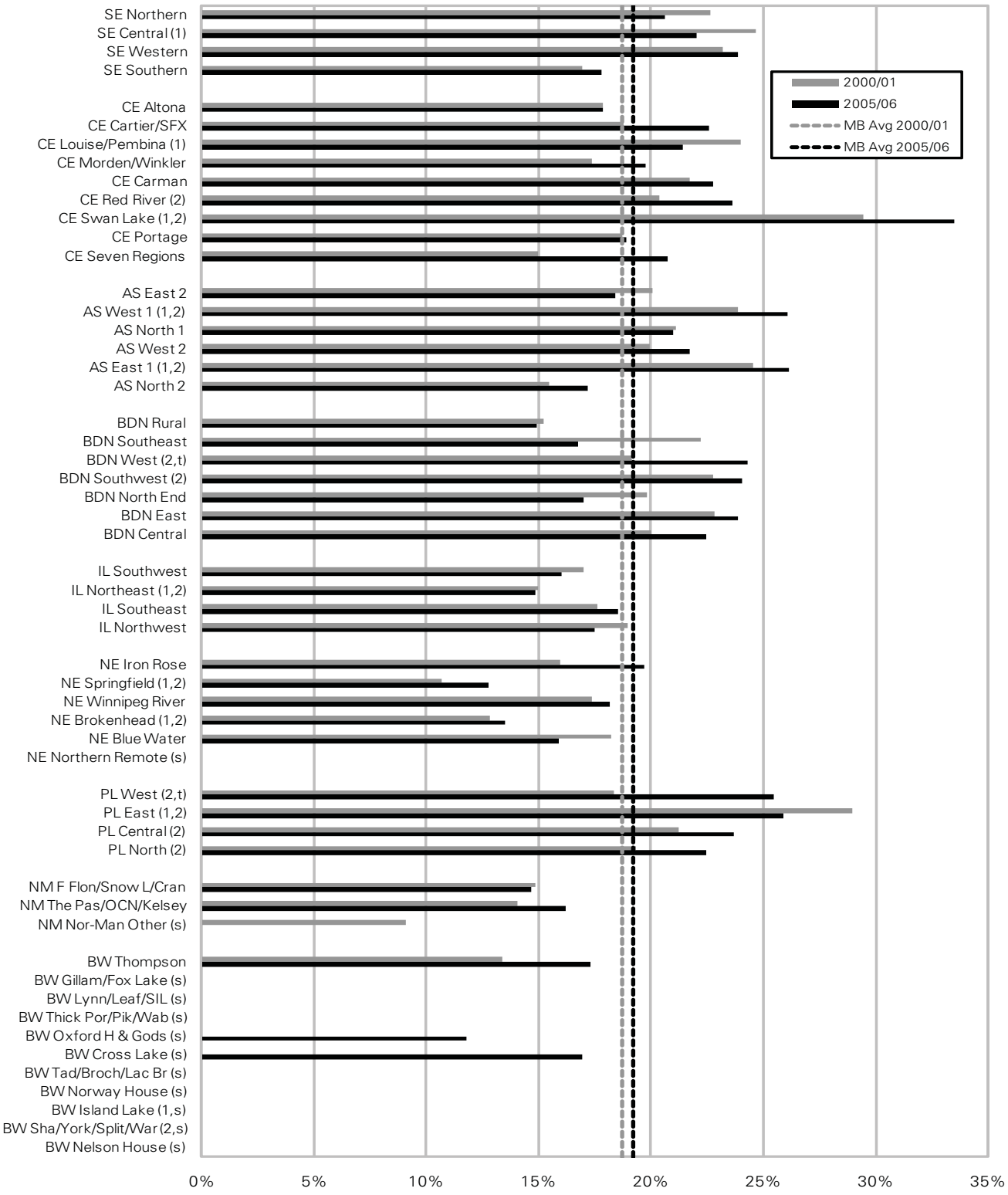



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 13.5.2: Benzodiazepine Prescribing for Community-Dwelling Seniors by District**

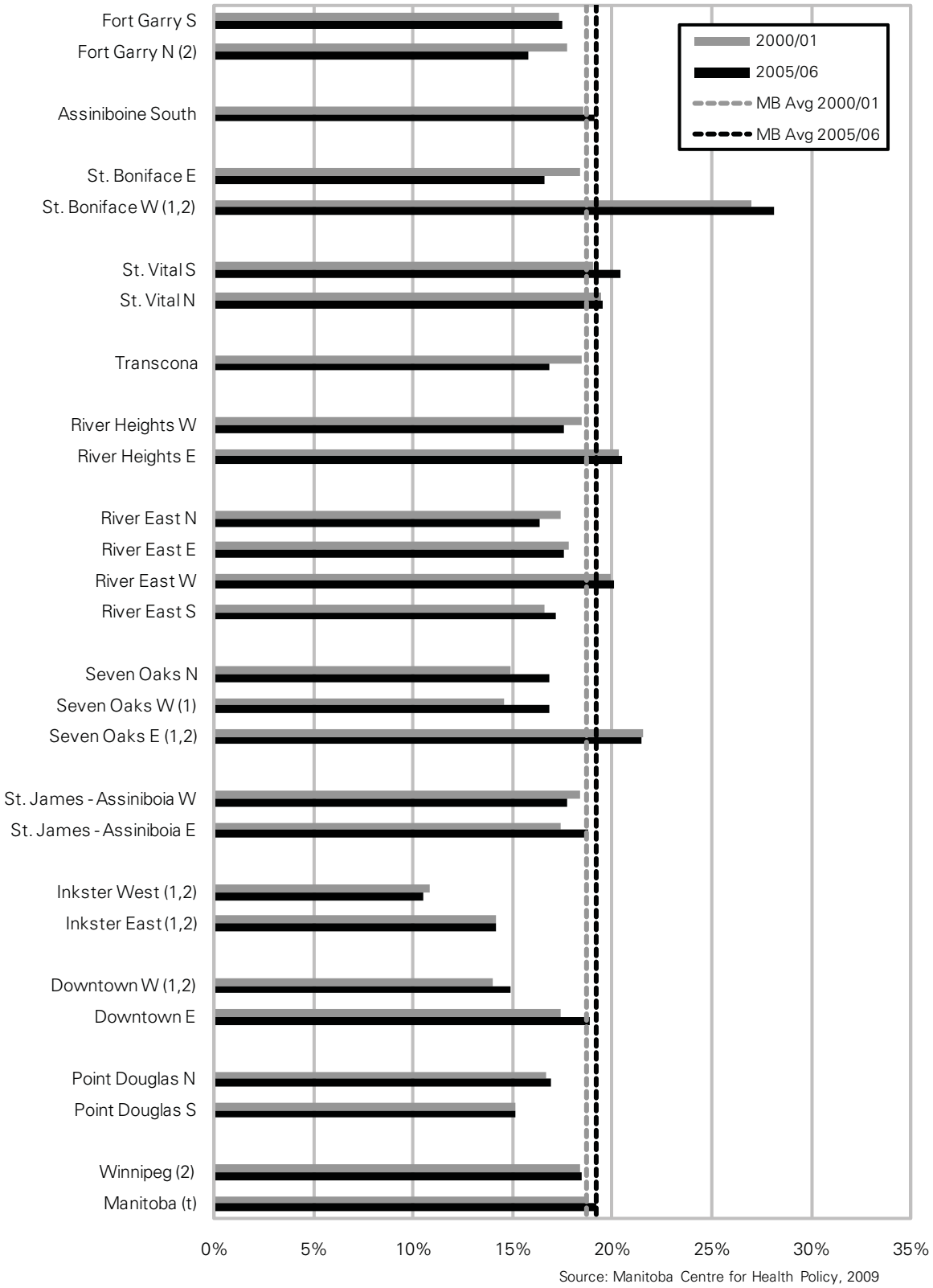
Crude percent of non-PCH seniors aged 75+ with 2+ prescriptions or greater than 30 day supply




Source: Manitoba Centre for Health Policy, 2009

**Figure 13.5.3: Benzodiazepine Prescribing for Community-Dwelling Seniors by Winnipeg Neighbourhood Clusters**

Crude percent of non-PCH seniors aged 75+ with 2+ prescriptions or greater than 30 day supply




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- The proportion of community–dwelling seniors (75+) using Benzodiazepines increased over time from 18.7% to 19.2%, though not all areas showed an increase.
- There appears to be a relationship with health status at the RHA and aggregate levels: rates in northern RHAs were significantly lower than the provincial average, whereas those in the Rural South were higher. This relationship does not seem to apply in Winnipeg NCs.
- There were inverse relationships between benzodiazepine prescribing and income in both urban and rural areas: a higher proportion of seniors in lower income areas received the drugs (Appendix 2). However, results among rural areas showed a less consistent pattern and weaker associations; indeed, the relationship in Time 1 was not significant.

## Comparison to other findings:

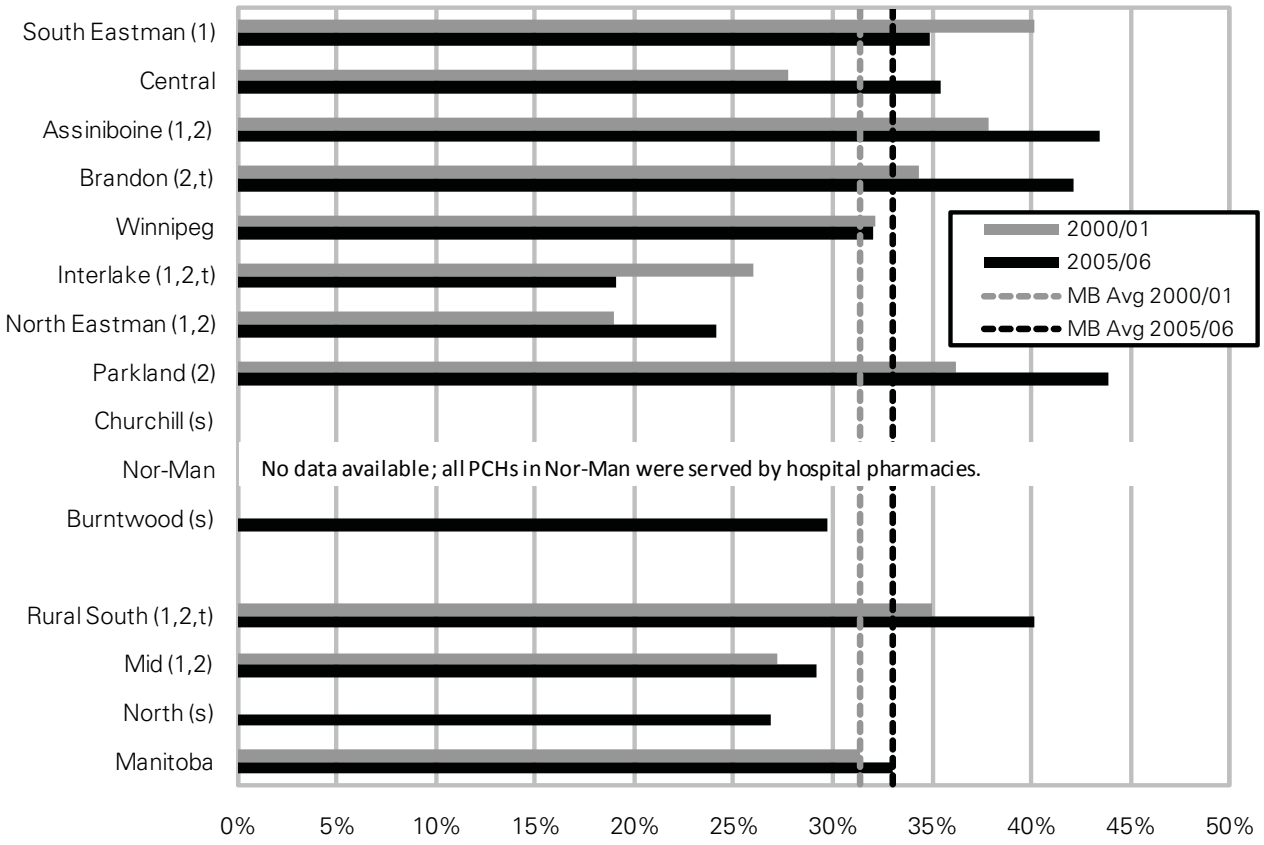
- These values are the same as those in the Sex Differences report and higher than those in the Quality Indicators report.

## 13.6 Benzodiazepine Prescribing for Residents of Personal Care Homes (PCH)

Definition: the crude percentage of PCH residents age 75+ who had at least two prescriptions for benzodiazepines or a greater than 30 day supply dispensed. Use of benzodiazepines is not recommended for seniors, so lower rates are better. This indicator is only calculated for RHAs and Winnipeg CAs, not RHA Districts or Winnipeg NCs, because many smaller areas do not contain a PCH. Also, PCHs served by hospital pharmacies could not be included because records for those prescriptions were not included in the DPIN data used by MCHP. Crude rates were calculated for 2000/01 and 2005/06.

**Figure 13.6.1: Benzodiazepine Prescribing for Residents of Personal Care Homes (PCH) by RHA**

Crude percent of PCH seniors age 75+ with 2+ prescriptions or greater than 30 day supply

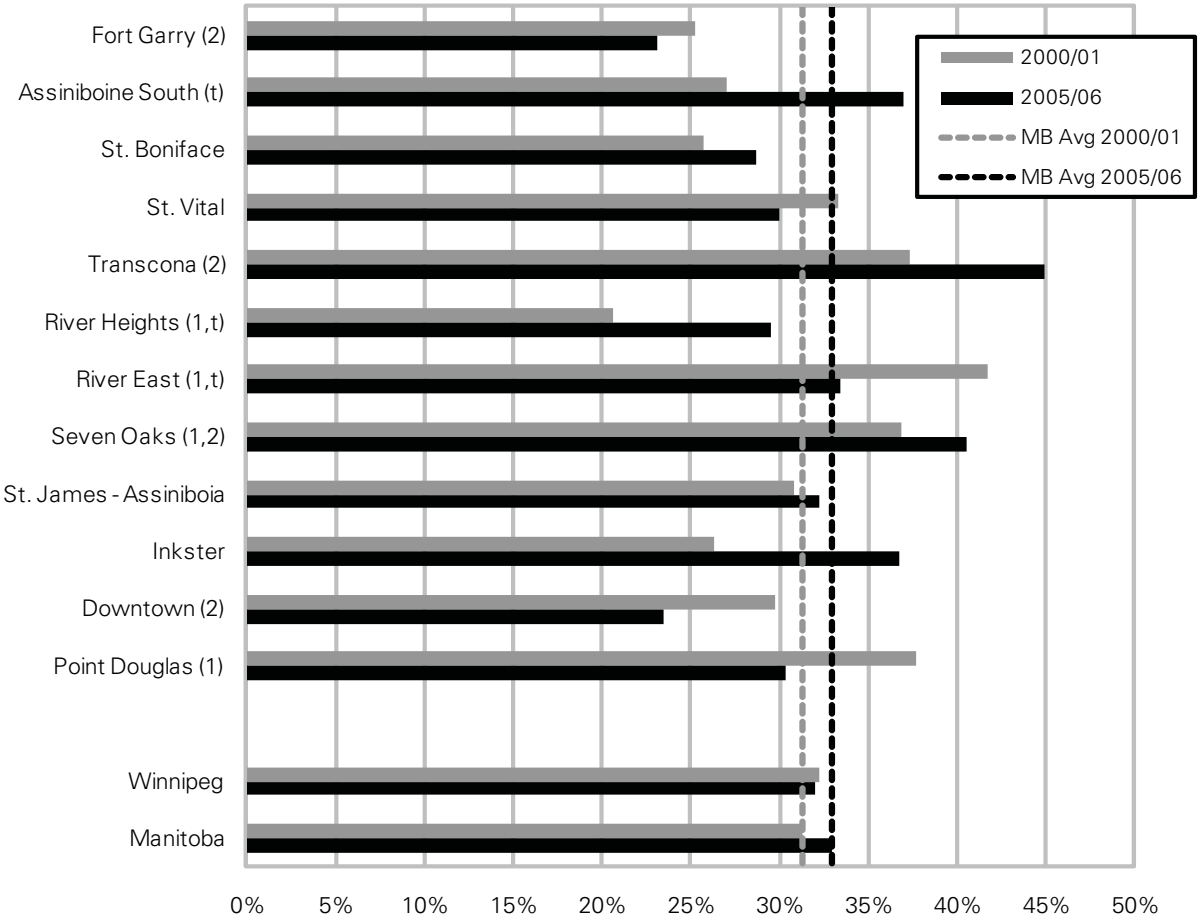



'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

**Figure 13.6.2: Benzodiazepine Prescribing for Residents of Personal Care Homes (PCH) by Winnipeg Community Area**

Crude percent of PCH seniors aged 75+ with 2+ prescriptions or greater than 30 day supply




'1' indicates area's rate was statistically different from Manitoba average in first time period
'2' indicates area's rate was statistically different from Manitoba average in second time period
't' indicates change over time was statistically significant for that area
's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009

### Key findings:

- The proportion of PCH residents age 75+ receiving benzodiazepines increased slightly but not significantly from 31.3% to 32.9%.
- Rates and changes in rates over time were highly variable across areas in Manitoba and within Winnipeg CAs.
- There appears to be no relationship between benzodiazepine prescribing among seniors in PCH and health status at the RHA or aggregate levels.
- Analyses of PCH residents are not done by income quintile as area–level income data are not available for most postal codes containing PCHs and would not be as meaningful because the relationship between income and location of residence is not the same for PCH residents as for those living in the community.

### Comparison to other findings:

- The values shown here are slightly lower than those in the Sex Differences report, which was performed on 2003/04 data. Analysis of annual rates from 2000/01 to 2005/06 confirmed that the rates varied from year to year.
- The Quality Indicators report did not analyze this indicator for PCH residents, only for community–dwelling seniors (see Section 13.5).

# Chapter 14: Results from the Canadian Community Health Survey

## Key Findings for Chapter 14

### Context:

- The results from this chapter need to be interpreted somewhat differently than those in all other chapters, as the data are drawn from the responses of those Manitobans randomly chosen to participate in the Canadian Community Health Survey (CCHS). There are three major implications of this:
  - First, the results do not represent the entire population in the same way that results in other chapters do (even though the surveys involved thousands of residents)
  - Second, the survey sample does not include any residents of First Nations communities (though Aboriginal peoples living in other areas may well be included in the survey). This limitation is most troublesome for northern RHAs, but affects all RHAs and the provincial average to some extent.
  - Third, because the data collection involves interviewers asking questions of participants, their answers can be affected by personal bias, recall error, and self–serving responses.
- In order to provide more reliable results, and results at the sub–RHA level, analyses in this chapter combined information from multiple survey waves, so changes over time could not be measured.
- Data for Churchill RHA remain suppressed for all CCHS indicators because of inadequate sample size (even after multiple survey waves were combined).

### Key findings:

- Most indicators do not show markedly different results across RHAs, and Manitoba averages are usually close to corresponding Canadian averages. There are exceptions to both of these statements, but no RHA had a pattern of results that consistently set it apart from other RHAs in Manitoba.
- Overview of results: for most RHAs and for Manitoba:
  - Just over 60% of residents report being in Excellent or Very Good health, rates virtually identical to national averages.
  - Most residents reported excellent physical functioning and general mental health.
  - Indicators of work stress and life stress showed a broad distribution of responses, whereas satisfaction with life, which showed distinctly positive results.
  - Smoking prevalence and exposure to second–hand smoke were both higher in Manitoba than Canada and appear to be related to health status at the area level within the province, in that there were higher rates in northern areas.

- Binge drinking of alcohol was considerably lower than the Canadian average, but like smoking, was more frequent in northern areas.
- Body Mass Index (BMI) values for adults were higher than national averages and higher among northern residents.
- Physical activity levels were relatively similar across RHAs, but showed strong trends with income quintile (see below).
- Fruit and vegetable consumption was considerably lower than the Canadian average and within the province was not distributed as might have been expected given health status of regional populations. That is, the areas with the healthiest populations were not consistently those areas with the highest frequency of fruit and vegetable consumption.

- Relationships with area–level income were highly variable: some indicators showed no relationships, others showed trends in either urban or rural areas but not both, and still others showed strong relationships in both.
  - The most intriguing finding from these analyses was that total physical activity levels (work + leisure + travel = total physical activity) were higher among residents of low income areas than high income areas. This is opposite to the trend found for leisure time activity levels alone, which showed that residents of higher income areas have higher activity levels. The apparent discrepancy is explained by the fact that most people spend more hours in work time activities than leisure time activities, so work time physical activity contributes much more to total activity levels than leisure time activities.

## Introduction: The Canadian Community Health Survey (CCHS)

The CCHS is a cross–sectional survey that collects information every two years related to health status, healthcare utilization and health determinants for the Canadian population. It relies upon a large sample of respondents and is designed to provide reliable estimates at the health region level. The overwhelming majority of interviews take place over the telephone, though some in–person interviews are also conducted. The primary use of CCHS data is for health surveillance and population health research. Federal and provincial departments of health and human resources, social service agencies, and other types of government agencies use the information collected from respondents to monitor, plan, implement and evaluate programs to improve the health of Canadians and the efficiency of health services.

The limitations of interview data must be kept in mind when interpreting results in this chapter. Because the data collection involves interviewers asking questions of participants, their answers can be affected by personal bias, recall error, and self–serving responses. Furthermore, because most interviews were conducted over the phone, residents without regular telephone service were less likely to be included.

In Manitoba, several issues further affect the utility of CCHS data for use by Regional Health Authorities. First and foremost is the fact that the survey does not include persons living in First Nations communities. For several RHAs in Manitoba, most notably Burntwood, this represents a

serious limitation on the utility of the findings. Second, because of issues related to small size and suppression, results for some indicators cannot be shown at the RHA level (and Churchill RHA is routinely combined with Burntwood). Finally, most reports of CCHS data provide 'crude' rates, which do not account for differences in age and sex composition of regional populations—so results cannot be fairly compared across areas.

To overcome sample size and suppression issues, analyses in this chapter combined the data from several waves of CCHS surveys in order to provide reliable results for all RHAs and even provide results for most indicators at the District level. The exact years/survey waves involved varied by indicator, as not all questions were asked in all waves. Therefore, the description of each indicator specifies which years were used. Finally, because the waves were combined, changes over time could not be analyzed; results represent a single (multi–year) time period. Even with this combination, data for Churchill RHA are always suppressed because of inadequate sample size. Therefore, Churchill is not shown in any of the graphs or tables in this chapter.

Results have also been age and sex adjusted to the overall Manitoba survey frame, so values can be fairly compared across areas. The Manitoba survey frame refers to all people who could have been included in the survey based on Statistics Canada's survey design: civilians 12+ years old, not living in an institution or in a First Nations community.

The graphs shown in the subsequent pages show age–sex adjusted proportions by area. Where chart segments appear to be 'missing', the results have been suppressed because of small sample sizes (typically only at small–area levels). Exact values and indications of statistical significance are shown in the corresponding tables: values in bold are statistically different from the provincial average; values in italics are highly variable and need to be interpreted with caution. In calculating proportions, those who did not respond to the question were excluded from the analysis.

To examine possible relationships with socioeconomic status, indicators in this chapter were also analyzed by area–level income quintiles. This was done using the same income quintiles as were used for all other indicators in this report, so that results can be similarly interpreted. However, because of the nature of the survey data, these trends could not be statistically tested, so comments regarding trends were based on direct observation alone.

The selection of indicators included was determined by a sub–committee of the Community Health Assessment Network in Manitoba, which considered various sources of information.

Results from additional analyses of these data are available in Data Extras for this report on the MCHP website.

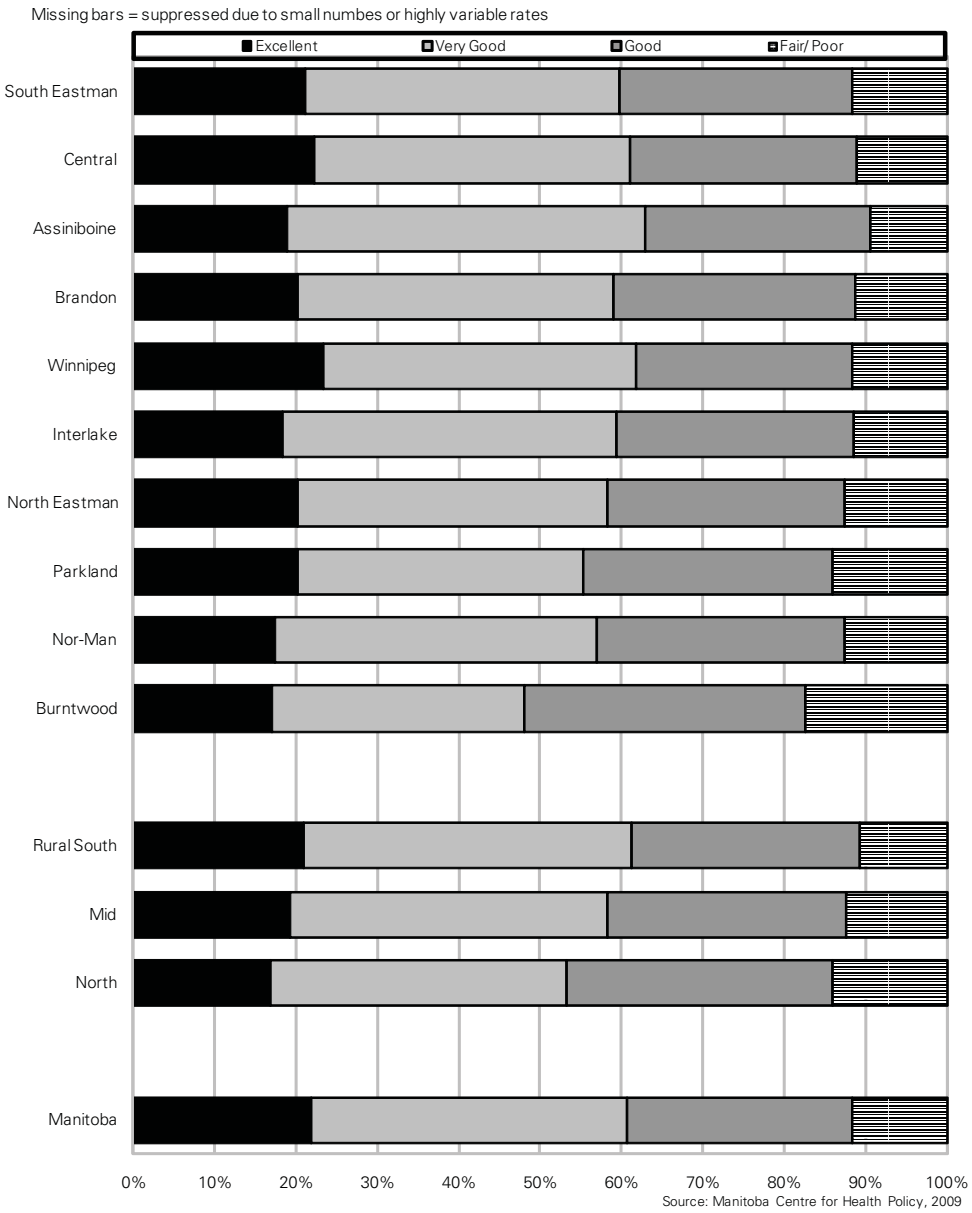
## 14.1 Self–Rated Health

Question: participants were asked, "In general, would you say your health is: excellent, very good, good, fair, or poor?" and given the clarification, "By health, we mean not only the absence of disease or injury but also physical, mental and social wellbeing."

Definition: the age– and sex–adjusted proportion of participants in each response category. Responses of 'Fair' and 'Poor' were combined to avoid suppression. Those responding 'Don't Know' were excluded. The age–and sex–adjusted proportion of respondents in each group is shown. Results from cycles 1.1, 2.1, and 3.1 (2000–2005) were included.

**Figure 14.1.1: Self-Rated Health by RHA**

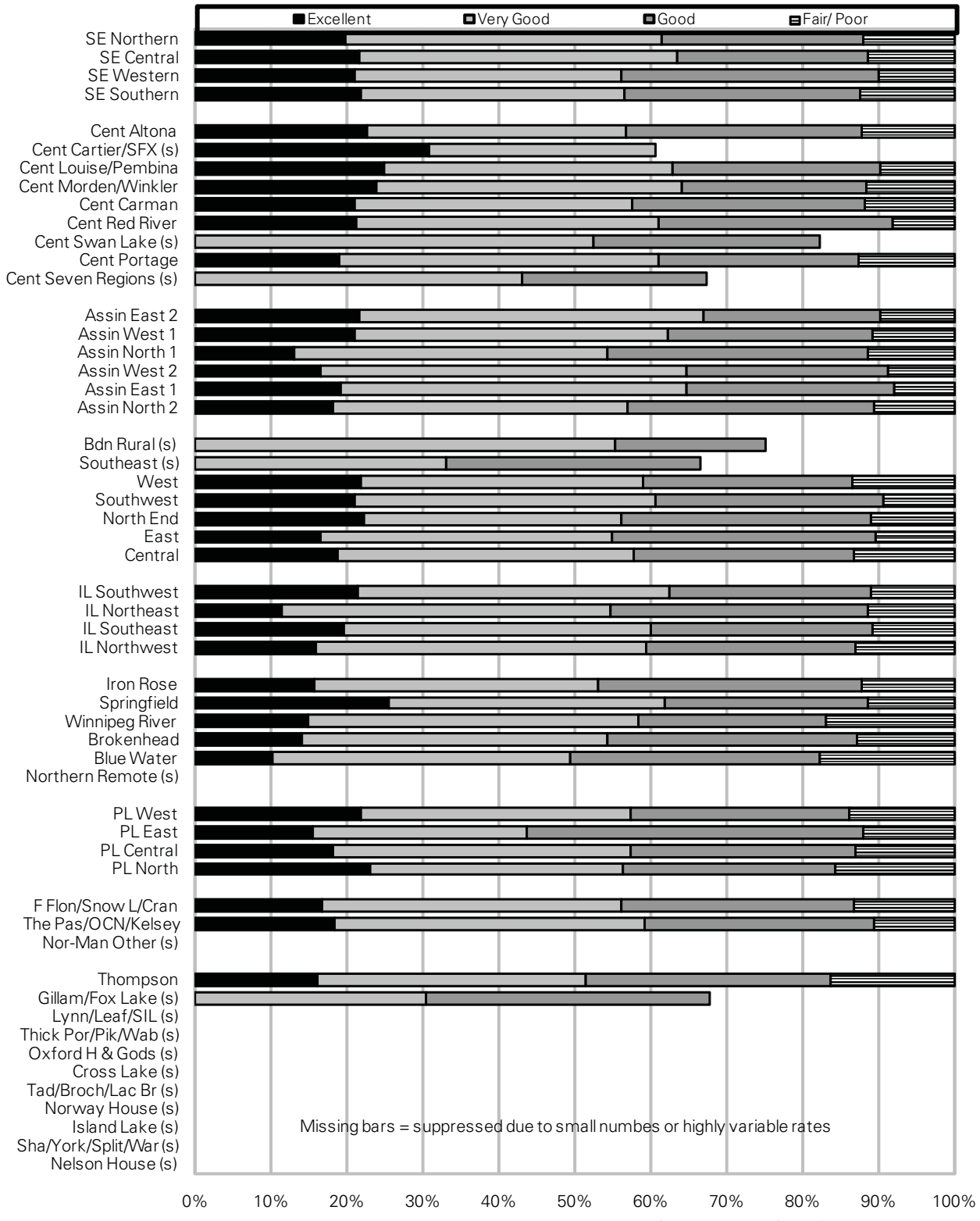
Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.1.2: Self-Rated Health by District

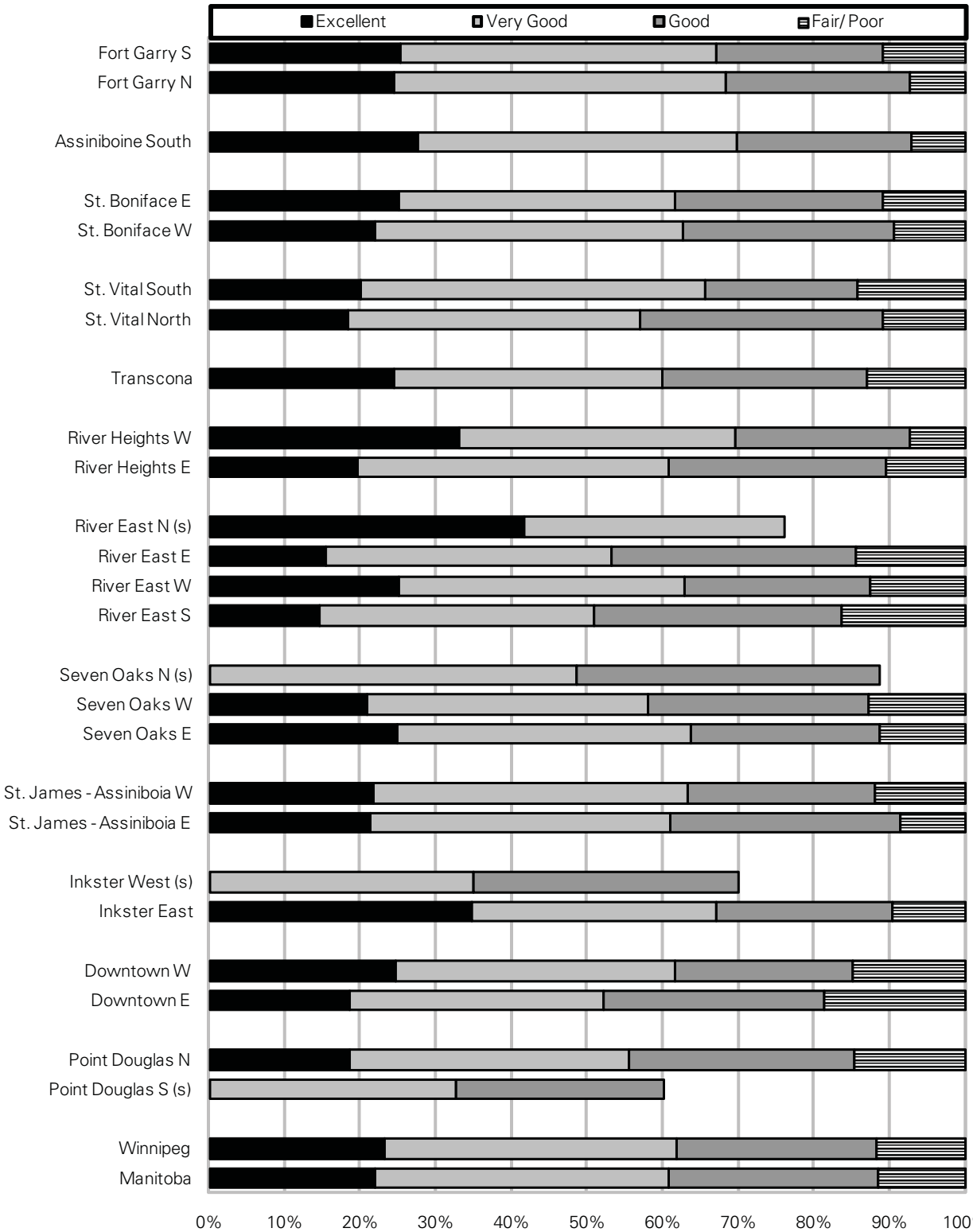
Age- and sex-adjusted percent of weighted sample aged12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

**Figure 14.1.3: Self-Rated Health by Winnipeg Neighbourhood Cluster**

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Missing bars = suppressed due to small numbes or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 21.9% of respondents reported 'Excellent' health, 38.8% 'Very Good', 27.7% 'Good', and 11.6% 'Fair' or 'Poor' (adjusted rates).
- Results were remarkably similar across RHAs, though with some gradient in the expected direction. In less healthy areas, fewer respondents answered 'Excellent' and more responded 'Fair' or 'Poor'.
    - Several RHAs had significant differences from the provincial averages, as shown by the values in bold text in Table 14.1.
- There is more variability among results for RHA Districts and especially among the neighbourhood clusters within Winnipeg.
- Relationships with area–level income were mixed: (Appendix 2)
    - In rural areas, rates of Excellent and Good health were not related to income; rates of Very Good and Fair/Poor were associated, but in opposite directions.
    - In urban areas, all responses showed gradients: Excellent and Very Good health were more prevalent in higher income areas, whereas Good and Fair/Poor health were more prevalent in lower income areas.

## Comparison to other findings:

- The distribution of responses from Manitobans is virtually identical to national averages provided by Statistics Canada: 21.9% Excellent, 38.2% Very Good, 28.7% Good, and 11.2% Fair or Poor (CANSIM Table 105–0422).

**Table 14.1: Age/Sex Standardized Rates of Self-Rated Health, aged 12+**
CCHS 1.1, 2.1, and 3.1 Combined

| Area | Excellent | Very Good | Good | Fair/ Poor |
|---|---|---|---|---|
| South Eastman | 21.1% | 38.7% | 28.6% | 11.7% |
| Central | 22.3% | 38.8% | 28.0% | 11.0% |
| Assiniboine | 18.9% | **43.9%** | 27.7% | **9.4%** |
| Brandon | 20.2% | 38.8% | 29.7% | 11.3% |
| Winnipeg | **23.3%** | 38.5% | **26.5%** | 11.7% |
| Interlake | **18.2%** | 41.2% | 29.1% | 11.5% |
| North Eastman | 20.1% | 38.2% | 29.1% | 12.6% |
| Parkland | 20.2% | 35.2% | 30.6% | 14.1% |
| Churchill (s) | | | | |
| Nor-Man | **17.3%** | 39.6% | 30.5% | 12.5% |
| Burntwood | **16.9%** | **31.2%** | **34.5%** | **17.4%** |
| | | | | |
| Rural South | 20.9% | 40.4% | 28.1% | 10.6% |
| Mid | **19.2%** | 39.0% | 29.4% | 12.4% |
| North | **16.8%** | 36.3% | **32.7%** | **14.1%** |
| | | | | |
| Manitoba | 21.9% | 38.8% | 27.7% | 11.6% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

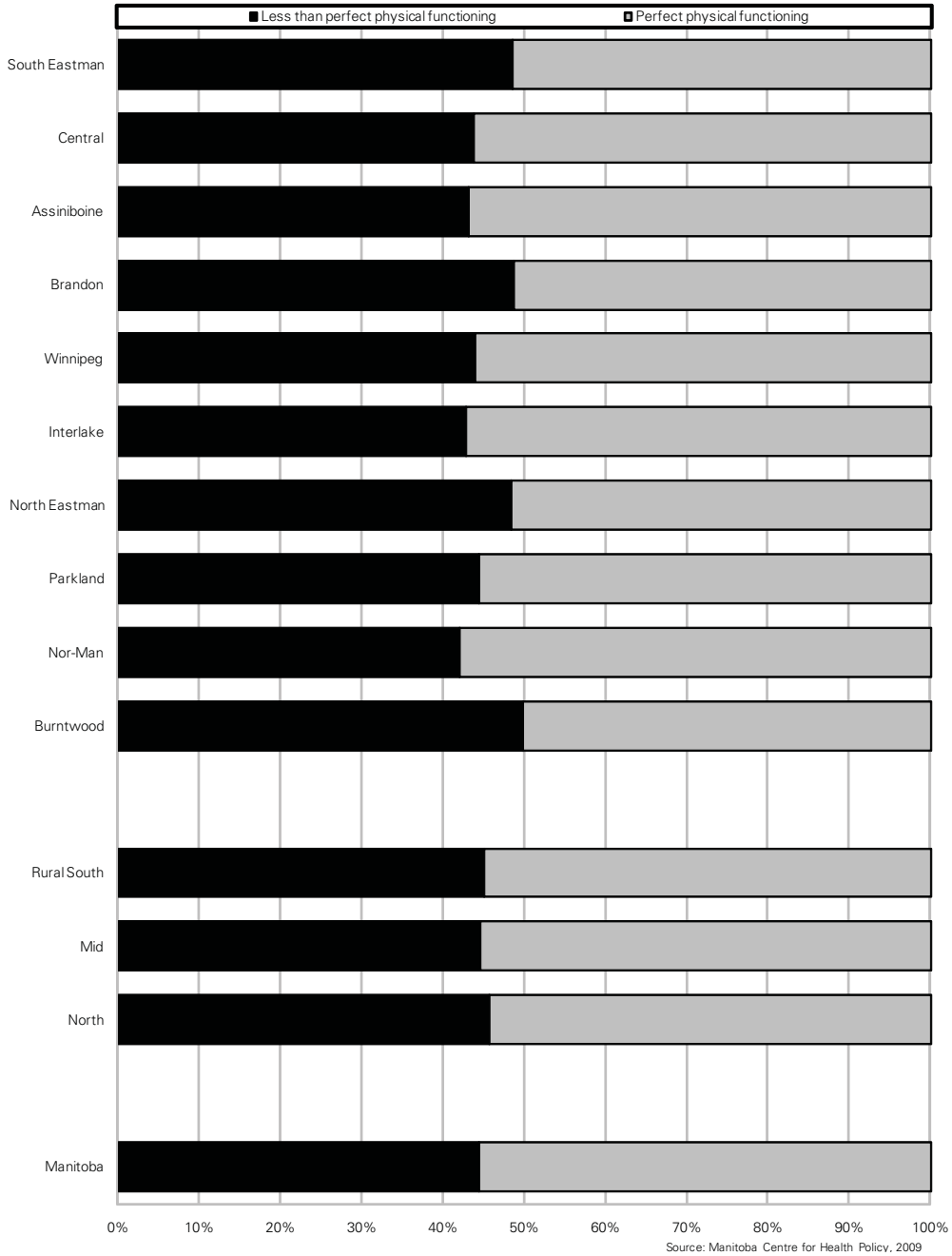
Source: Manitoba Centre for Health Policy, 2009

## 14.2 Physical Functioning Scale (SF–36)

Definition: the physical functioning scale is a derived measure from the SF–36 questionnaire, addressing basic physical functioning on a scale of 0 to 100 (0 meaning unable to bathe or dress or walk one block; 100 meaning capable of vigorous activity). A majority of respondents received a perfect score, so this indicator shows the age– and sex–adjusted proportion of respondents with a score of 100 vs. all others. Results from cycles 2.1 and 3.1 (2003–2005) were included. See Glossary for more details.

**Figure 14.2.1: SF-36 Perfect Physical Functioning by RHA**

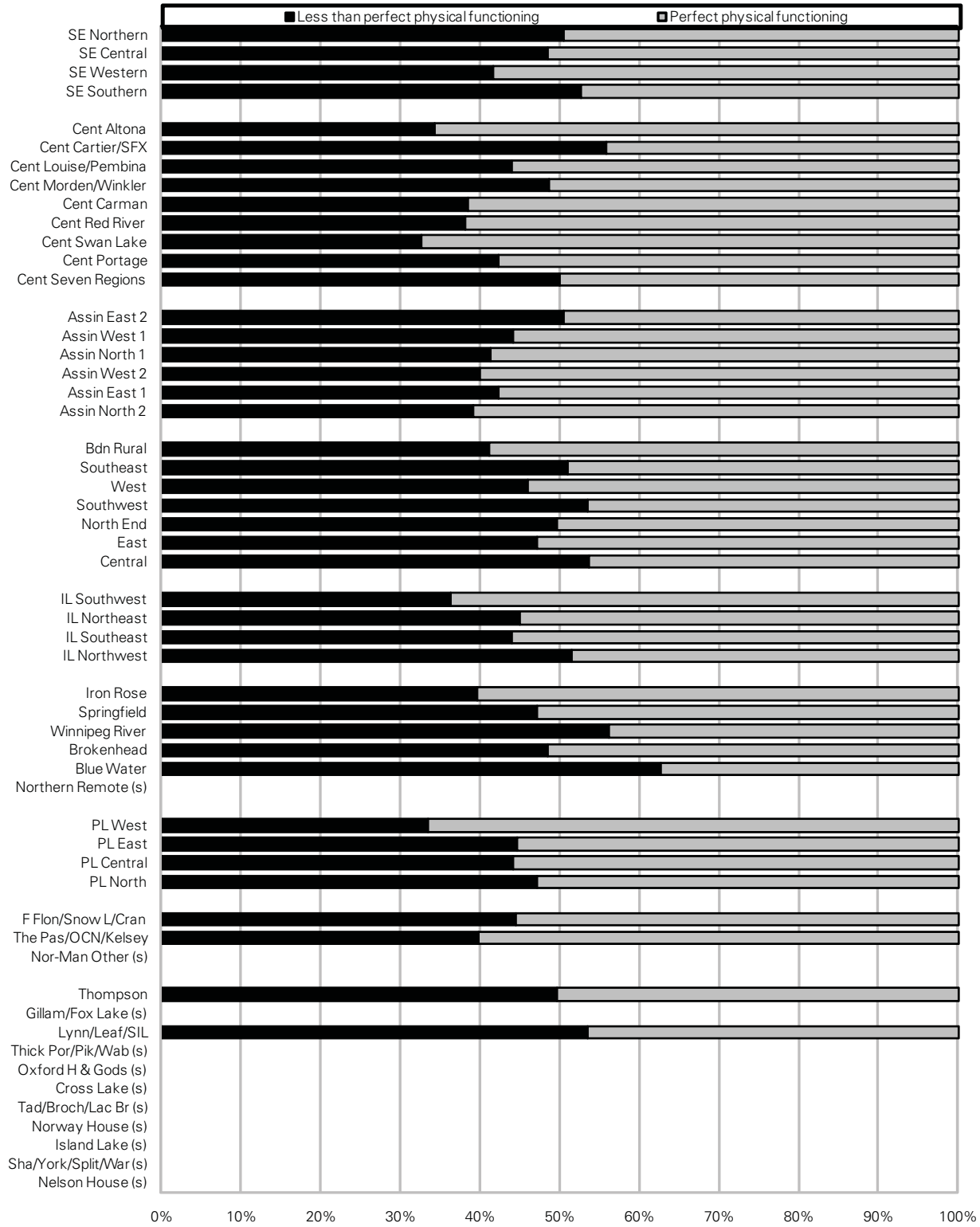
Age- & sex-adjusted percent of weighted sample aged12+ with an index score of 100 from the combined CCHS cycles 2.1 (2003) and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.2.2: SF-36 Perfect Physical Functioning by District

Age- & sex-adjusted percent of weighted sample aged 12+ with an index score of 100 from the combined CCHS cycles 2.1 (2003) and 3.1 (2005)

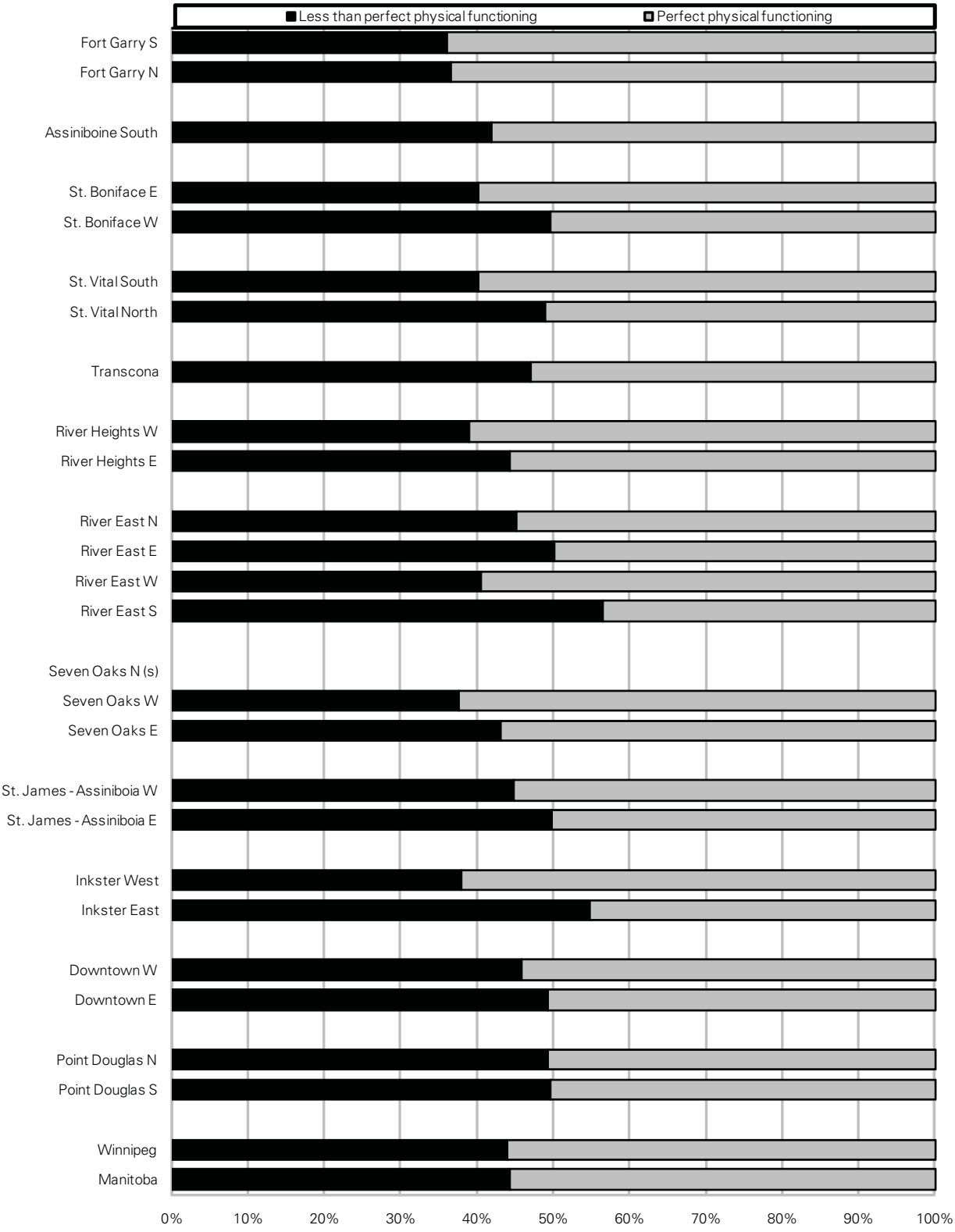



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.2.3: SF-36 Perfect Physical Functioning by Winnipeg Neighbourhood Cluster

Age- & sex-adjusted percent of weighted sample aged 12+ with an index score of 100
from the combined CCHS cycles 2.1 (2003) and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 55.7% of Manitoba respondents had a perfect score (100) on this physical functioning scale.
- Results were remarkably similar across RHAs.
  - South Eastman, Brandon, North Eastman and Burntwood appeared to have slightly lower rates, but none of these were statistically different from the Manitoba average (see Table 14.2).
- There is more variability among results for RHA Districts and among the neighbourhood clusters within Winnipeg
- Relationships with area–level income were mixed: (Appendix 2)
  - In urban areas, residents of higher income areas generally had higher rates of excellent physical functioning.
  - In rural areas, there was no consistent relationship.

## Comparison to other findings:

- Comparative data are not readily available for this indicator.

**Table 14.2: Age/Sex Standardized Rates of SF-36 Perfect Physical Functioning, aged 12+**
Combined CCHS Cycles 2.1 (2003) and 3.1 (2005)

| Area | Less than perfect physical functioning | Perfect physical functioning |
|---|---|---|
| South Eastman | 48.5% | 51.5% |
| Central | 43.8% | 56.2% |
| Assiniboine | 43.2% | 56.8% |
| Brandon | 48.7% | 51.3% |
| Winnipeg | 44.0% | 56.0% |
| Interlake | 42.8% | 57.2% |
| North Eastman | 48.4% | 51.6% |
| Parkland | 44.4% | 55.6% |
| Churchill (s) | | |
| Nor-Man | 42.1% | 57.9% |
| Burntwood | 49.8% | 50.2% |
| | | |
| Rural South | 45.0% | 55.0% |
| Mid | 44.6% | 55.4% |
| North | 45.7% | 54.3% |
| | | |
| Manitoba | 44.4% | 55.6% |

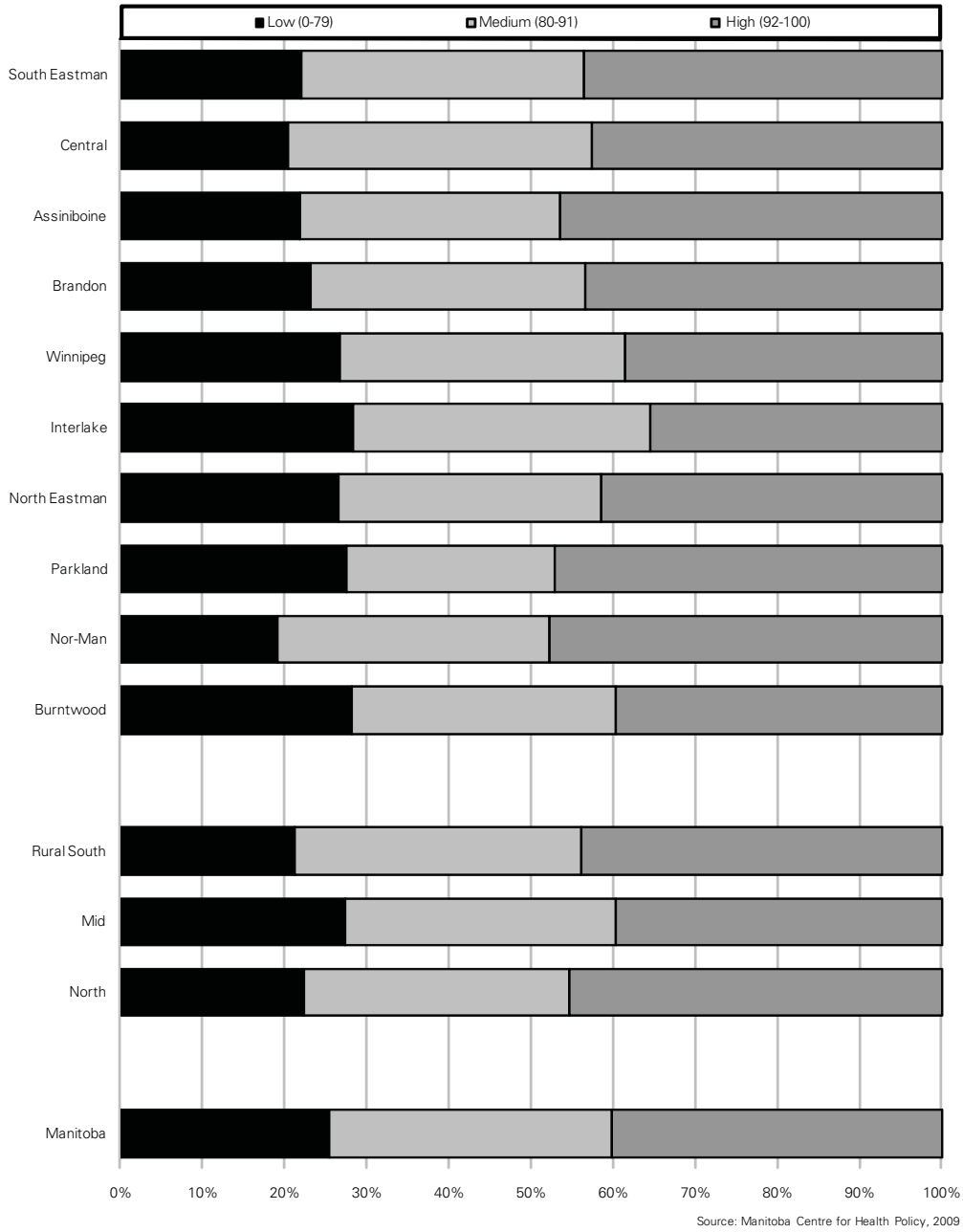
Source: Manitoba Centre for Health Policy, 2009

## 14.3 General Mental Health Scale (SF–36)

Definition: the general mental health scale is a derived measure from the SF–36 questionnaire, addressing overall mental health on a scale of 0 to 100 (higher is better). Based on the distribution of scores, three groups were created with approximately one–third of respondents in each group: Low (0–79), Medium (80–91), and High (92–100). The age– and sex–adjusted proportion of respondents in each group is shown. Results from cycles 2.1 and 3.1 (2003–2005) were included.

**Figure 14.3.1: SF-36 General Mental Health Scale by RHA**

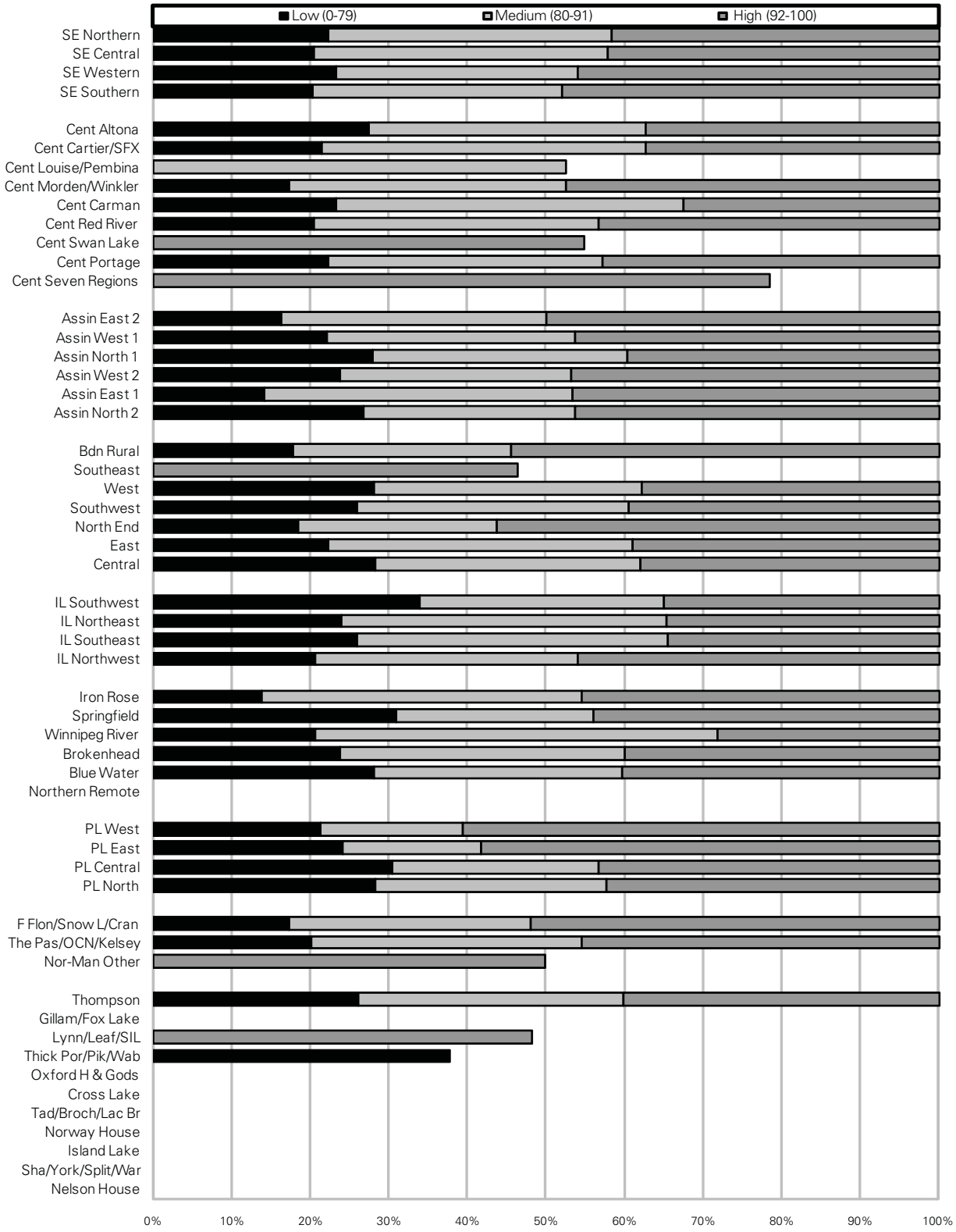
Age- and sex-adjusted percent of weighted sample age 12+ within each group
from combined CCHS cycles 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.3.2: SF-36 General Mental Health Scale by District

Age- and sex-adjusted percent of weighted sample aged 12+ within each group
from combined CCHS cycles 2.1 (2003), and 3.1 (2005)

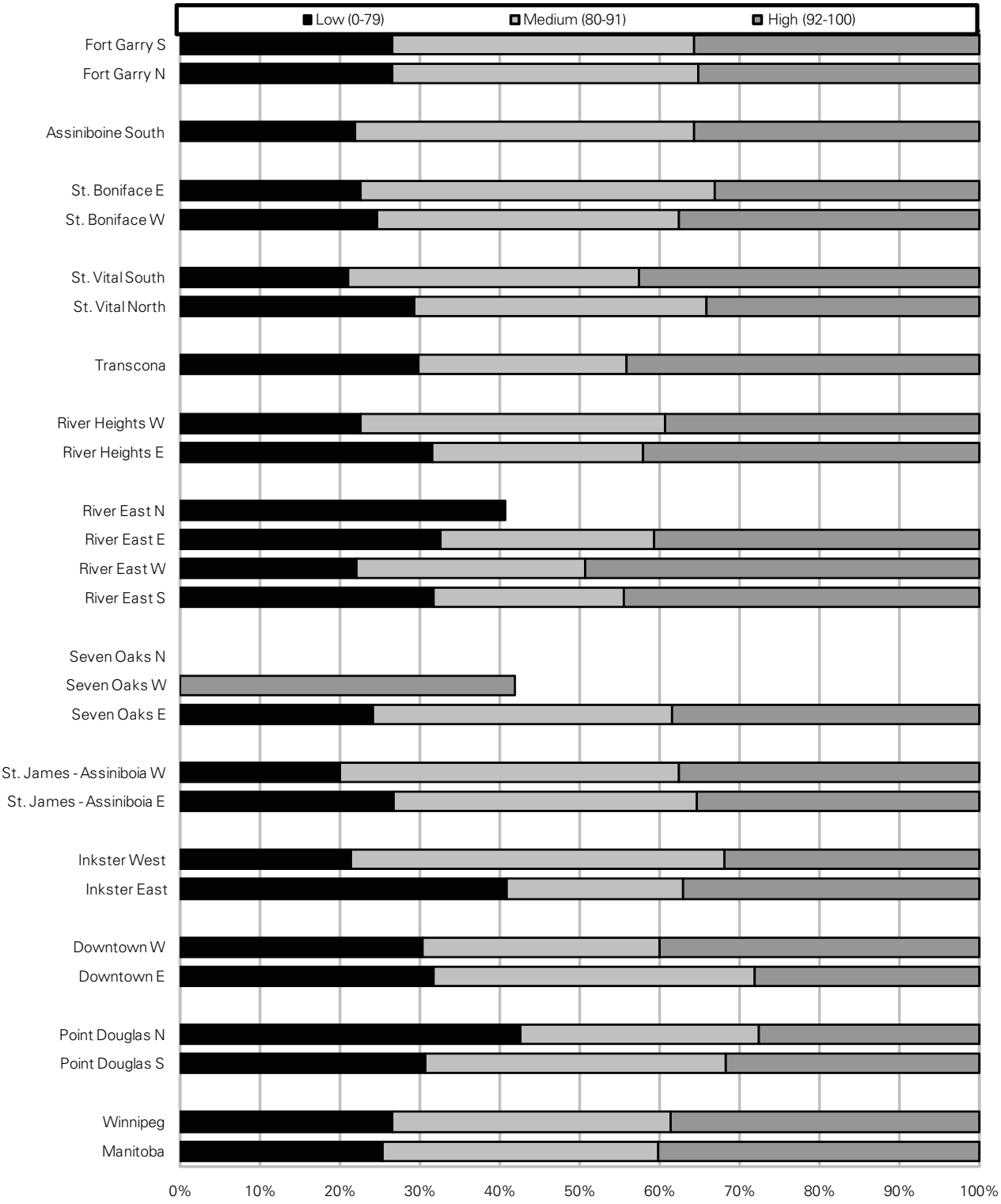



missing bars = suppressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.3.3: SF-36 General Mental Health Scale by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 12+ within each group
from combined CCHS cycles 2.1 (2003), and 3.1 (2005)




missing bars = suppressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 25.4% of Manitoba respondents had a Low score (0–79), 34.6% had a Medium score (80–91), and 40.1% had a High score (92–100) on this General Mental Health scale.
- Results were variable across RHAs, but in no particular pattern (e.g., not related to population health status).
  - A few RHAs had differences in the three groups as shown in bold text in Table 14.3.
  - Residents of both the Rural South and North areas had a higher than average proportion of residents in the High mental health group.
- There is more variability among results for RHA Districts and among the neighbourhood clusters within Winnipeg.
- Relationships with area–level income were mixed: (Appendix 2)
  - In urban areas, residents of higher income areas generally had lower rates of Low general mental health, and higher rates of Medium and High general mental health.
  - In rural areas, there was no consistent relationship.

## Comparison to other findings:

- Comparative data are not readily available for this indicator.

**Table 14.3: Age/Sex Standardized Rates of SF-36 General Mental Health Scale, aged 12+**
CCHS 2.1 and 3.1 Combined

| Area | Low (0-79) | Medium (80-91) | High (92-100) |
|---|---|---|---|
| South Eastman | 22.0% | 34.5% | 43.5% |
| Central | **20.5%** | 37.0% | 42.6% |
| Assiniboine | 21.8% | 31.7% | **46.5%** |
| Brandon | 23.2% | 33.4% | 43.4% |
| Winnipeg | **26.7%** | 34.8% | **38.5%** |
| Interlake | 28.3% | 36.3% | 35.4% |
| North Eastman | 26.5% | 32.1% | 41.4% |
| Parkland | 27.6% | **25.4%** | **47.0%** |
| Churchill (s) | | | |
| Nor-Man | **19.2%** | 33.1% | **47.7%** |
| Burntwood | 28.1% | 32.2% | 39.7% |
| | | | |
| Rural South | **21.2%** | 34.8% | **43.9%** |
| Mid | 27.4% | 32.9% | 39.7% |
| North | 22.4% | 32.3% | **45.3%** |
| | | | |
| Manitoba | 25.4% | 34.5% | 40.1% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

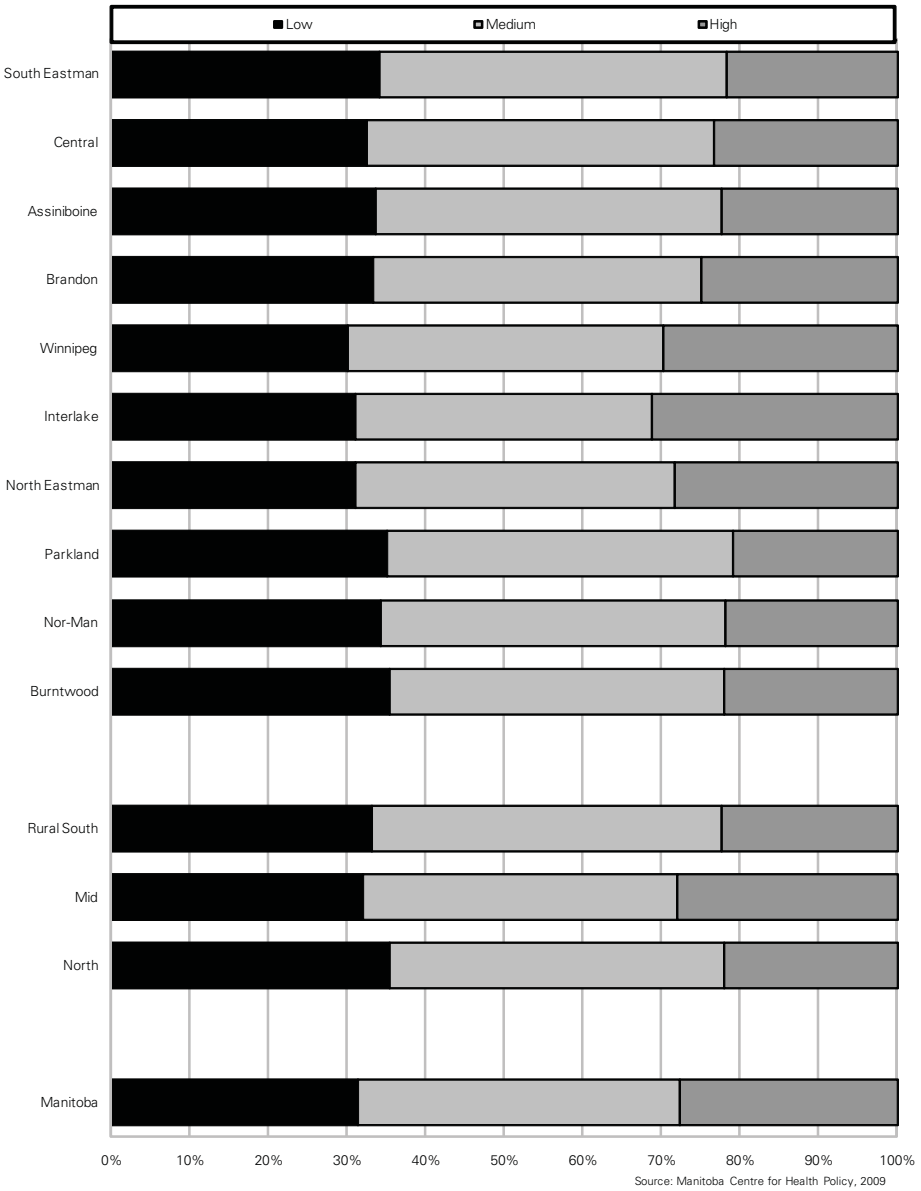
## 14.4 Self–Perceived Work Stress

Question: participants age 15–75 were asked the question "Have you worked at a job or business at any time in the past 12 months?" Those who did not respond 'No' were then asked, "The next question is about your main job or business in the past 12 months. Would you say that most days were: (not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful)?"

Definition: respondents were grouped into three categories: low stress ('not at all stressful' and 'not very stressful'), medium stress ('a bit stressful') and high stress ('quite a bit stressful' and 'extremely stressful'). The age– and sex–adjusted proportion of respondents in each group is shown. Those responding 'Don't Know' were excluded. Results from cycles 1.1, 2.1, and 3.1 (2001–2005) were included.

**Figure 14.4.1: Self-Perceived Work Stress by RHA**

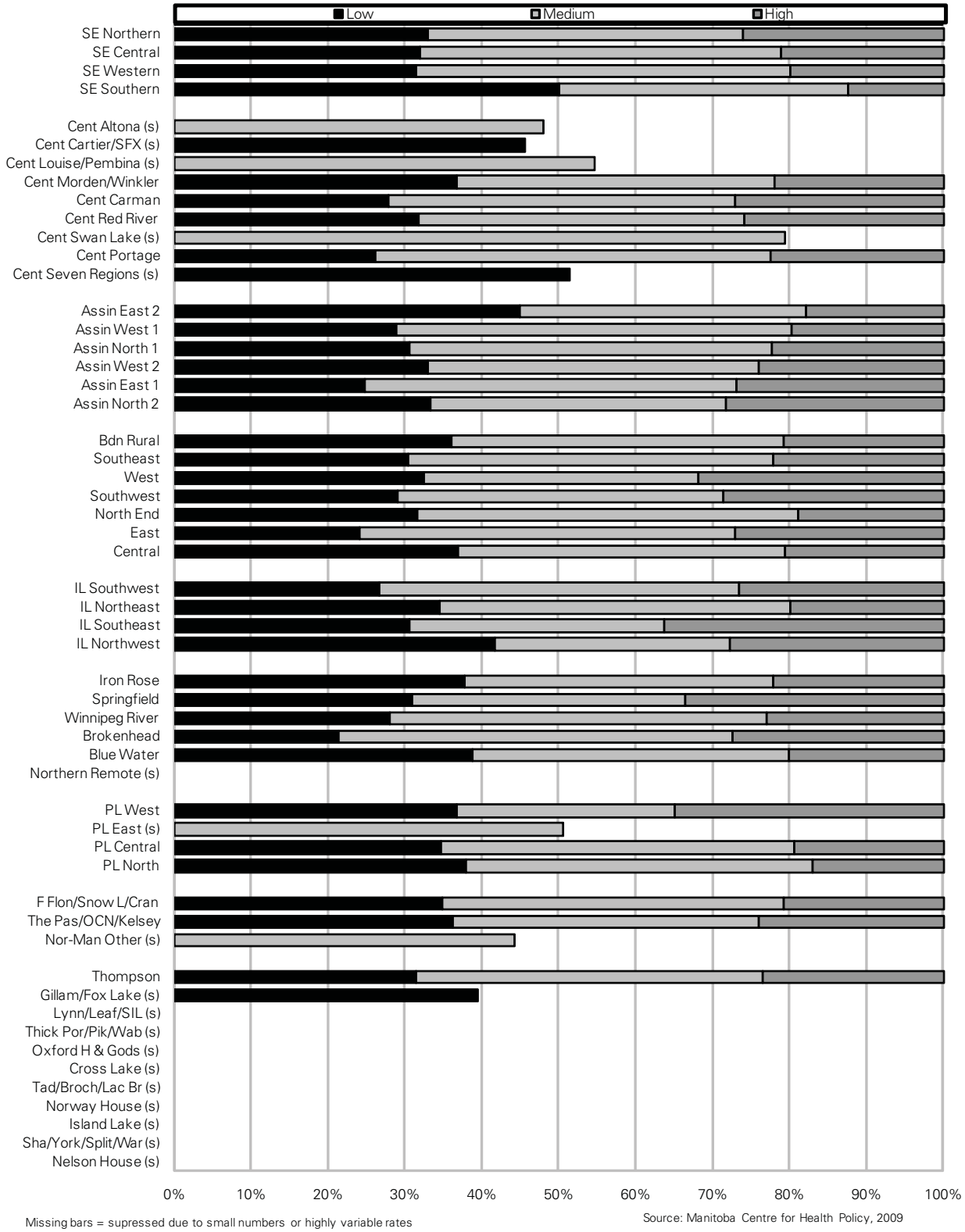
Age- and sex-adjusted percent of weighted sample aged 15-75 from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.4.2: Self-Perceived Work Stress by District

Age- and sex-adjusted percent of weighted sample aged 15-75 from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

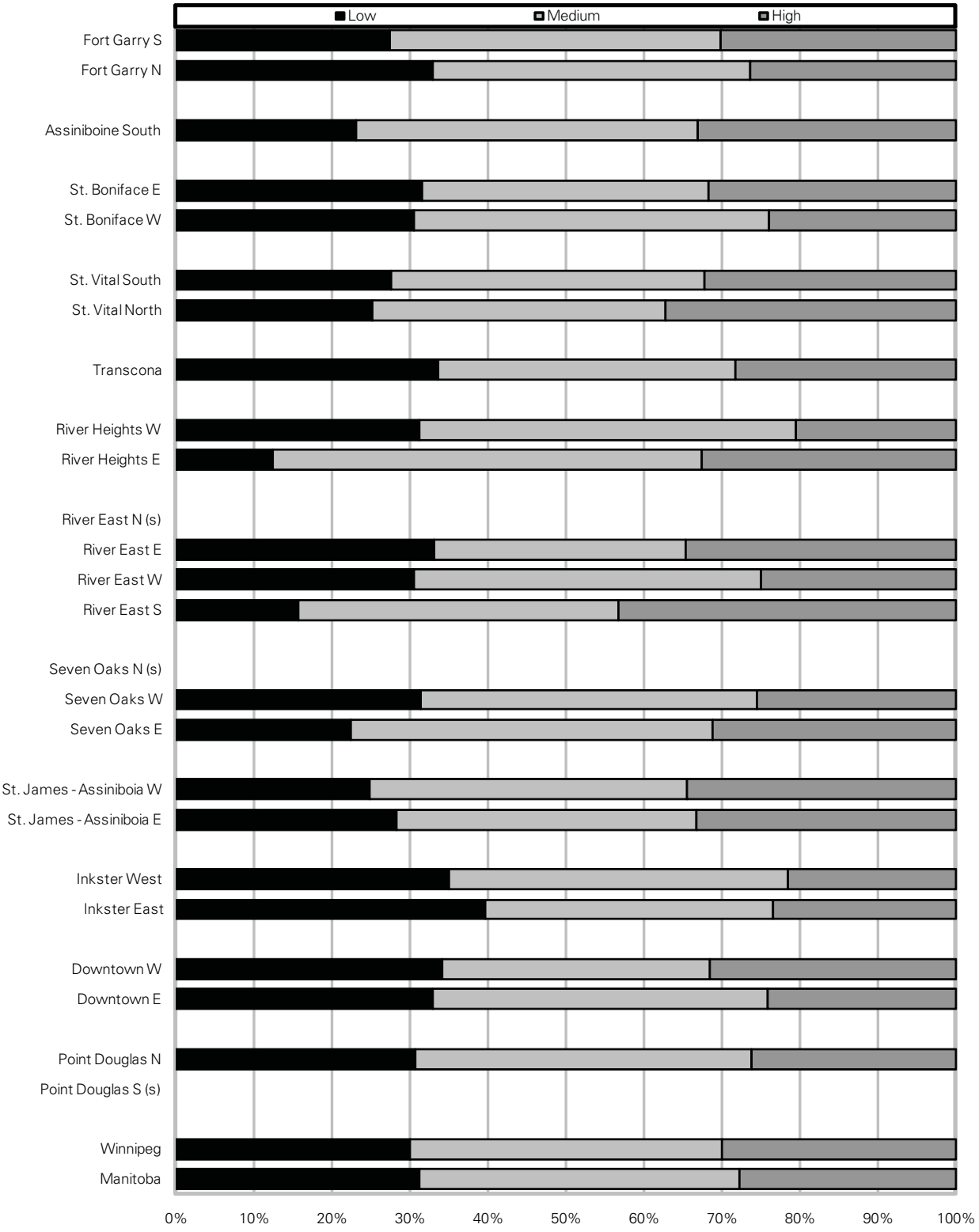



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.4.3: Self-Perceived Work Stress by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 15-75 from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 31.3% of Manitoba respondents reported Low stress jobs, 41.1% were Medium, and 27.6% reported High stress jobs.
- Results were quite comparable across RHAs. Specifically:
  - A higher proportion of Winnipeg residents reported High stress jobs, while residents of several other RHAs had lower proportions in that category, as shown in Table 14.4.
  - Residents of both the Rural South and North areas had a lower than average proportion of residents in the High work stress group.
- There is more variability among results for RHA Districts and among the neighbourhood clusters within Winnipeg.
- There were no consistent relationships between work stress levels and area–level income for urban or rural residents (Appendix 2).

## Comparison to other findings:

- These results are very similar to those for Canada from Lowe (2008) who showed that, in 2005, national averages were: 30.3% Low, 41.5% Medium, and 28.2% High.

**Table 14.4: Age/Sex Standardized Rates of Self-Perceived Work Stress, aged 15-75**
CCHS 1.1, 2.1 and 3.1 Combined

| Area | Low | Medium | High |
|---|---|---|---|
| South Eastman | 34.1% | 44.3% | **21.6%** |
| Central | 32.5% | 44.2% | **23.3%** |
| Assiniboine | 33.6% | 44.1% | **22.3%** |
| Brandon | 33.3% | 41.8% | 24.9% |
| Winnipeg | 30.1% | 40.0% | **29.8%** |
| Interlake | 31.0% | 37.7% | 31.3% |
| North Eastman | 31.0% | 40.8% | 28.2% |
| Parkland | 35.1% | 44.0% | **20.9%** |
| Churchill (s) | | | |
| Nor-Man | 34.3% | 43.8% | 21.9% |
| Burntwood | 35.5% | 42.5% | **22.1%** |
| | | | |
| Rural South | 33.2% | **44.4%** | **22.4%** |
| Mid | 31.9% | 40.0% | 28.0% |
| North | **35.5%** | 42.6% | **22.0%** |
| | | | |
| Manitoba | 31.3% | 41.1% | 27.6% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

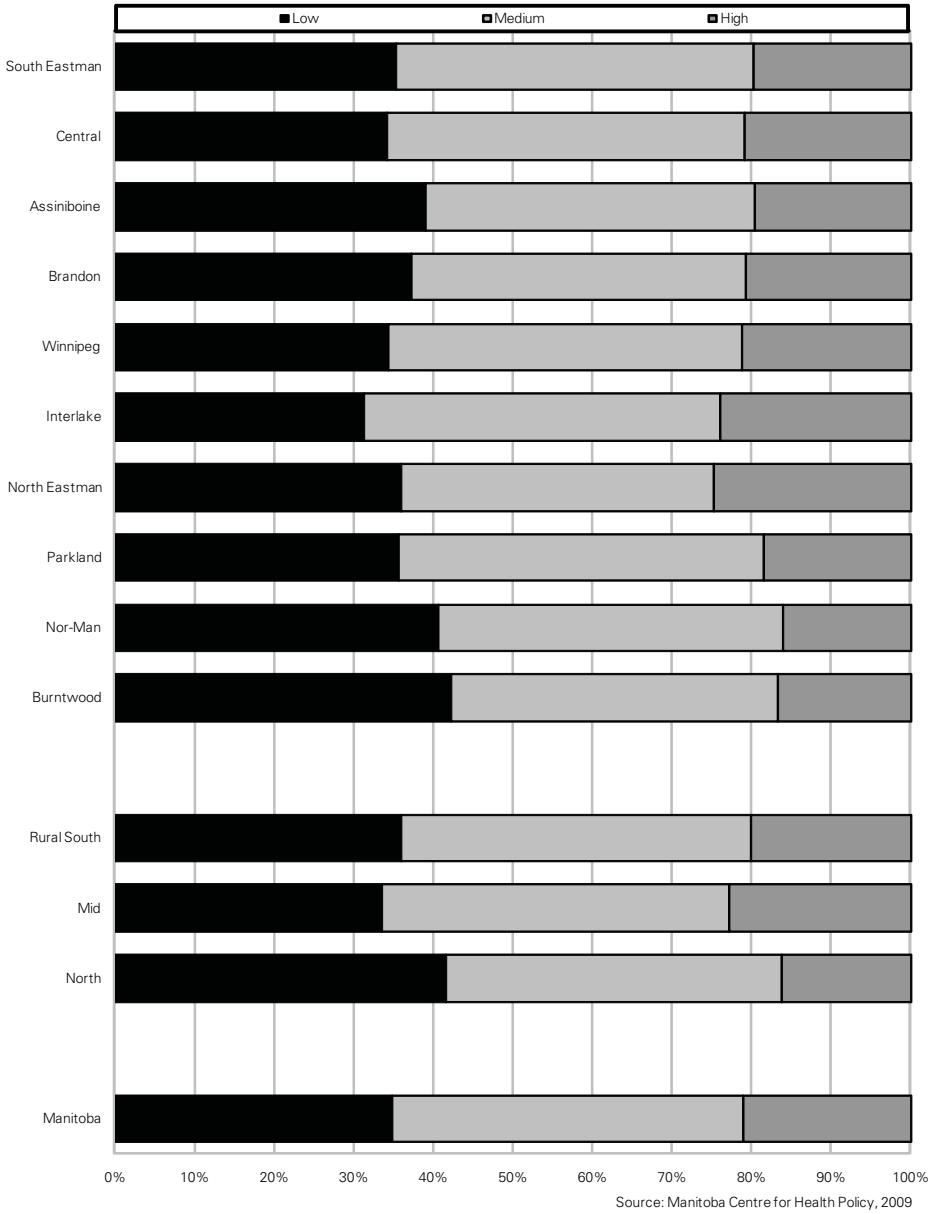
## 14.5 Self–Perceived Life Stress

Question: participants age 15 and older were asked the question, "Thinking about the amount of stress in your life, would you say that most days are: not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful?" Results from cycles 1.1, 2.1, 2.2, and 3.1 (2000–2005) were included.

Definition: respondents were grouped into three categories: Low stress ('not at all stressful' and 'not very stressful'), Medium stress ('a bit stressful') and High stress ('quite a bit stressful' and 'extremely stressful'). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Figure 14.5.1: Self-Perceived Life Stress by RHA**

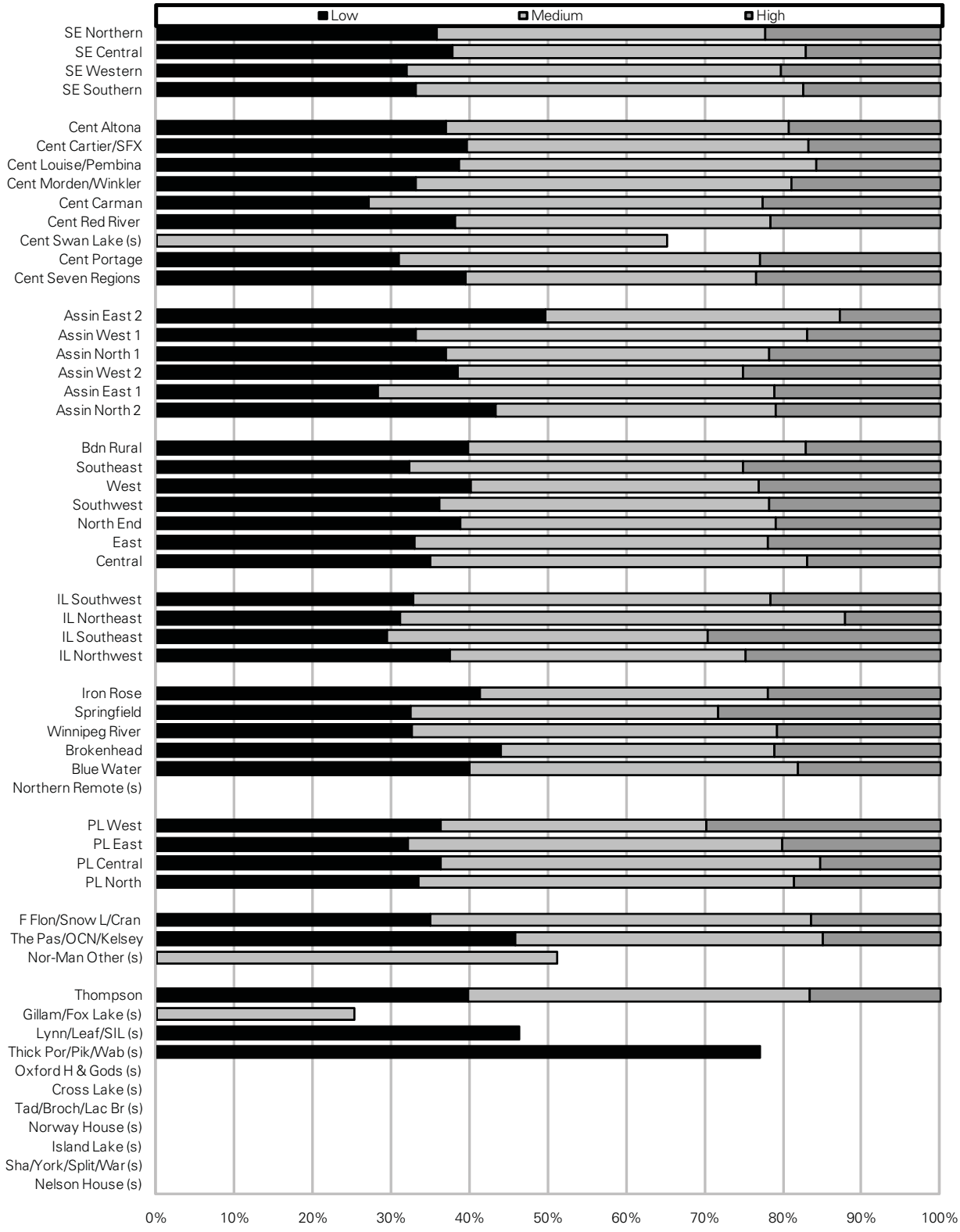
Age- and sex-adjusted percent of weighted sample aged 15+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.5.2: Self-Perceived Life Stress by District

Age- and sex-adjusted percent of weighted sample aged 15+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

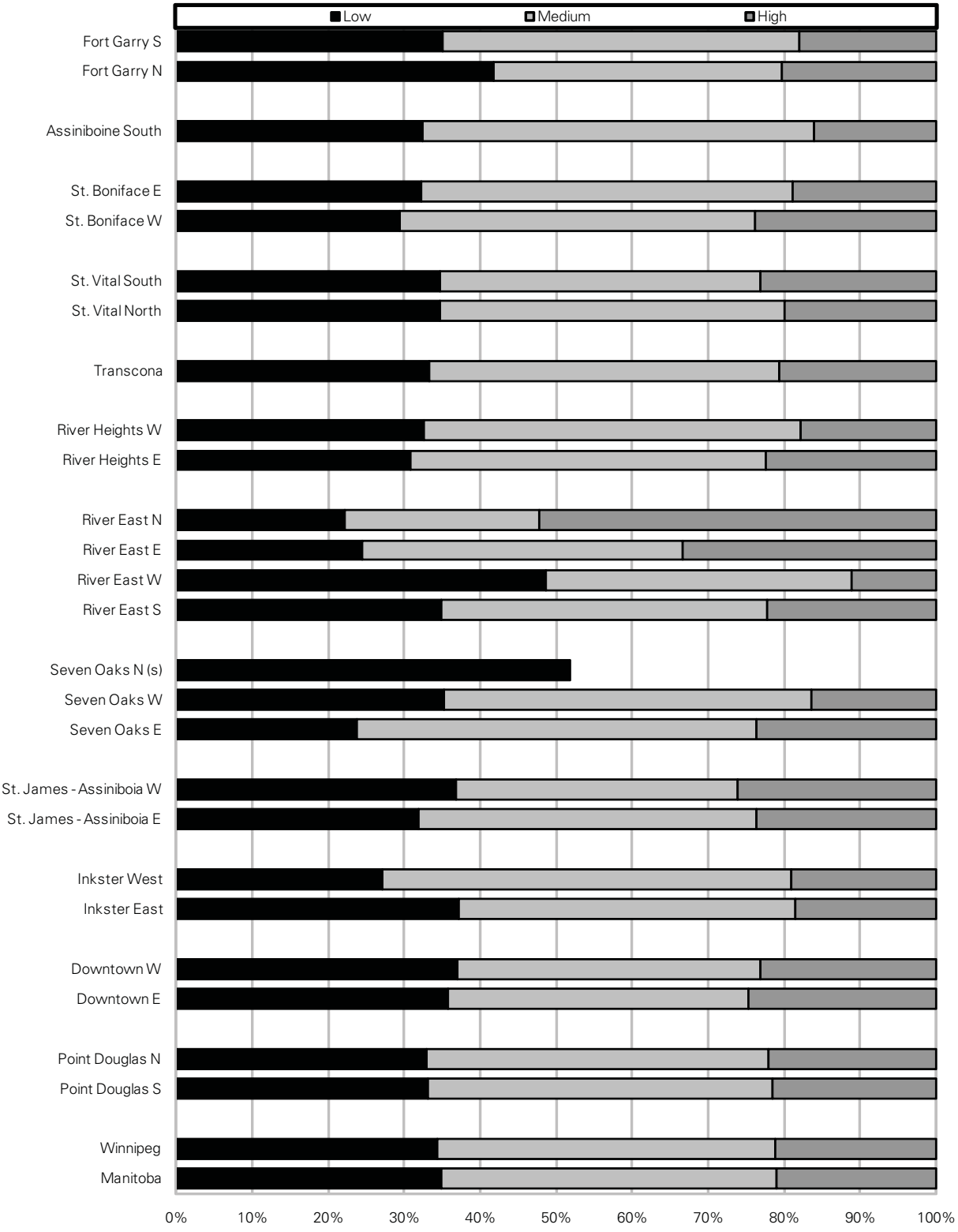



Missing bars = suppressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.5.3: Self-Perceived Life Stress by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 15+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Missing bars = suppressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 34.9% of Manitoba respondents reported Low stress lives, 44.1% were Medium, and 21% reported High stress lives.
- Results were comparable across most RHAs, though responses were significantly better in NOR–MAN and Burntwood than all other RHAs: in those regions, a lower proportion of residents reported high stress lives, and a higher proportion reported low stress lives (Table 14.5).
- There is more variability among results for RHA Districts and among the neighbourhood clusters within Winnipeg.
- There was no relationship between life stress and area–level income. For each of Low, Medium and High stress levels, rates were virtually identical among urban and rural income quintiles (Appendix 2).

## Comparison to other findings:

- The distribution of responses from Manitobans was different from the national averages provided by Statistics Canada. Different groupings were used, but the results indicated that Manitoba had a higher proportion of respondents in the 'Medium' group and a lower proportion in both the Low stress (Manitoba 9.8% vs. Canada 12%) and the High stress (Manitoba 21% vs. Canada 23.2%) groups (CANSIM Table 105–0438).

**Table 14.5: Age/Sex Standardized Rates of Self-Perceived Life Stress, aged 15+**

CCHS 1.1, 2.1, and 3.1 Combined

| Area | Low | Medium | High |
|---|---|---|---|
| South Eastman | 35.4% | 44.8% | 19.8% |
| Central | 34.2% | 45.0% | 20.8% |
| Assiniboine | 39.0% | 41.5% | 19.5% |
| Brandon | 37.4% | 42.0% | 20.7% |
| Winnipeg | 34.3% | 44.5% | 21.2% |
| Interlake | 31.4% | 44.7% | 23.9% |
| North Eastman | 36.0% | 39.3% | 24.7% |
| Parkland | 35.7% | 45.9% | 18.4% |
| Churchill (s) | | | |
| Nor-Man | **40.6%** | 43.4% | **16.0%** |
| Burntwood | **42.3%** | 41.1% | **16.7%** |
| | | | |
| Rural South | 36.0% | 44.0% | 20.1% |
| Mid | 33.5% | 43.6% | 22.8% |
| North | **41.6%** | 42.2% | **16.2%** |
| | | | |
| Manitoba | 34.9% | 44.1% | 21.0% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

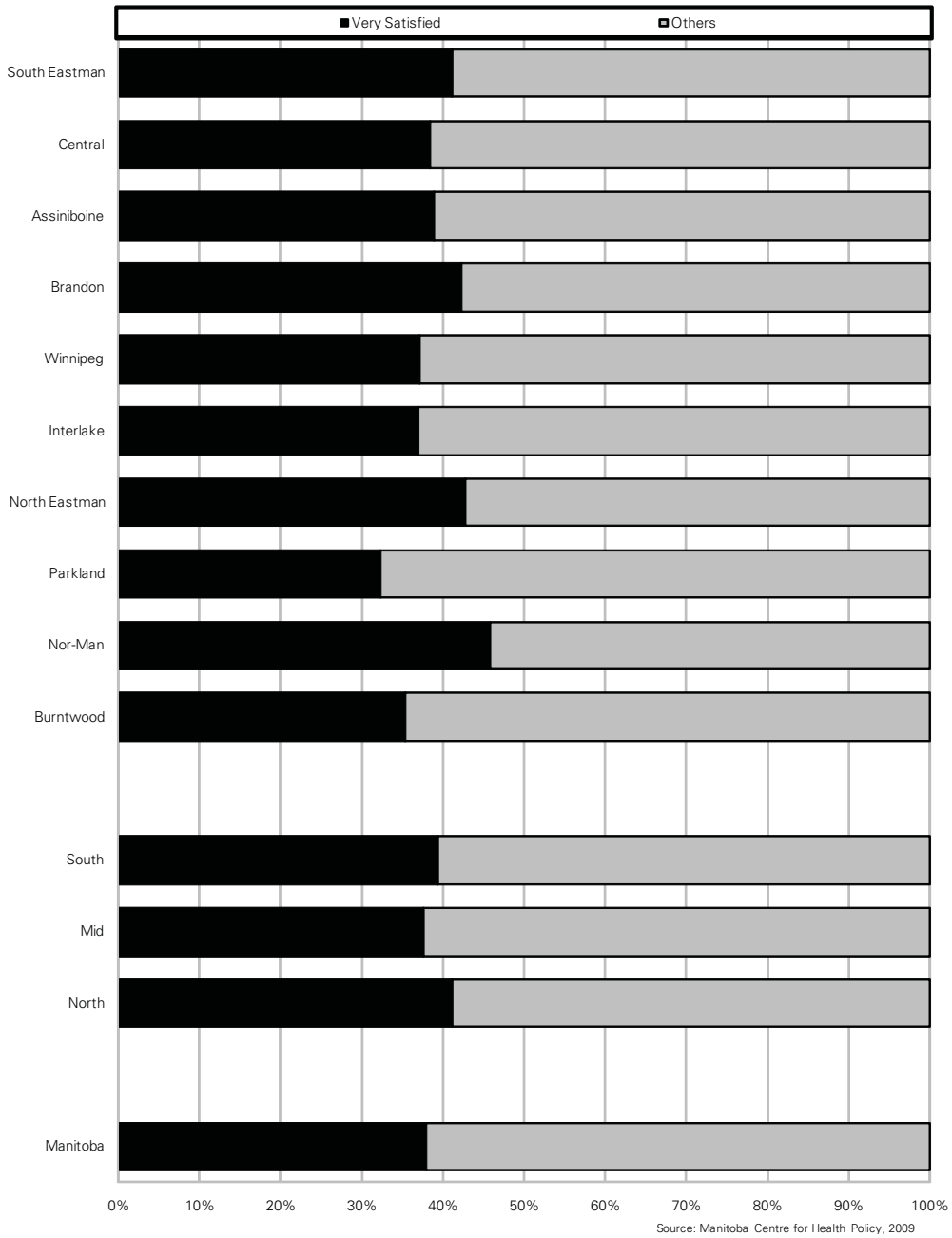
## 14.6 Life Satisfaction

Question: all participants were asked "How satisfied are you with your life in general: Very satisfied, Satisfied, Neither satisfied nor dissatisfied, Dissatisfied, or Very dissatisfied?"

Definition: respondents were grouped into two categories: Very satisfied versus all other responses (the low frequency of the last three responses prevented further refinement). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 2.1, and 3.1 (2003–2005).

**Figure 14.6.1: Life Satisfaction by RHA**

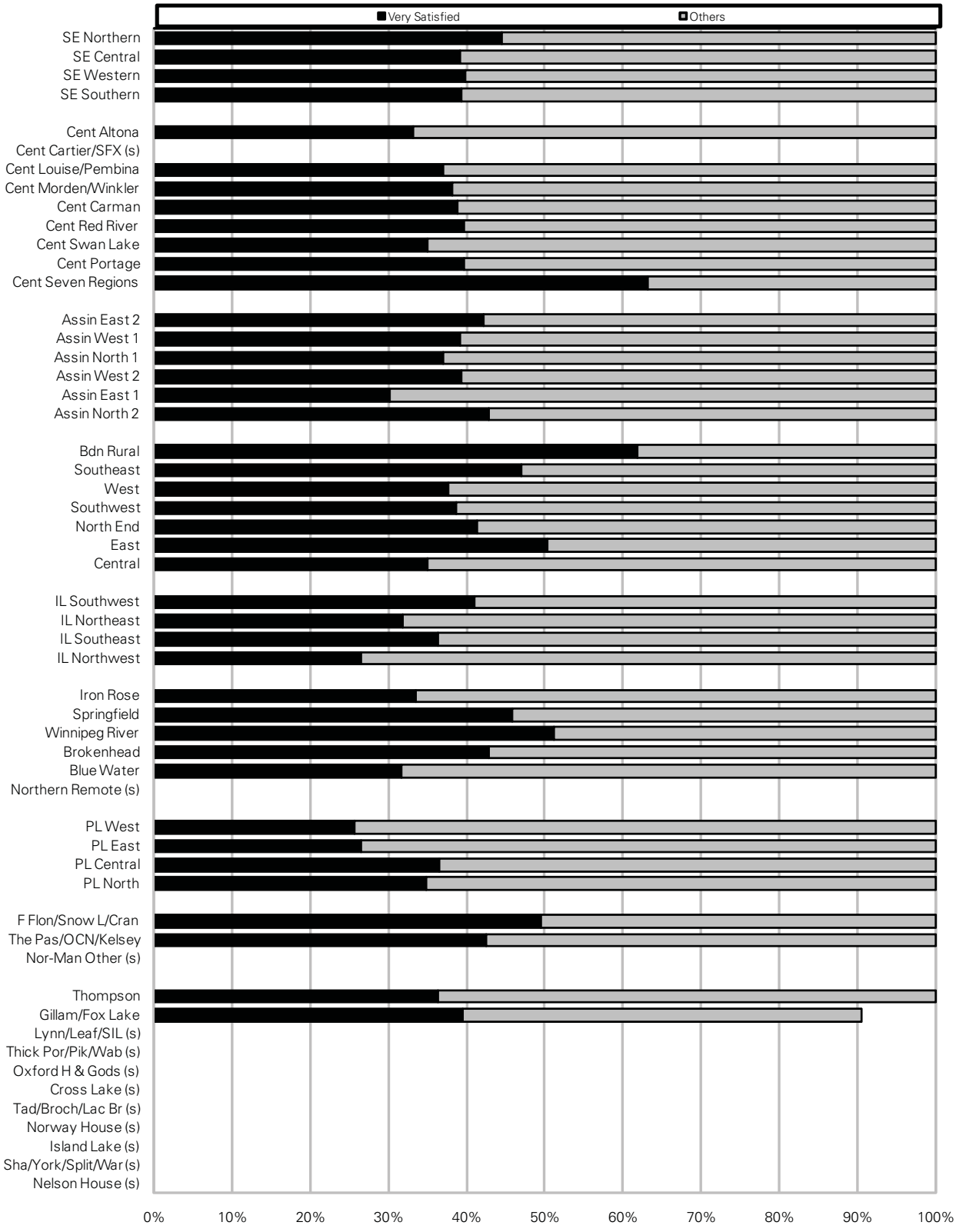
Age- and sex-adjusted percent of weighted sample age 12+ from combined CCHS cycles 2.1 (2003) and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.6.2: Life Satisfaction by District

Age- and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 2.1 (2003) and 3.1 (2005)

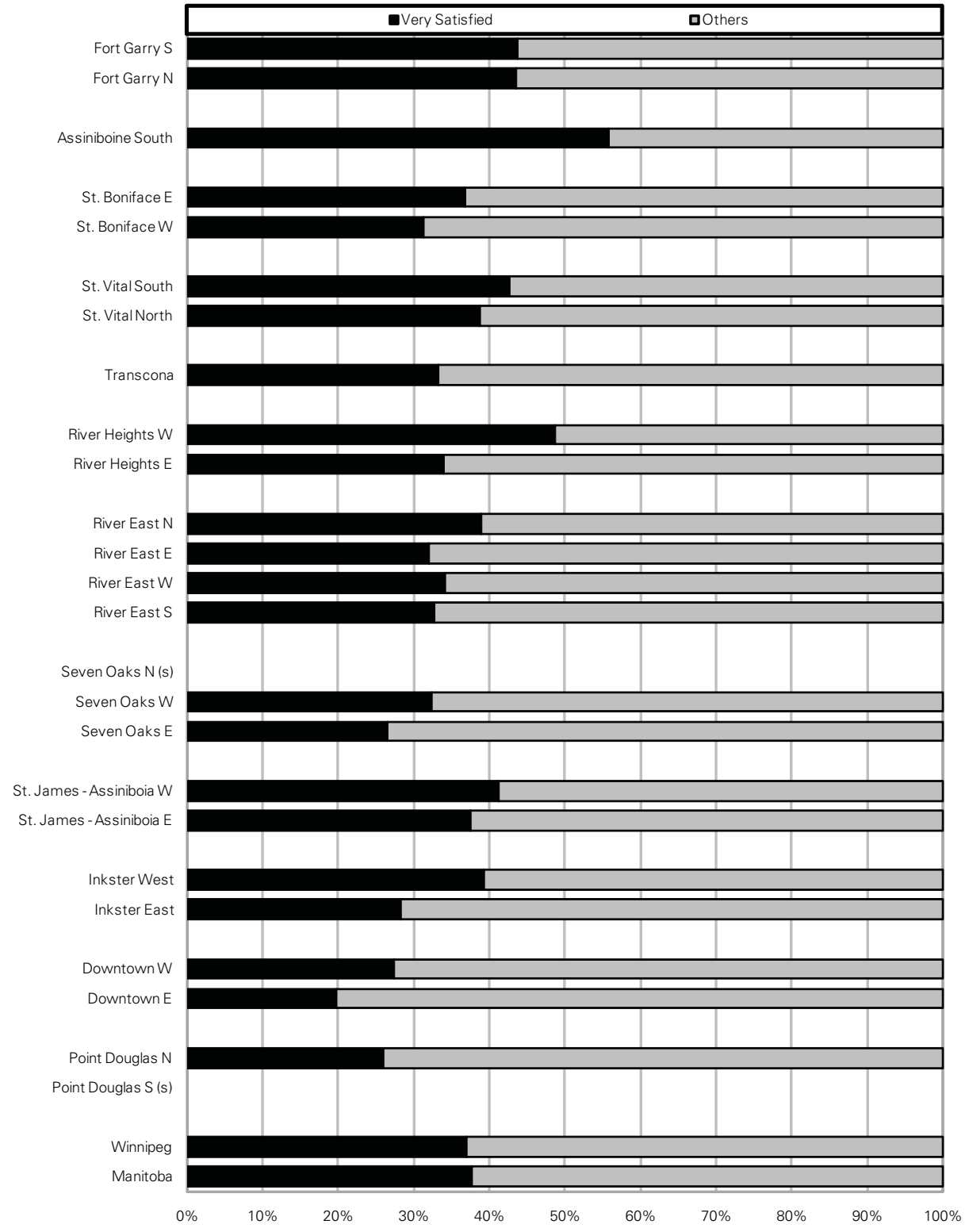



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.6.3: Life Satisfaction by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged12+ from combined CCHS cycles 2.1 (2003) and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 37.8% of Manitoba respondents reported being Very satisfied with their lives in general versus 62.2% providing any other response.
    - Initially, this analysis was done using three categories, but the very low frequency of responses for the last three response options resulted in excessive suppression for many areas. Overall, 37.8% said Very Satisfied, 54.7% Satisfied, and 7.5% reported Neutral or Dissatisfied.
- Results varied by RHA, but only NOR–MAN had a statistically significant difference. NOR–MAN residents reported the highest rate of being 'Very satisfied' with life. (Table 14.6).
- There is more variability among results for RHA Districts and among the neighbourhood clusters within Winnipeg.
- Relationships with area–level income were mixed: (Appendix 2)
    - In urban areas, satisfaction with life was consistently and substantially higher for residents of higher income areas.
    - In rural areas, the relationship was basically in the same direction, but differences were smaller and less consistent.

## Comparison to other findings:

- The distribution of responses from Manitobans was different from the national averages provided by Statistics Canada. Different groupings were used, but the results indicated that Manitobans reported higher satisfaction with life than national averages of 32.6% Very satisfied, 52.7% Satisfied, and 14.6% Neutral or Dissatisfied (CANSIM Table 105–1100).

**Table 14.6: Age/Sex Standardized Rates of Life Satisfaction, aged 12+**

CCHS 2.1 and 3.1 Combined

| Area | Very Satisfied | Others |
|---|---|---|
| South Eastman | 41.2% | 58.8% |
| Central | 38.4% | 61.6% |
| Assiniboine | 38.9% | 61.1% |
| Brandon | 42.2% | 57.8% |
| Winnipeg | 37.1% | 62.9% |
| Interlake | 36.9% | 63.1% |
| North Eastman | 42.7% | 57.3% |
| Parkland | 32.3% | 67.7% |
| Churchill (s) | | |
| Nor-Man | **45.8%** | **54.2%** |
| Burntwood | 35.3% | 64.7% |
| | | |
| South | 39.3% | 60.7% |
| Mid | 37.6% | 62.4% |
| North | 41.1% | 58.9% |
| | | |
| Manitoba | 37.8% | 62.2% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

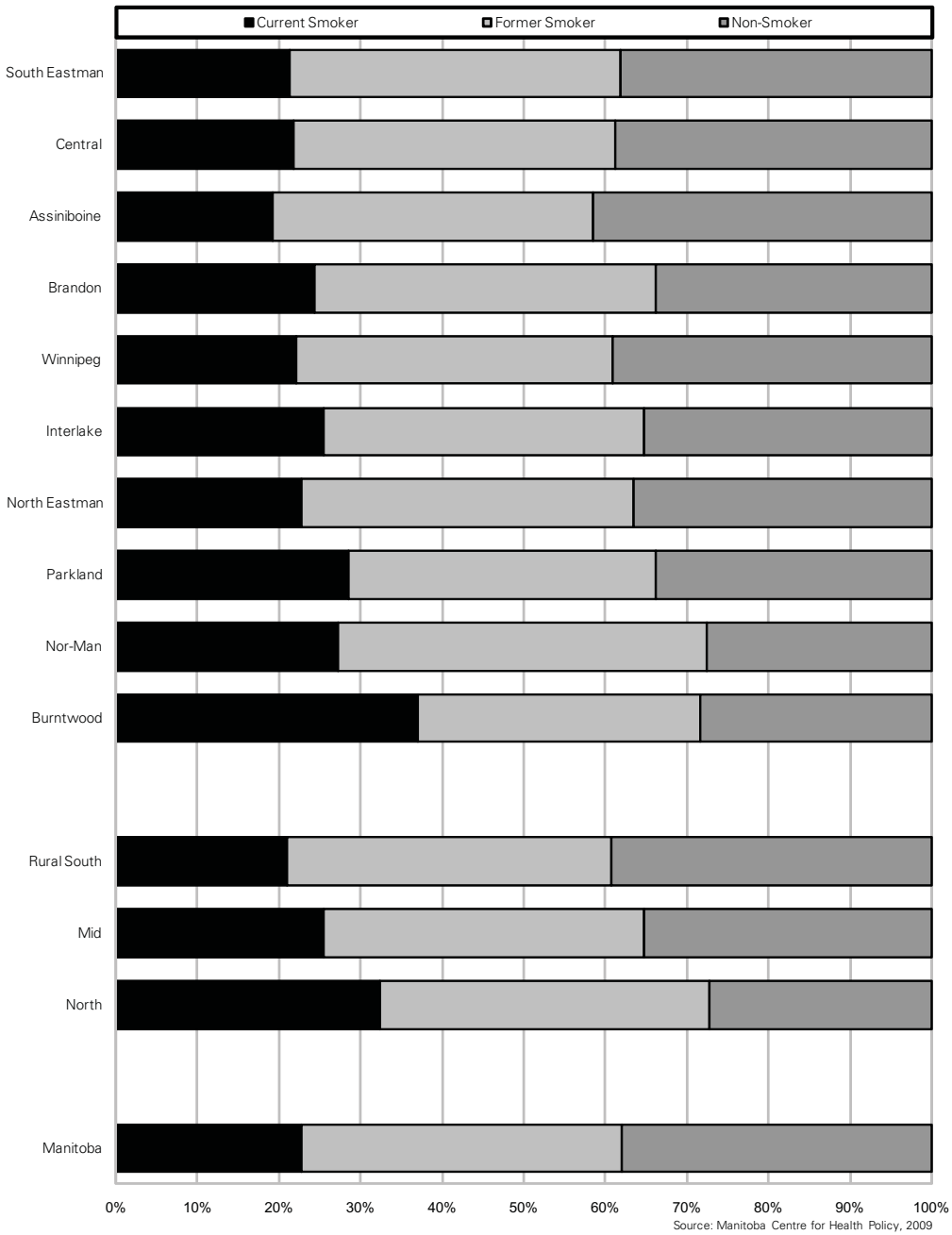
Source: Manitoba Centre for Health Policy, 2009

## 14.7 Tobacco Smoking

Definition: this variable is derived from responses to several questions on smoking habits, and uses the groupings 'Current smoker' (includes daily smoker, occasional daily smoker who previously was a daily smoker, and always an occasional smoker), 'Former smoker' (includes former daily smoker and former occasional smoker), and 'Non–Smoker' (never smoked). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Figure 14.7.1: Tobacco Smoking Rates by RHA**

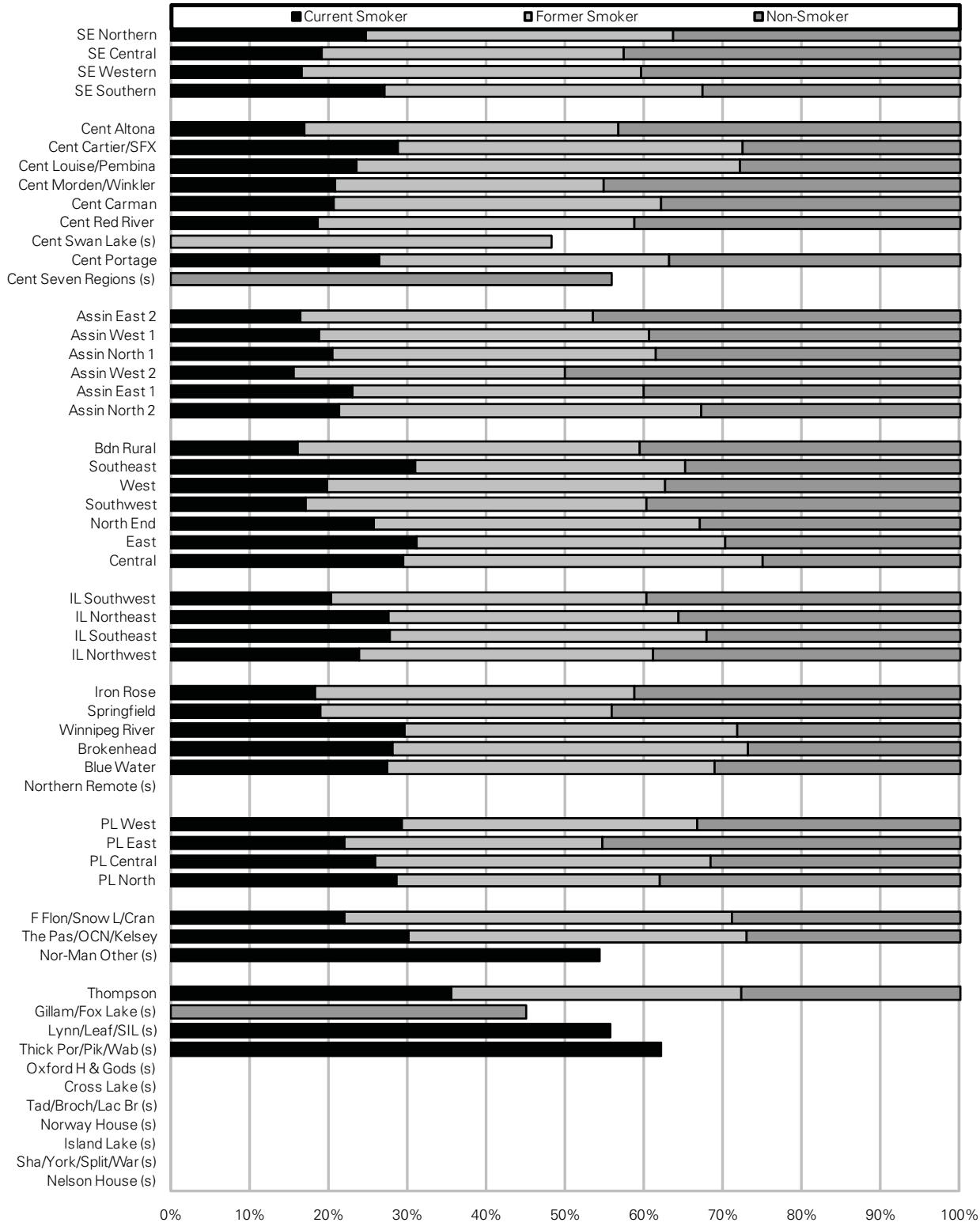
Age- and sex-adjusted percent of weighted sample age 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.7.2: Tobacco Smoking Rates by District

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

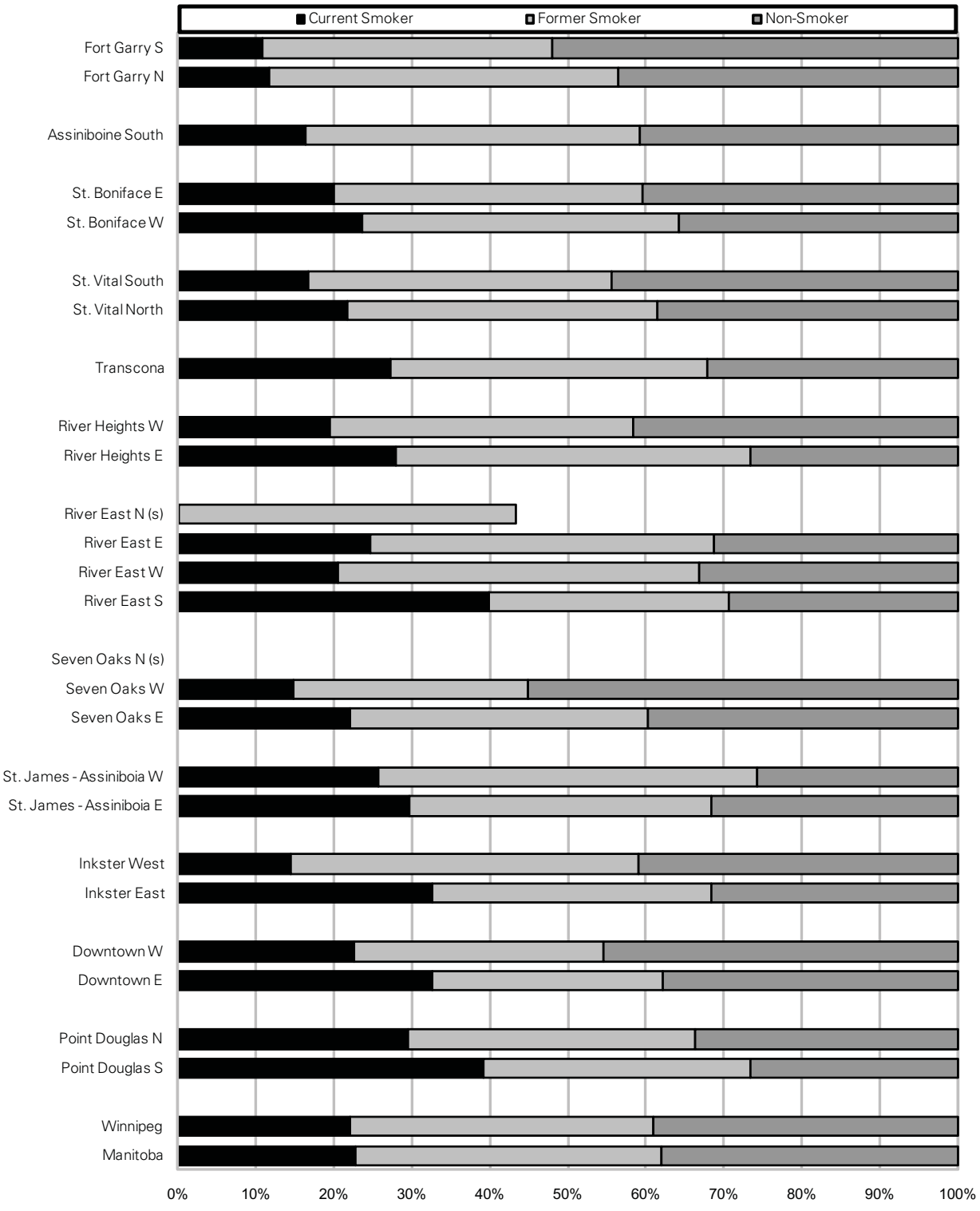



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.7.3: Tobacco Smoking Rates by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 22.7% of Manitoba respondents were Current smokers, 39.3% were Former smokers, and 38% were Non–smokers.
- There appears to be a relationship between health status and smoking at the area level: in areas with less healthy populations there were more Current smokers and fewer Non–smokers, as might have been expected (Table 14.7).
  - This relationship was evident at the RHA, District, and aggregate area levels and among NCs in Winnipeg.
- Relationships with area–level income were mixed: (Appendix 2)
  - In urban areas, residents of higher income areas were consistently and substantially less likely to be current smokers and more likely to be non–smokers; former smokers were less consistently distributed.
  - In rural areas, residents of higher income areas were somewhat less likely to be current smokers and more likely to be former smokers; non–smokers were more evenly distributed across quintile groups.

## Comparison to other findings:

- The distribution of responses from Manitobans indicates slightly more Current smokers, slightly more Former smokers, and slightly fewer Non–smokers. National averages provided by Statistics Canada: 21.7% Current smokers, 38.4% Former smokers, and 39.4% Non–smokers (CANSIM Table 105–0427).

**Table 14.7: Age/Sex Standardized Rates of Tobacco Smoking, aged 12+**
CCHS 1.1, 2.1, and 3.1 Combined

| Area | Current Smoker | Former Smoker | Non-Smoker |
|---|---|---|---|
| South Eastman | 21.2% | 40.6% | 38.1% |
| Central | 21.7% | 39.4% | 38.9% |
| Assiniboine | 19.2% | 39.2% | 41.6% |
| Brandon | 24.3% | 41.9% | **33.8%** |
| Winnipeg | 22.1% | 38.9% | 39.1% |
| Interlake | 25.5% | 39.2% | 35.4% |
| North Eastman | 22.7% | 40.6% | 36.7% |
| Parkland | **28.4%** | 37.8% | 33.8% |
| Churchill (s) | | | |
| Nor-Man | **27.2%** | **45.2%** | **27.5%** |
| Burntwood | **37.0%** | 34.6% | **28.4%** |
| | | | |
| Rural South | 20.9% | 39.7% | 39.4% |
| Mid | **25.4%** | 39.2% | 35.4% |
| North | **32.3%** | 40.4% | **27.3%** |
| | | | |
| Manitoba | 22.7% | 39.3% | 38.0% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

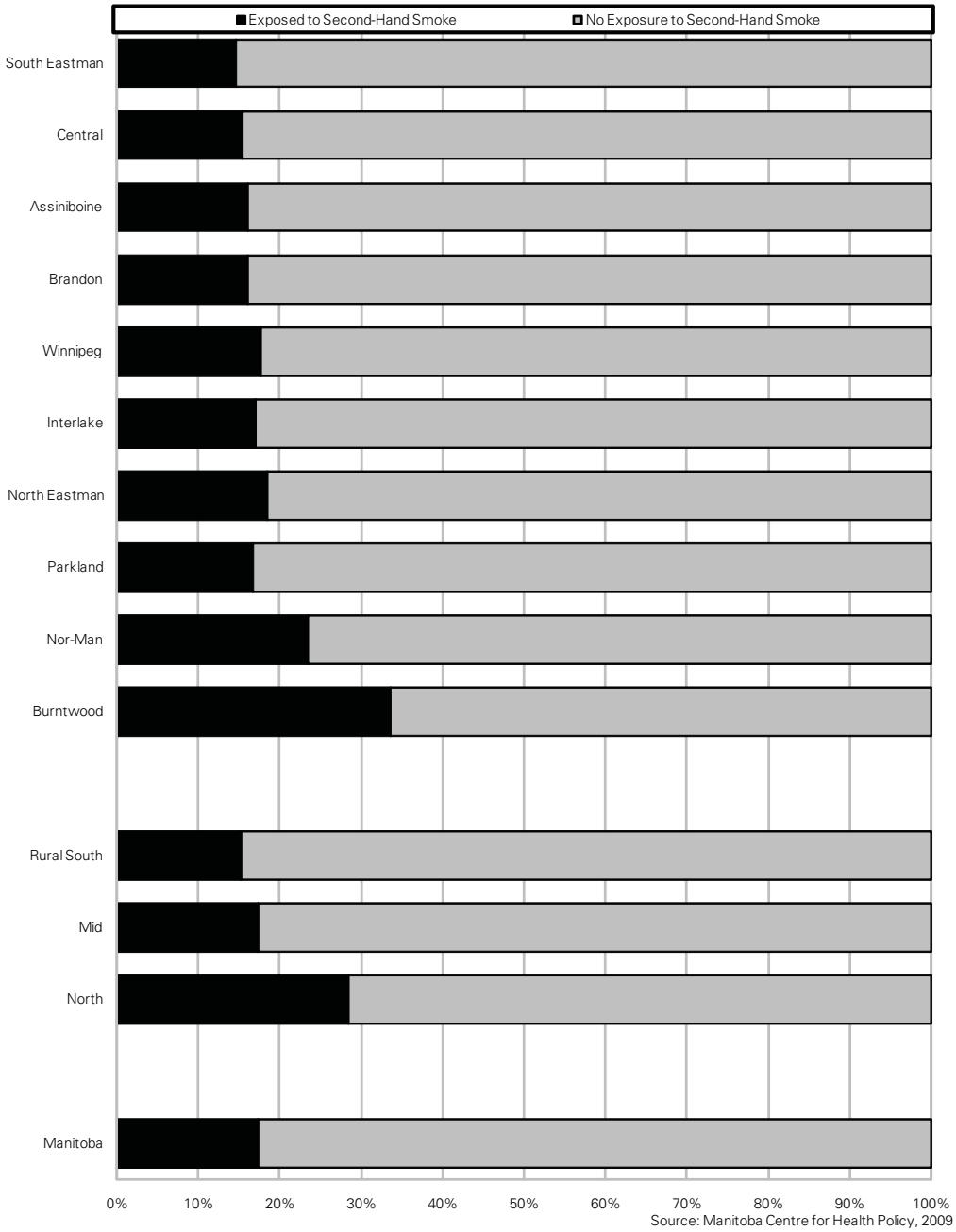
## 14.8 Second–Hand Smoke at Home

Question: participants who did not live alone or were non–smokers were asked the question, "Including both household members and regular visitors, does anyone smoke inside your home, every day or almost every day?"

Definition: respondents were grouped into two categories, 'Yes' or 'No' based on their answer to the question above. The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 2.1 and 3.1 (2003–2005).

**Figure 14.8.1: Exposure to Second-Hand Smoke at Home by RHA**

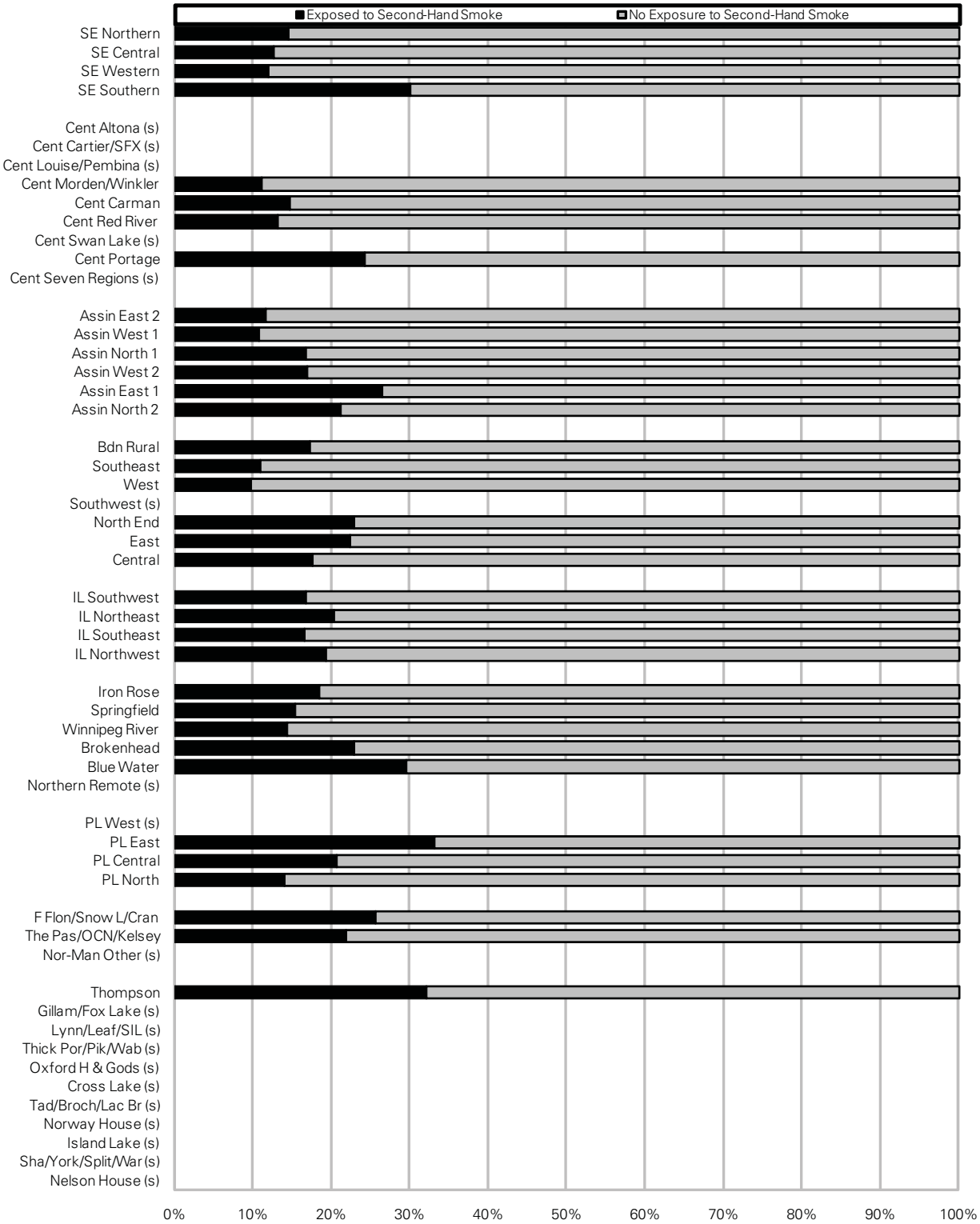
Age- and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.8.2: Exposure to Second-Hand Smoke at Home by District

Age- and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 2.1 (2003), and 3.1 (2005)

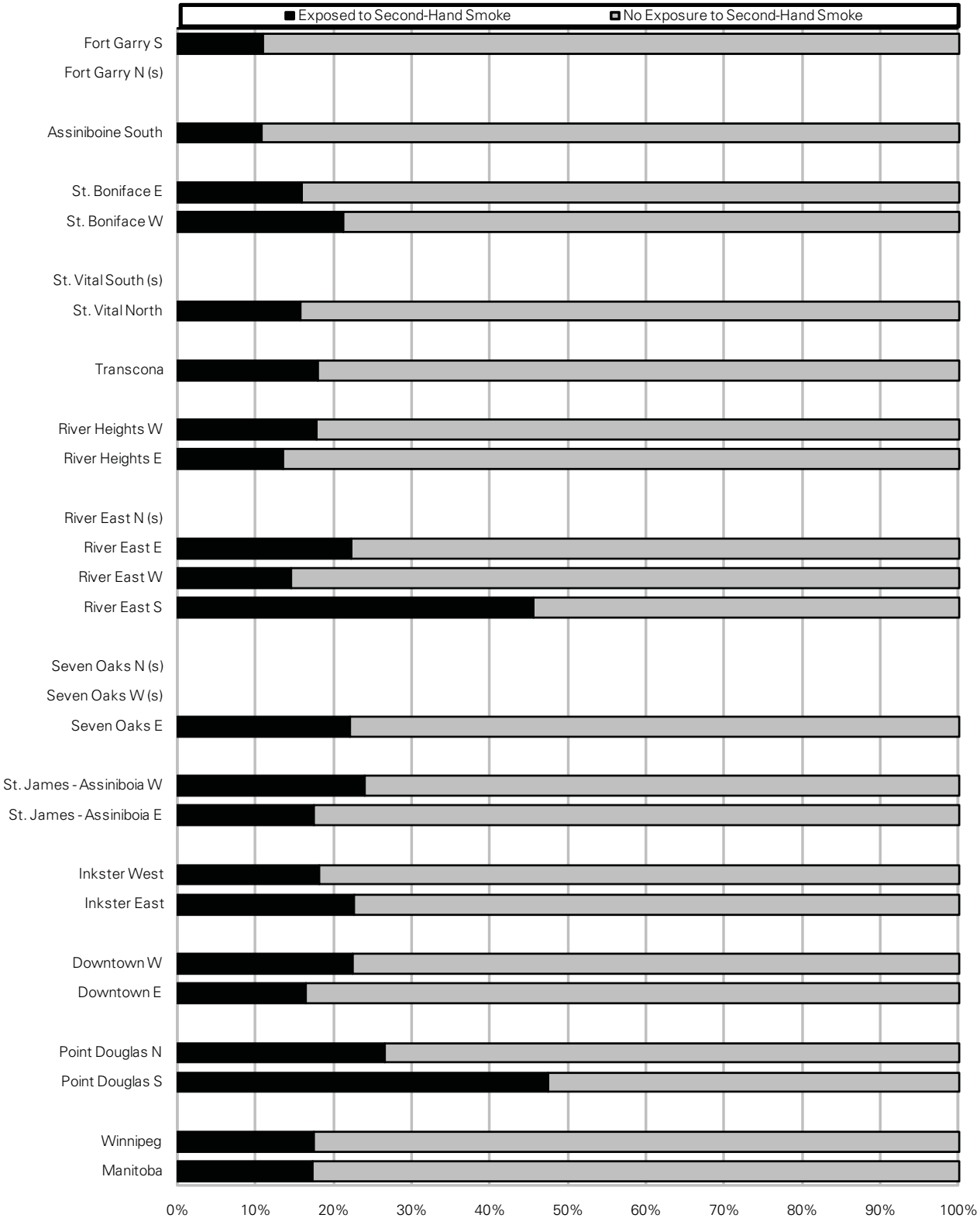



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.8.3: Exposure to Second-Hand Smoke at Home by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 2.1 (2003), and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 17.4% of Manitoba non–smokers were exposed to second–hand smoke at home while 82.6% were not.
- There appears to be a relationship between health status and exposure to second–hand smoke at home: in areas with less healthy populations, a higher proportion of non–smokers were exposed to second–hand smoke (Table 14.8).
  - This relationship was evident at the RHA, District, and aggregate area levels and among NCs in Winnipeg.
  - This is directly related to the smoking rates (see Section 14.7).
- Like with smoking (Section 14.7), relationships with area–level income were mixed: (Appendix 2)
  - In urban areas, non–smoking residents of higher income areas were consistently and substantially less likely to be exposed to second–hand smoke at home.
  - In rural areas, non–smoking residents of higher income areas were less likely to be exposed to second–hand smoke at home, though the differences were smaller and less consistent than in urban areas.

## Comparison to other findings:

- These Manitoba results are substantially worse than national averages provided by Statistics Canada, which show that 8.7% of Canadian Non–smokers were exposed to second–hand smoke (vs. 17.4% in Manitoba) (CANSIM Table 105–0456).

**Table 14.8: Age/Sex Standardized Rates of Exposure to Second-Hand Smoke at Home, aged 12+**

CCHS 2.1 and 3.1 Combined

| Area | Yes | No |
|---|---|---|
| South Eastman | 14.6% | 85.4% |
| Central | 15.3% | 84.7% |
| Assiniboine | 16.0% | 84.0% |
| Brandon | 16.0% | 84.0% |
| Winnipeg | 17.5% | 82.5% |
| Interlake | 16.9% | 83.1% |
| North Eastman | 18.3% | 81.7% |
| Parkland | 16.7% | 83.3% |
| Churchill (s) | | |
| Nor-Man | **23.5%** | **76.5%** |
| Burntwood | **33.5%** | **66.5%** |
| | | |
| Rural South | 15.3% | 84.7% |
| Mid | 17.3% | 82.7% |
| North | **28.4%** | **71.6%** |
| | | |
| Manitoba | 17.4% | 82.6% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

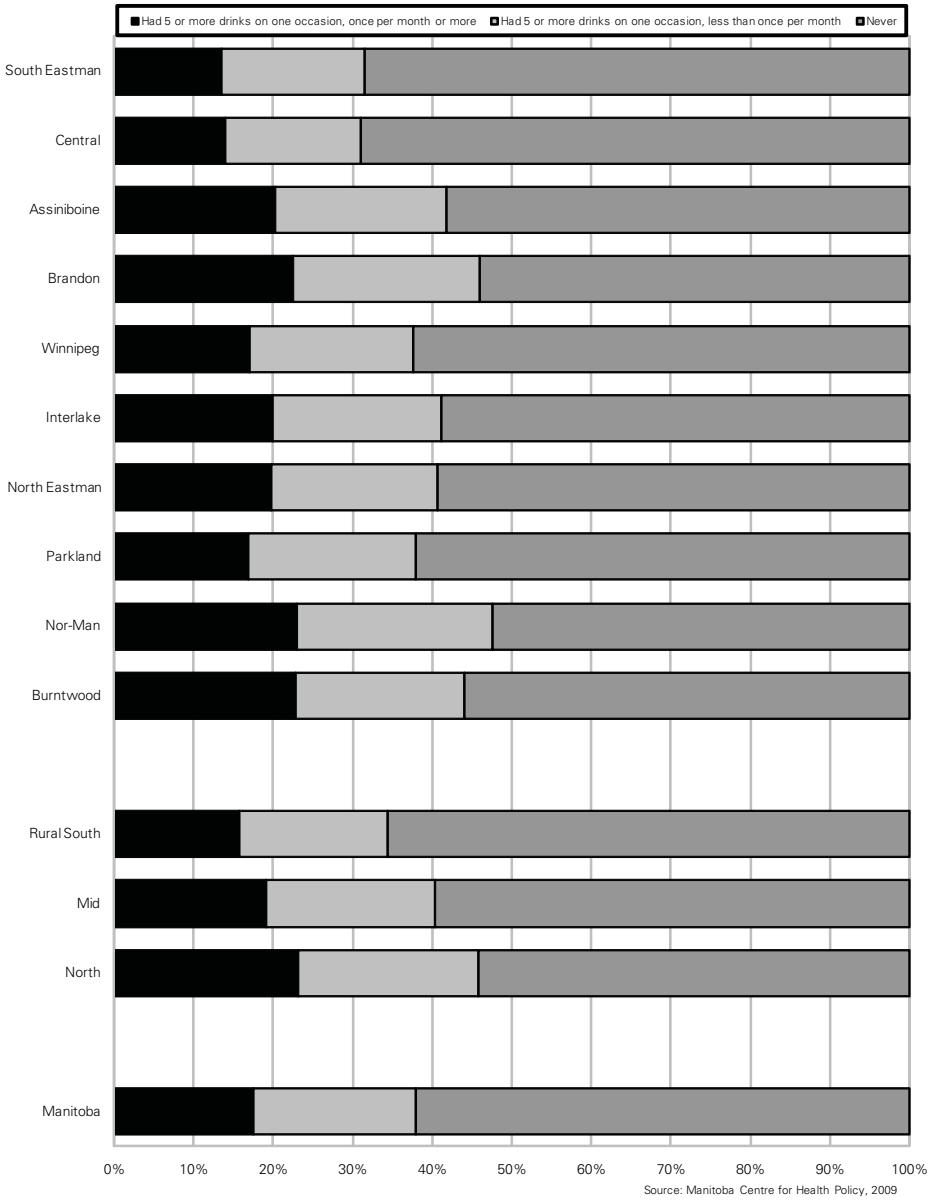
## 14.9 Binge Drinking

Question: participants were asked, "During the past 12 months, have you had a drink of beer, wine, liquor or any other alcoholic beverage?", and those who did not answer 'No' were then asked, "How often in the past 12 months have you had five or more drinks on one occasion?"

Definition: respondents were grouped into three categories based on how frequently they consumed 5 or more drinks on one occasion: 'Never', 'Less than 12 times per year', or '12 or more times per year.' The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005). See Glossary for additional details.

**Figure 14.9.1: Binge Drinking by RHA**

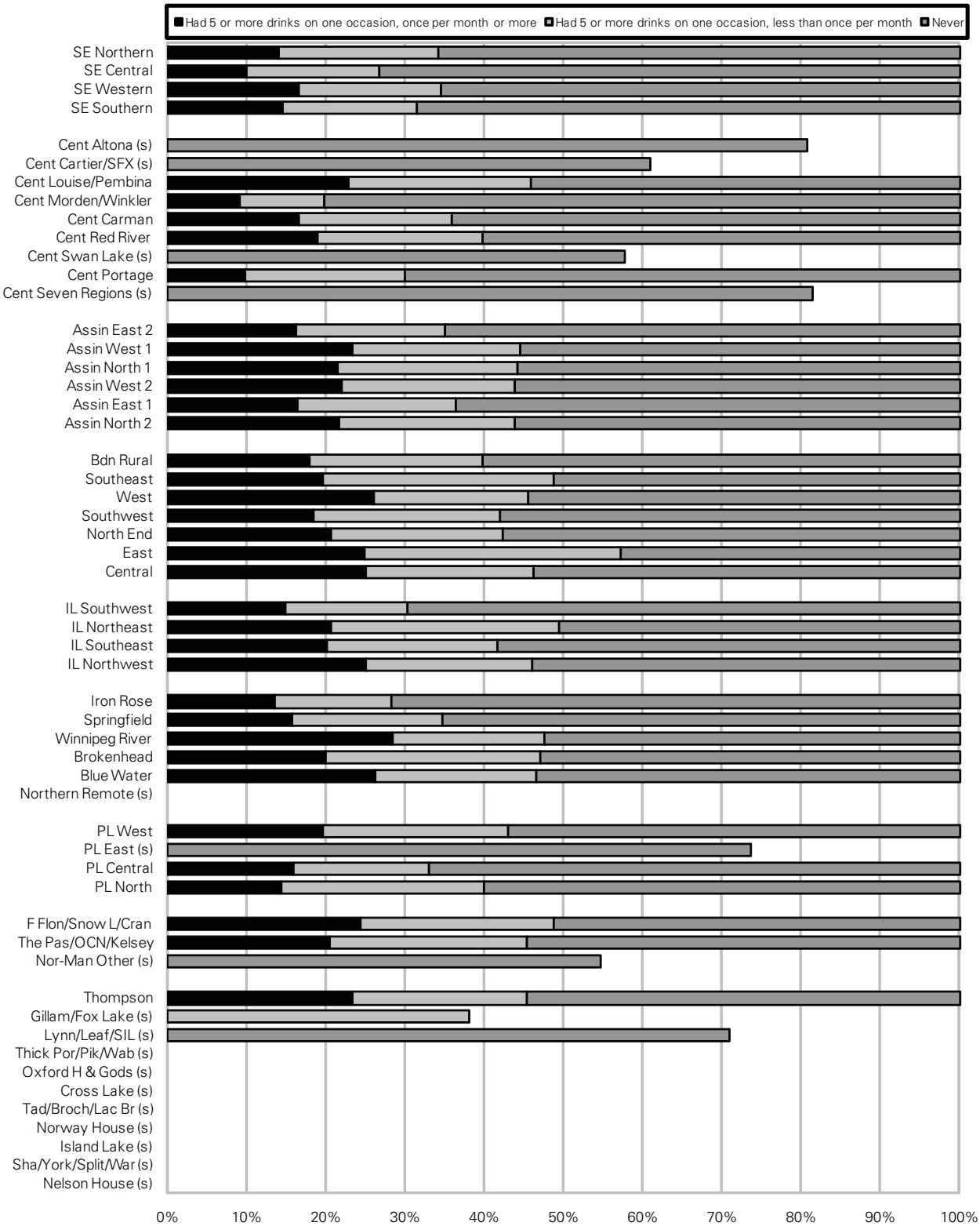
Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.9.2: Binge Drinking by District

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

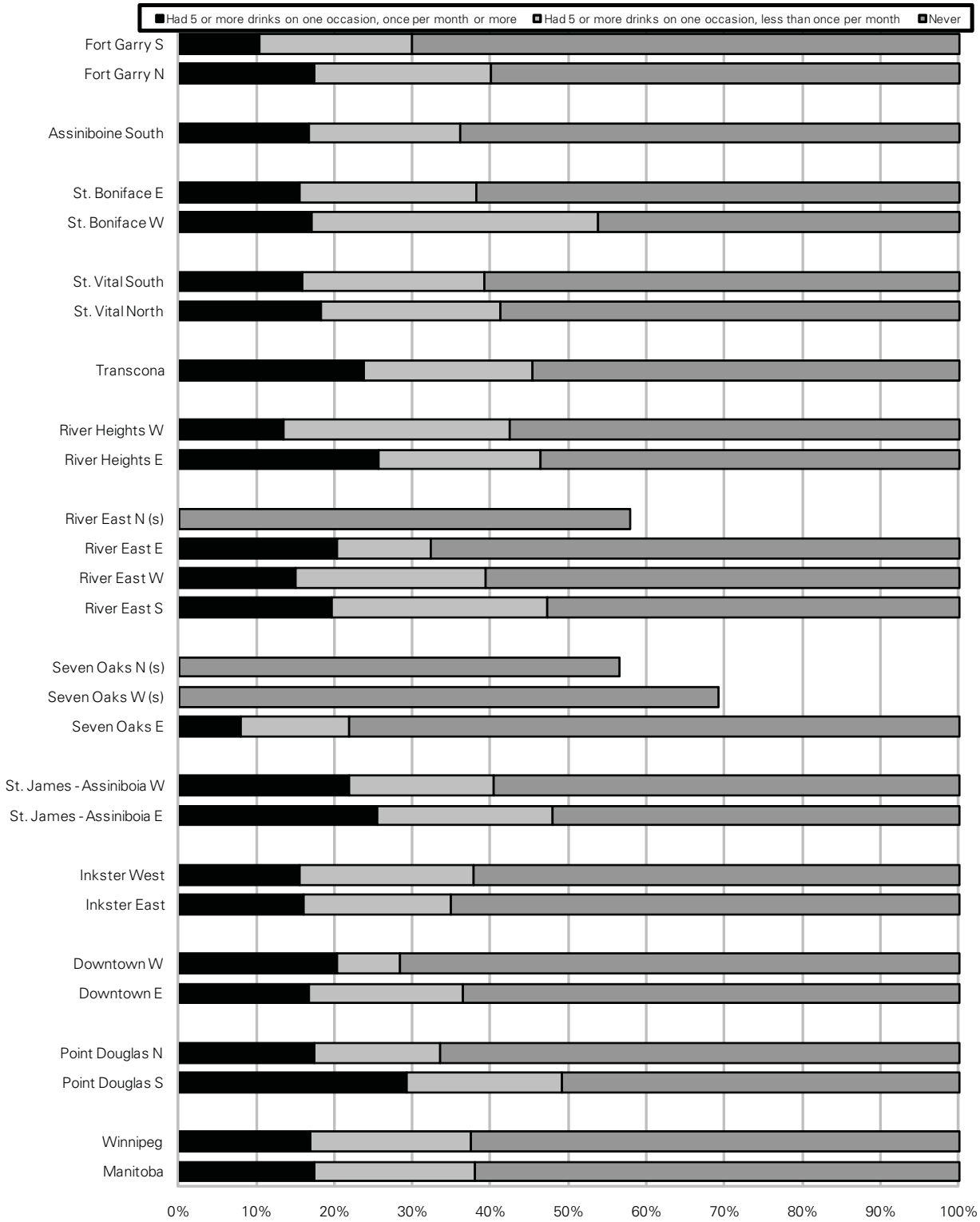



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.9.3: Binge Drinking by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, the distribution of having 5 or more drinks on one occasion was:
  - 62.1% 'Never' (this includes non–drinkers)
  - 20.4% 'Less than 12 times per year'
  - 17.5% '12 times per year or more'
- There appears to be a relationship between health status and binge drinking: in areas with less healthy populations, a higher proportion of residents reported more frequent binge drinking (Table 14.9).
  - This relationship was evident at the RHA and aggregate area levels, but less predictable at the level of RHA Districts and Winnipeg NCs.
- There appears to be no relationship between binge drinking frequency and area–level income in urban or rural areas (Appendix 2).

## Comparison to other findings:

- The distribution of responses shows that fewer Manitobans engage in binge drinking and, for those that do binge drink, they do so less frequently than national averages shown by Statistics Canada (CANSIM Table 105–0431):
  - 51.6 % 'Never'
  - 26.1% 'Less than 12 times per year'
  - 22.3% '12 times per year or more'

**Table 14.9: Age/Sex Standardized Rates of Binge Drinking, aged 15-75**

CCHS 1.1, 2.1 and 3.1 Combined

| Area | Had 5 or more drinks on one occasion, once per month or more | Had 5 or more drinks on one occasion, less than once per month | Never |
|---|---|---|---|
| South Eastman | **13.4%** | 17.9% | **68.6%** |
| Central | **14.0%** | **17.0%** | **69.1%** |
| Assiniboine | 20.1% | 21.6% | 58.2% |
| Brandon | **22.5%** | 23.3% | **54.2%** |
| Winnipeg | 17.0% | 20.5% | 62.5% |
| Interlake | 19.8% | 21.2% | 59.0% |
| North Eastman | 19.7% | 20.9% | 59.4% |
| Parkland | 16.7% | 21.2% | 62.1% |
| Churchill (s) | | | |
| Nor-Man | **22.9%** | **24.7%** | **52.4%** |
| Burntwood | **22.8%** | 21.1% | **56.1%** |
| | | | |
| Rural South | **15.6%** | 18.7% | **65.7%** |
| Mid | 19.1% | 21.1% | 59.8% |
| North | **23.0%** | 22.8% | **54.2%** |
| | | | |
| Manitoba | 17.5% | 20.4% | 62.1% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

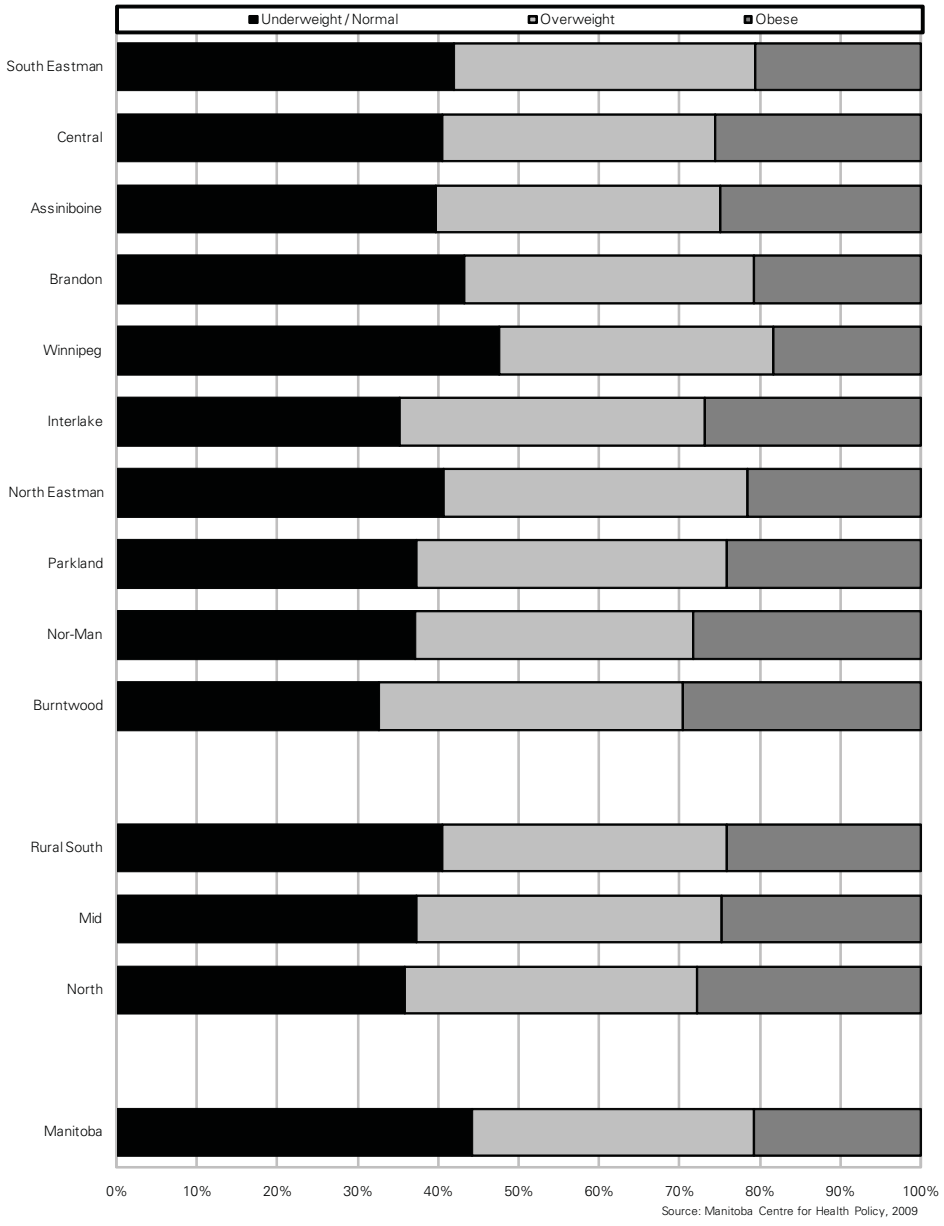
## 14.10 Body Mass Index (BMI) for Adults

Body Mass Index (BMI) is a statistical measure used to classify and compare individuals according to their height and weight. BMI is calculated as weight (in kilograms) divided by height (in metres) squared and typically ranges from 15 to 45.

Definition: BMI for respondents age 18+ was calculated from self–reported height and weight (unless measured values were available—cycle 2.2 only) and grouped into three categories: Underweight and Normal (BMI less than 25), Overweight (25–29), and Obese (30+). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Figure 14.10.1: Body Mass Index (BMI) by RHA**

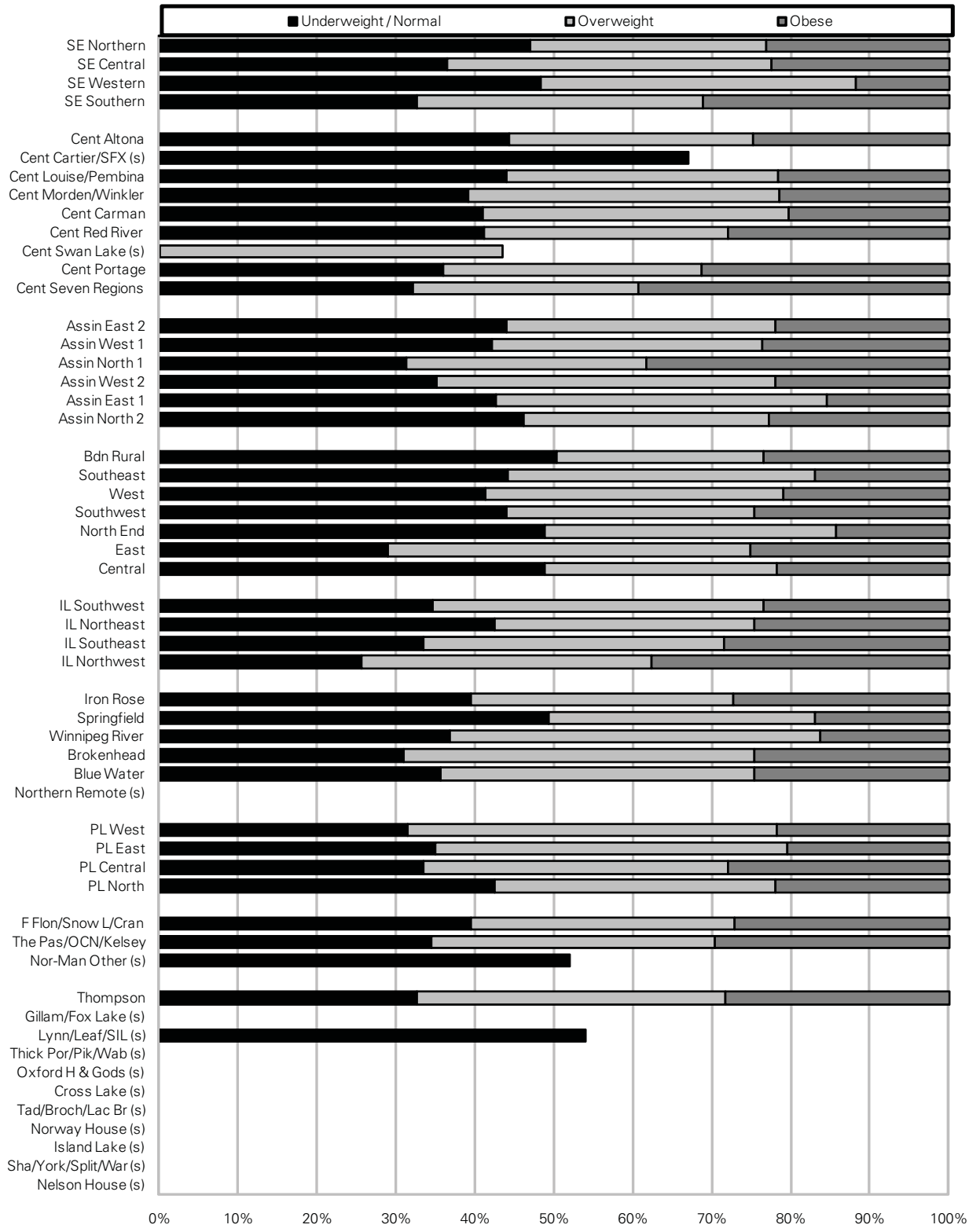
Age- and sex-adjusted percent of weighted sample aged 18+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.10.2: Body Mass Index (BMI) by District

Age- and sex-adjusted percent of weighted sample aged 18+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

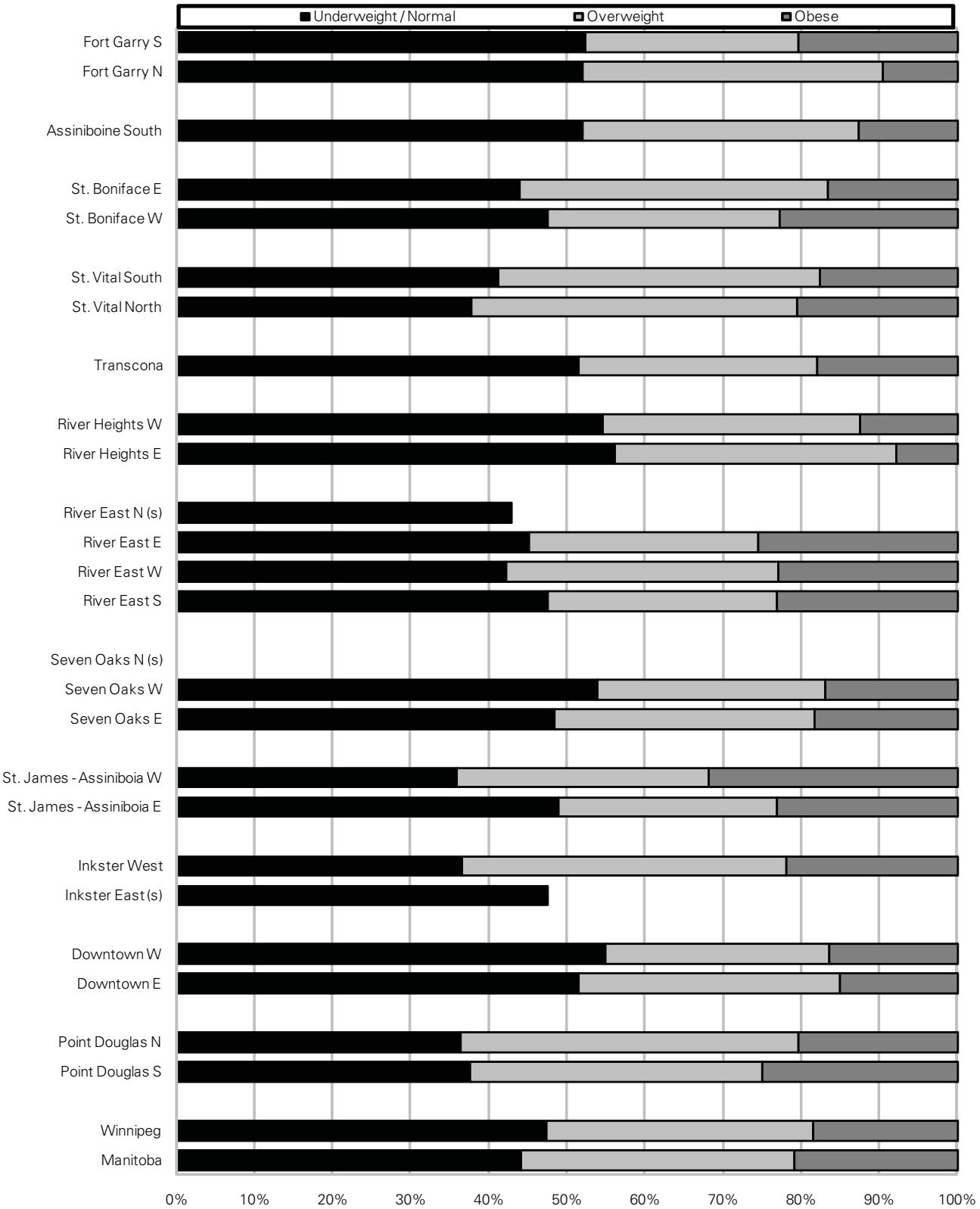



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.10.3: Body Mass Index (BMI) by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 18+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 44.2% of respondents were in the Underweight and Normal group, 35% in the Overweight group, and 20.8% in the Obese group.
- Rates varied considerably by RHA and appear to be related to health status, in that Obesity was more prevalent in less healthy areas (Table 14.10).
  - This relationship was also evident at the aggregate area level, but less predictable at the level of RHA Districts and Winnipeg NCs.
- Relationships with area–level income were similar, but with interesting subtle differences (Appendix 2):
  - In urban areas, rates of Underweight and Normal were considerably higher than Overweight, though both groups were relatively evenly distributed across quintiles. Obesity rates were lower among higher income areas.
  - In rural areas, obesity rates were lower in higher income areas (though altogether higher than in urban areas). Overweight was almost as prevalent as Underweight and Normal; both were relatively evenly distributed across income groups.

## Comparison to other findings:

- The distribution of responses shows that Manitobans have higher BMI values than Canadians overall: 50.0% Underweight and Normal, 34.2% Overweight, and 15.8% Obese (CANSIM Table 105–0409).
- For BMI results for children and youth, see Child Health Atlas Update.

**Table 14.10: Age/Sex Standardized Rates of Body Mass Index (BMI), aged 18+**

CCHS 1.1, 2.1, and 3.1 Combined

| Area | Underweight / Normal | Overweight | Obese |
|---|---|---|---|
| South Eastman | 41.8% | 37.6% | 20.6% |
| Central | 40.5% | 34.0% | **25.5%** |
| Assiniboine | 39.6% | 35.5% | 24.9% |
| Brandon | 43.2% | 36.0% | 20.9% |
| Winnipeg | **47.4%** | 34.1% | **18.4%** |
| Interlake | **35.2%** | 37.9% | **26.9%** |
| North Eastman | 40.6% | 37.9% | 21.5% |
| Parkland | **37.3%** | 38.6% | 24.1% |
| Churchill (s) | | | |
| Nor-Man | **37.1%** | 34.6% | **28.3%** |
| Burntwood | **32.5%** | 37.8% | **29.6%** |
| | | | |
| Rural South | **40.4%** | 35.5% | **24.1%** |
| Mid | **37.2%** | 37.9% | **24.9%** |
| North | **35.8%** | 36.4% | **27.8%** |
| | | | |
| Manitoba | 44.2% | 35.0% | 20.8% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

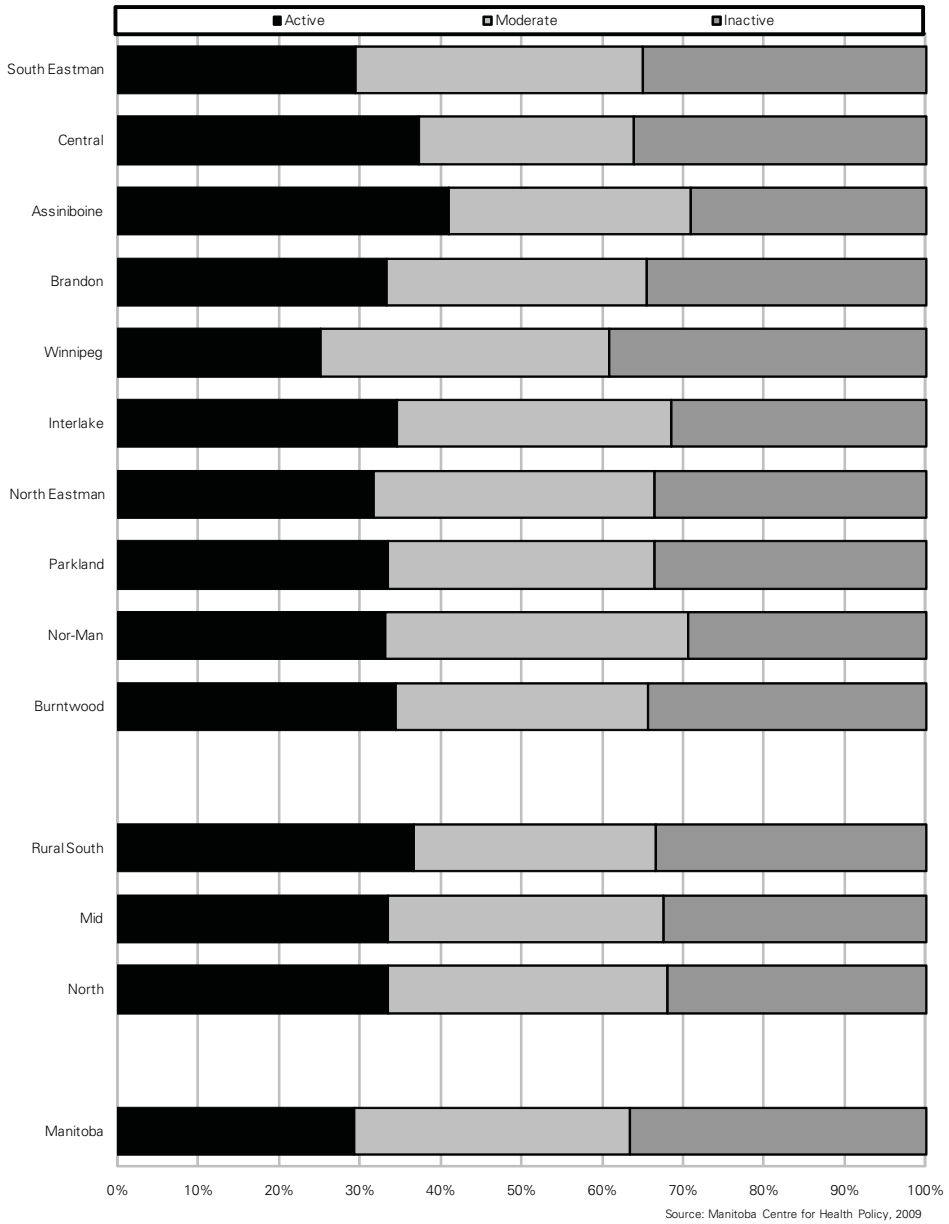
## 14.11 Total Physical Activity Levels (Work + Leisure + Travel)

This index was created to calculate total energy expenditure levels for respondents age 15–75, based on physical activity undertaken during both work–time and leisure–time activities in the previous three months.

Definition: respondents were grouped into three categories: Active, Moderate, or Inactive based on provincial average values divided into three roughly equal–sized groups. The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Figure 14.11.1: Total Activity Level (Work + Leisure + Travel) by RHA**

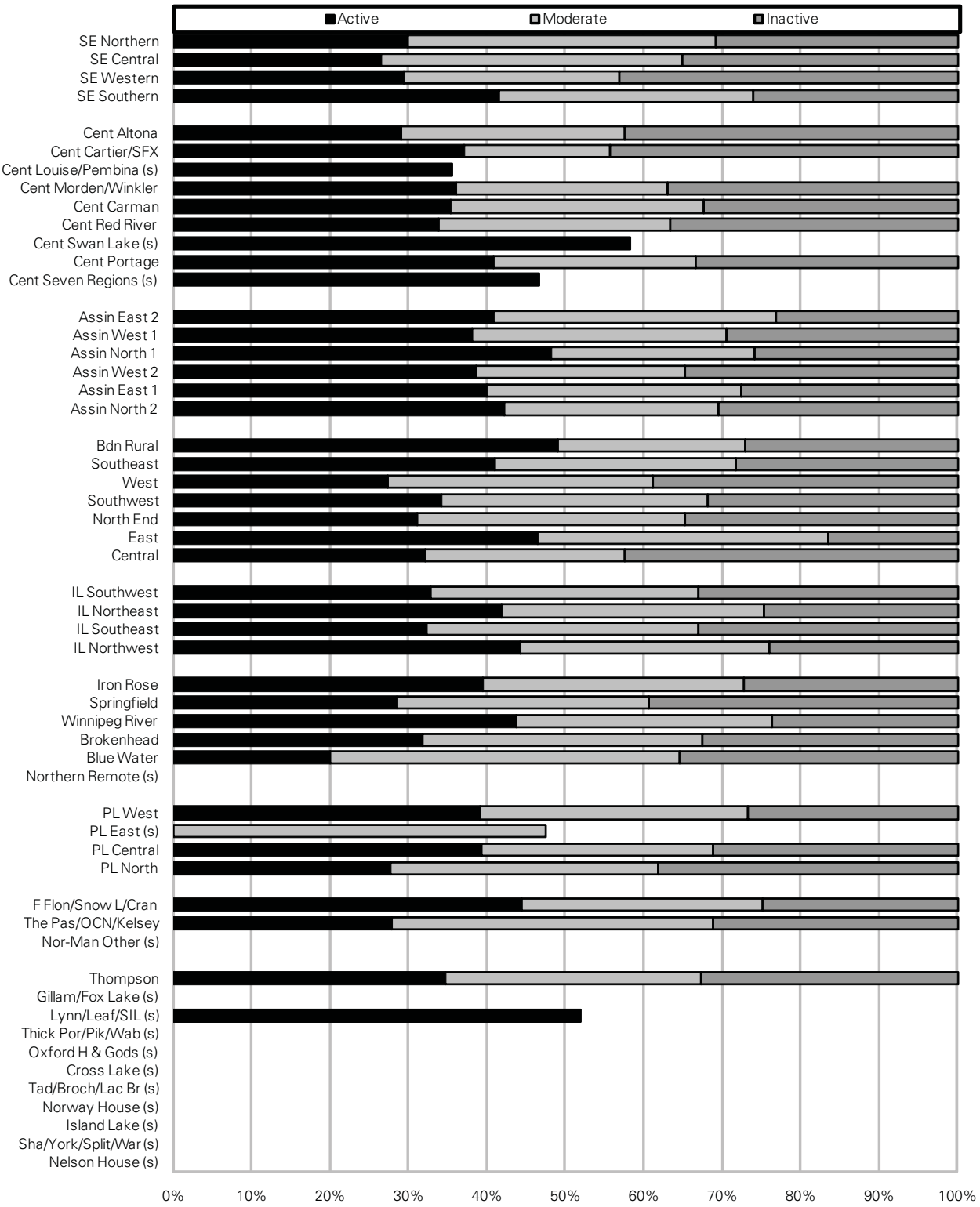
Age- and sex-adjusted percent of weighted sample aged 15-75 who were physically active, from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.11.2: Total Activity Level (Work + Leisure + Travel) by District

Age- and sex-adjusted percent of weighted sample aged15-75 who were physically active, from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

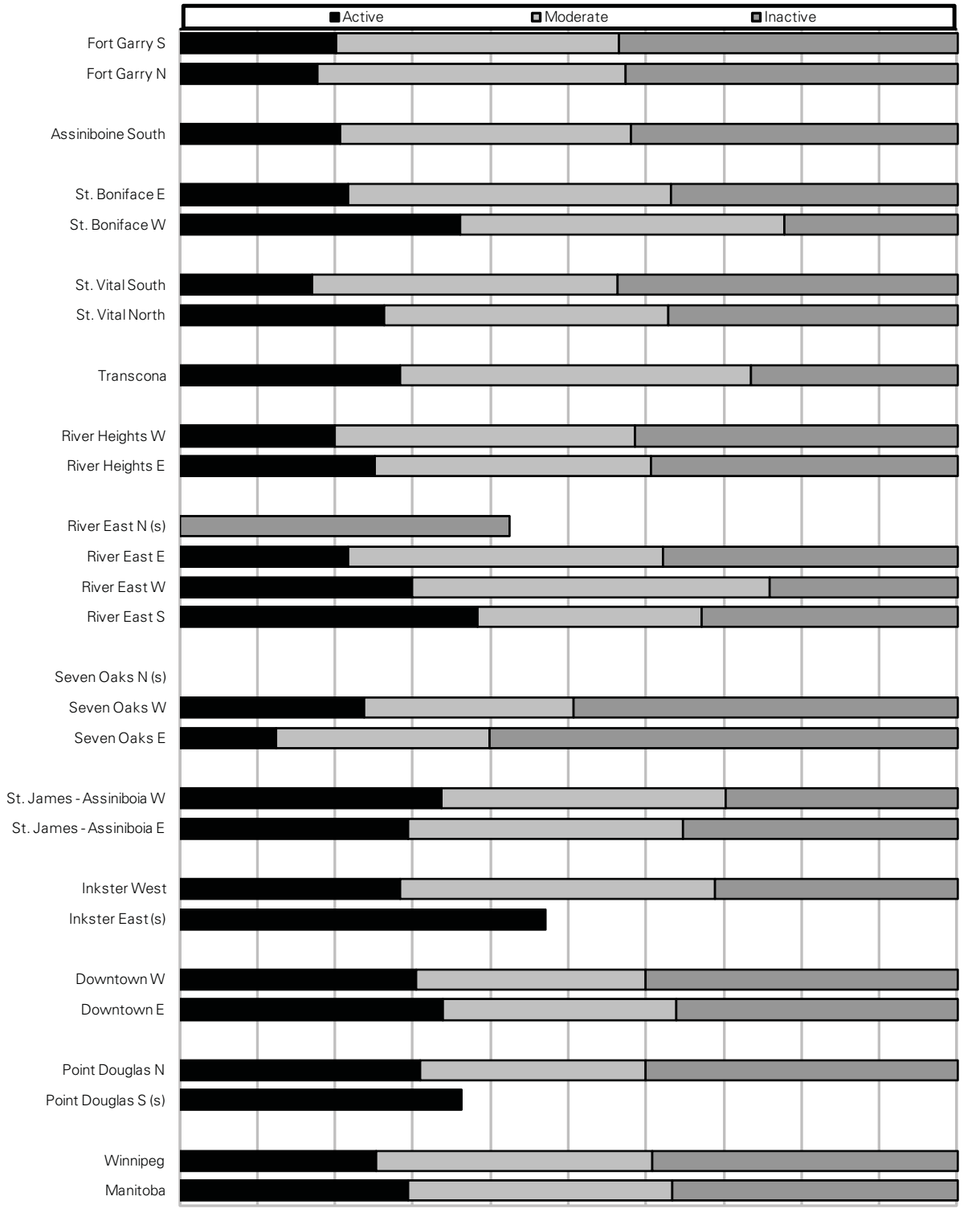



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.11.3: Total Activity Level (Work + Leisure + Travel) by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample age 15-75 who were physically active, from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 29.4% of respondents were in the Active group, 33.9% in the Moderate group, and 36.7% in the Inactive group.
- Rates varied considerably by RHA, but without any clear relationship with health status at the RHA level.
- Winnipeg RHA had the most different profile with a lower proportion of residents in the Active group and higher proportion in the Inactive group.
- At the aggregate area level, there appears to be a trend toward a lower proportion of residents being 'Active' in less healthy areas; however, there appears to be fewer 'Inactive' people in those areas as well, so the relationship is not as simple as may have been expected (Table 14.11).
- There were clear relationships between area–level income and activity levels, but in the direction opposite to what might have been expected: residents of higher income areas had lower activity levels than those in lower income areas.

## Comparison to other findings:

- Directly comparable values from other studies are not readily available. Most previous studies have reported on 'Leisure time' activity levels only (CANSIM Table 105–0433) and often report trends opposite to that shown here (e.g., activity levels by income quintile). The use of work and leisure time activities combined may explain why the results presented here differ from other studies.
- To examine this, we also analyzed rates of 'Leisure time' activities only, and found trends opposite to that shown for Total activity levels: residents in higher income areas reported higher leisure time activity levels (Appendix 2).
    - This implies that residents of higher income areas must have jobs involving lower levels of physical activity. Combined this with the fact that most people spend more time at work than at leisure, the two sets of results are no longer contrary.
    - Residents of lower income areas have lower leisure time activity levels, but they have higher work time activity levels; and because the number of hours spent at work are much higher, work time activity contributes more to Total activity levels than leisure time activity.

**Table 14.11: Age/Sex Standardized Rates of Total Activity (Work + Leisure + Travel), aged 15-75**

CCHS 1.1, 2.1, and 3.1 Combined

| Area | Active | Moderate | Inactive |
|---|---|---|---|
| South Eastman | 29.5% | 35.5% | 34.9% |
| Central | **37.5%** | **26.5%** | 36.0% |
| Assiniboine | **41.1%** | 30.0% | **28.9%** |
| Brandon | 33.4% | 32.2% | 34.3% |
| Winnipeg | **25.3%** | **35.6%** | **39.1%** |
| Interlake | 34.7% | 33.9% | 31.4% |
| North Eastman | 31.8% | 34.8% | 33.4% |
| Parkland | 33.6% | 33.0% | 33.4% |
| Churchill (s) | | | |
| Nor-Man | 33.3% | 37.5% | **29.2%** |
| Burntwood | 34.6% | 31.1% | 34.3% |
| | | | |
| Rural South | **36.7%** | **30.0%** | **33.4%** |
| Mid | **33.6%** | 34.0% | **32.4%** |
| North | 33.5% | 34.7% | **31.8%** |
| | | | |
| Manitoba | 29.5% | 34.0% | 36.6% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

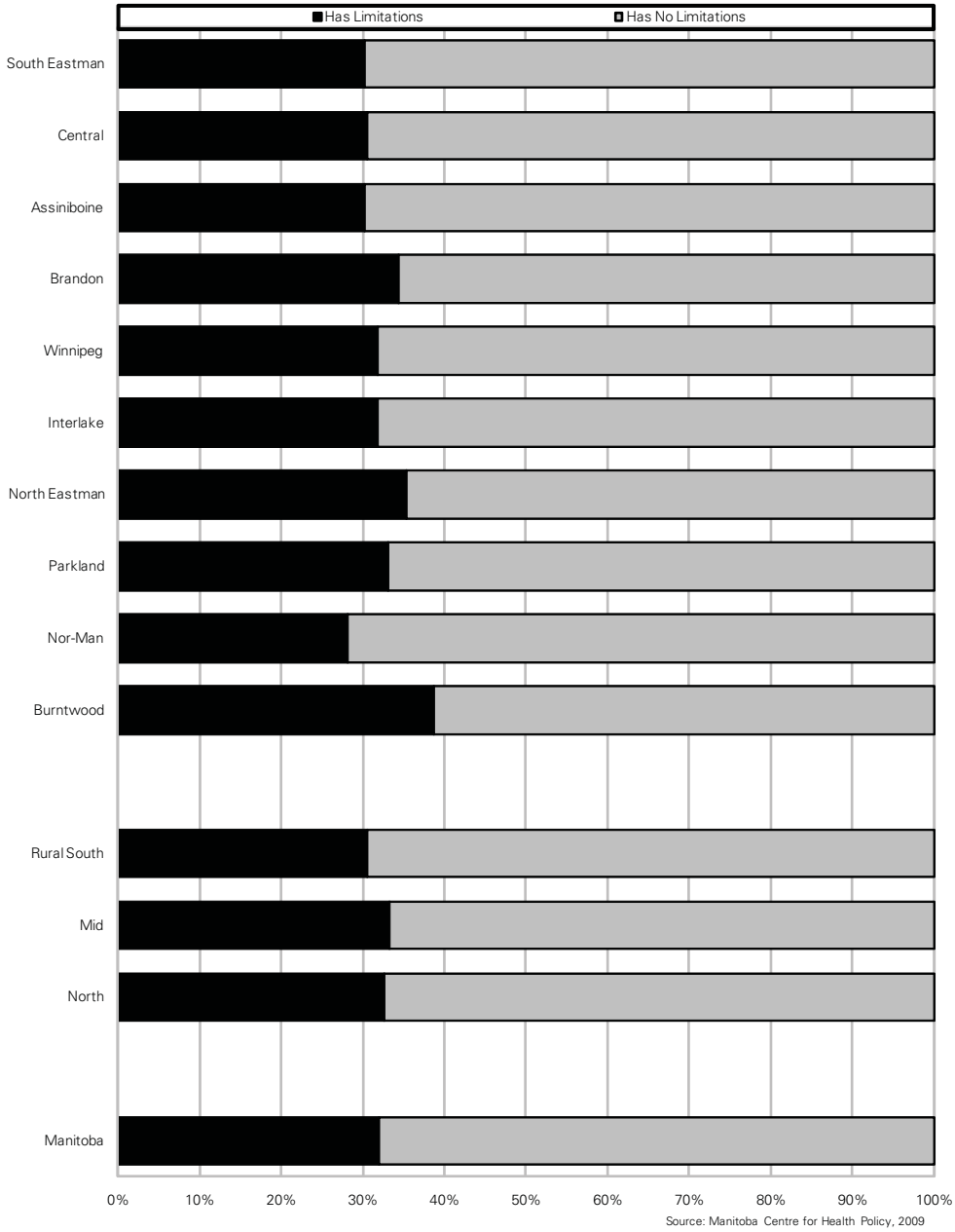
## 14.12 Activity Limitations

Participation and activity limitation is a derived variable that classifies respondents according their responses to questions on the frequency with which they experience activity limitations related to long–term physical and/or mental health problems.

Definition: respondents are grouped into two categories, 'Has limitations' or 'No limitations.' The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 2.1 and 3.1 (2003–2005).

**Figure 14.12.1: Activity Limitations by RHA**

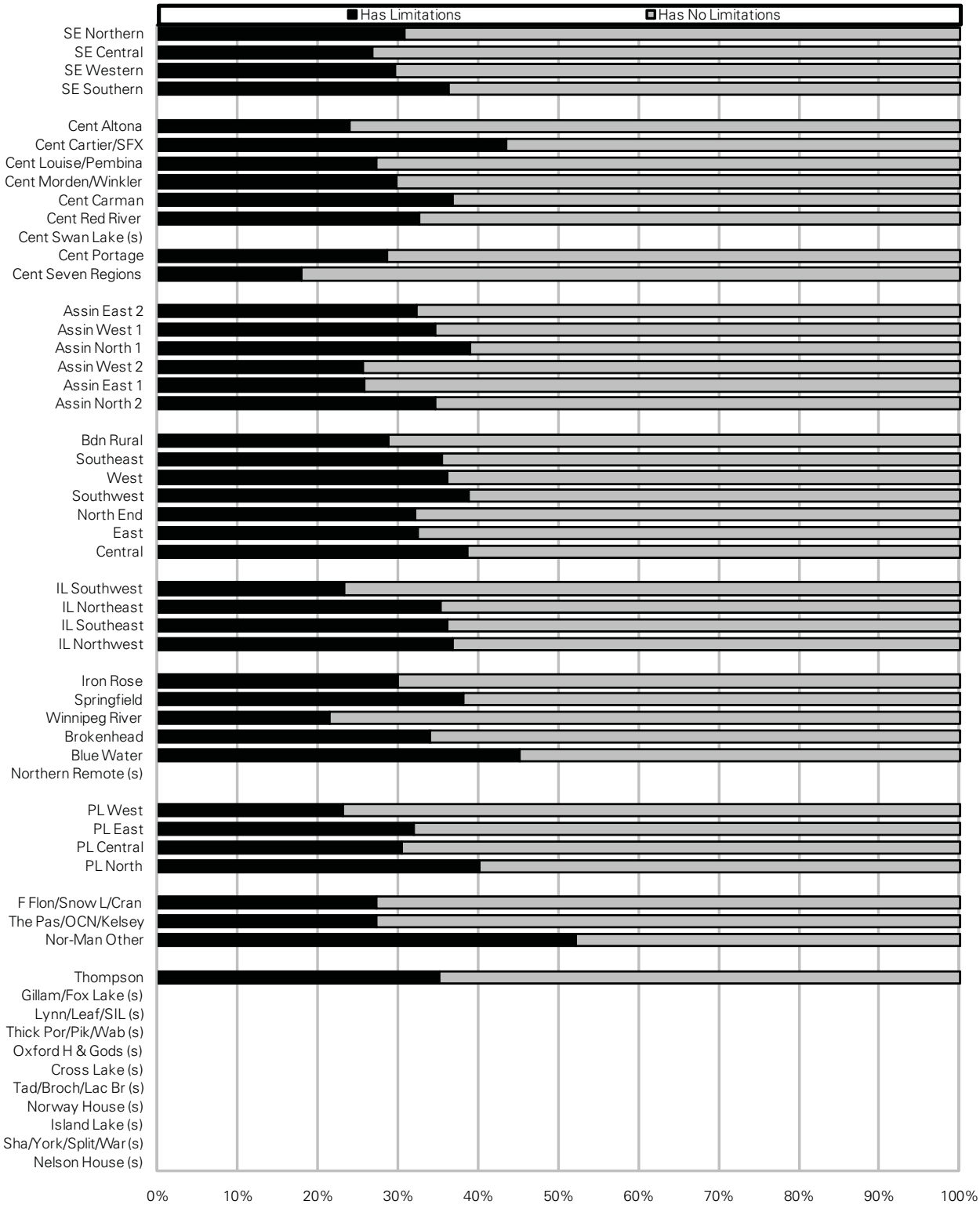
Age- and sex-adjusted percent of weighted sample aged 12+ who are restricted in their activities due to physical and/or mental health problems, from combined CCHS cycles 2.1 (2003) and 3.1 (2005)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.12.2: Activity Limitations by District

Age- and sex-adjusted percent of weighted sample aged12+ who are restricted in their activities due to physical and/or mental health problems, from combined CCHS cycles 2.1 (2003) and 3.1 (2005)

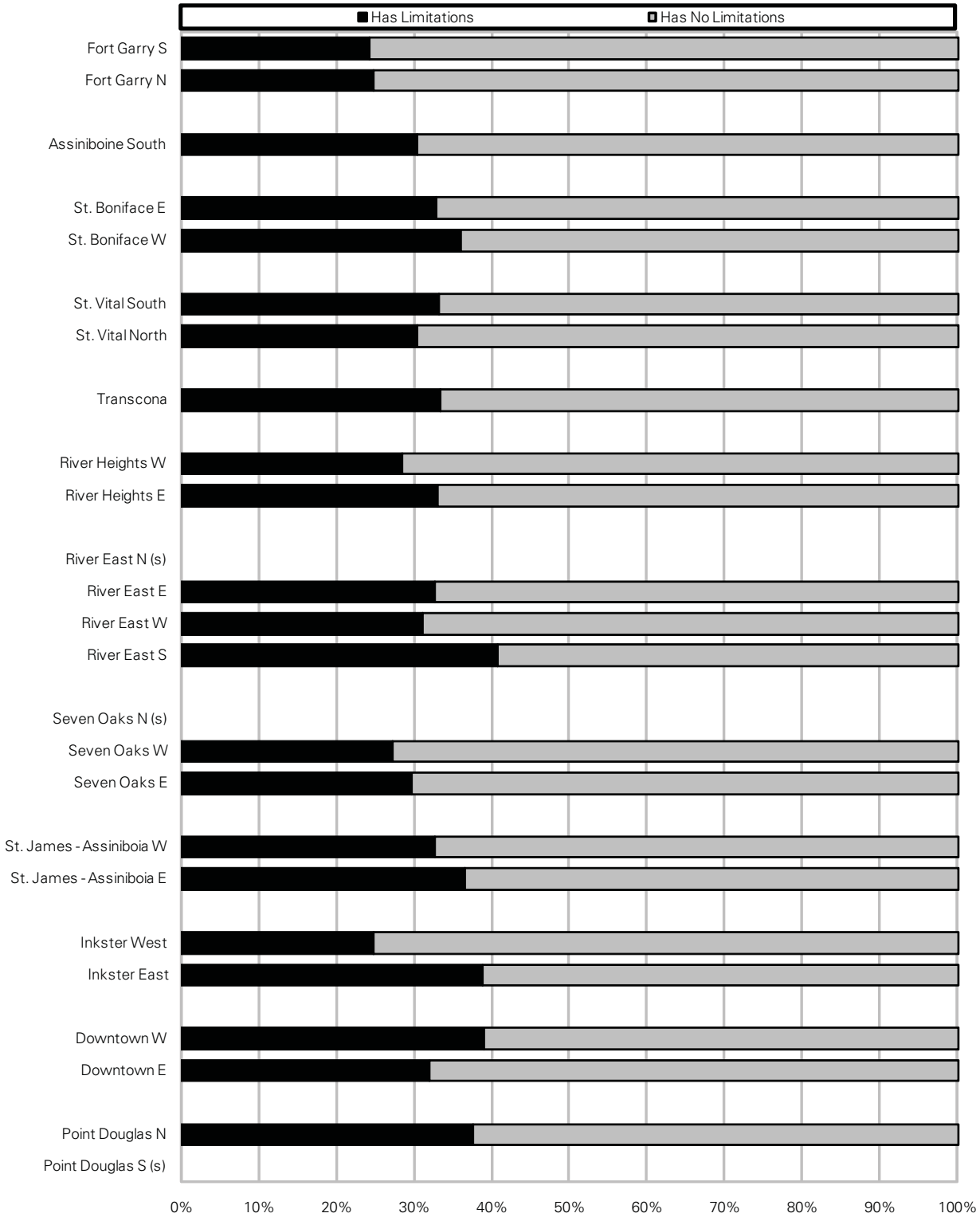



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.12.3: Activity Limitations by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 12+ who are restricted in their activities due to physical and/or mental health problems, from combined CCHS cycles 2.1 (2003) and 3.1 (2005)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 31.9% of Manitoba respondents reported having limitations that affected their activity and ability to participate and 68.1% did not.
- Values were quite similar across RHAs, the only exception being Burntwood, which had a higher proportion of residents with activity limitations (38.6%).
  - NOR–MAN RHA had the lowest rate (28.2%), but was not significantly different from the provincial average.
- Relationships with area–level income were mixed (Appendix 2):
  - In urban areas, residents of higher income areas were substantially less likely to report activity limitations.
  - In rural areas, values were more evenly distributed.

## Comparison to other findings:

- Responses from Manitobans indicate slightly more activity limitation than national averages provided by Statistics Canada: 29.6% had limitations, 70.4% did not (CANSIM Table 105–0417).

**Table 14.12: Age/Sex Standardized Rates of Activity Limitations, aged 12+**
CCHS 2.1 and 3.1 Combined

| Area | Has Limitations | Has No Limitations |
|---|---|---|
| South Eastman | 30.2% | 69.8% |
| Central | 30.5% | 69.5% |
| Assiniboine | 30.2% | 69.8% |
| Brandon | 34.3% | 65.7% |
| Winnipeg | 31.8% | 68.2% |
| Interlake | 31.8% | 68.2% |
| North Eastman | 35.3% | 64.7% |
| Parkland | 33.1% | 66.9% |
| Churchill (s) | | |
| Nor-Man | 28.2% | 71.8% |
| Burntwood | 38.6% | **61.4%** |
| | | |
| Rural South | 30.5% | 69.5% |
| Mid | 33.2% | 66.8% |
| North | 32.6% | 67.4% |
| | | |
| Manitoba | 31.9% | 68.1% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

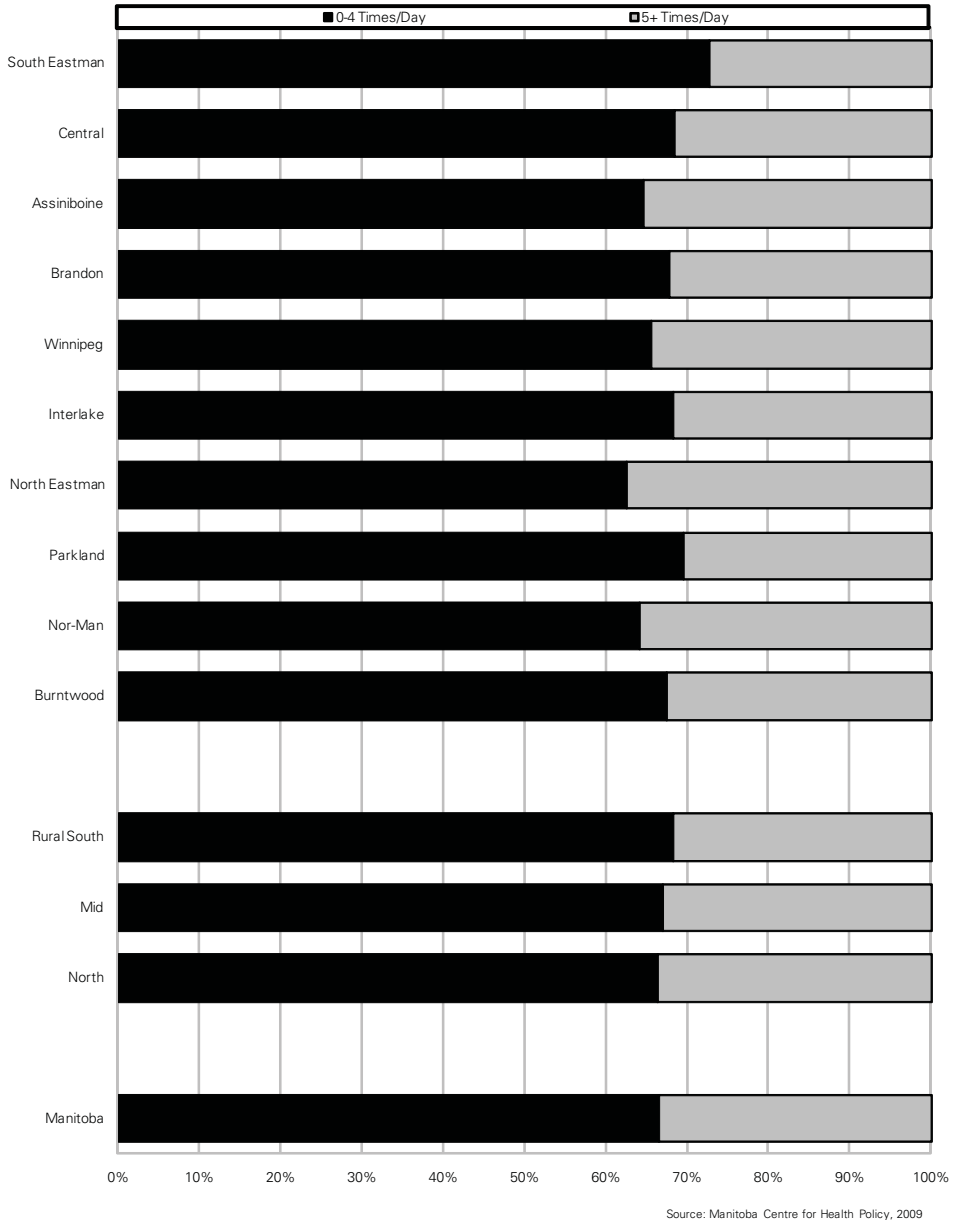
## 14.13 Frequency of Fruit and Vegetable Consumption

In the CCHS, the total daily consumption of fruits and vegetables is a derived variable that indicates the total number of times per day the respondent eats fruits or vegetables (i.e., not the number of servings eaten).

Definition: respondents were grouped into two categories: those eating fruits and vegetables '0–4 times per day' or '5 or more times per day'. The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1 and 2.1 (2001–2004).

**Figure 14.13.1: Average Daily Consumption of Fruits and Vegetables by RHA**

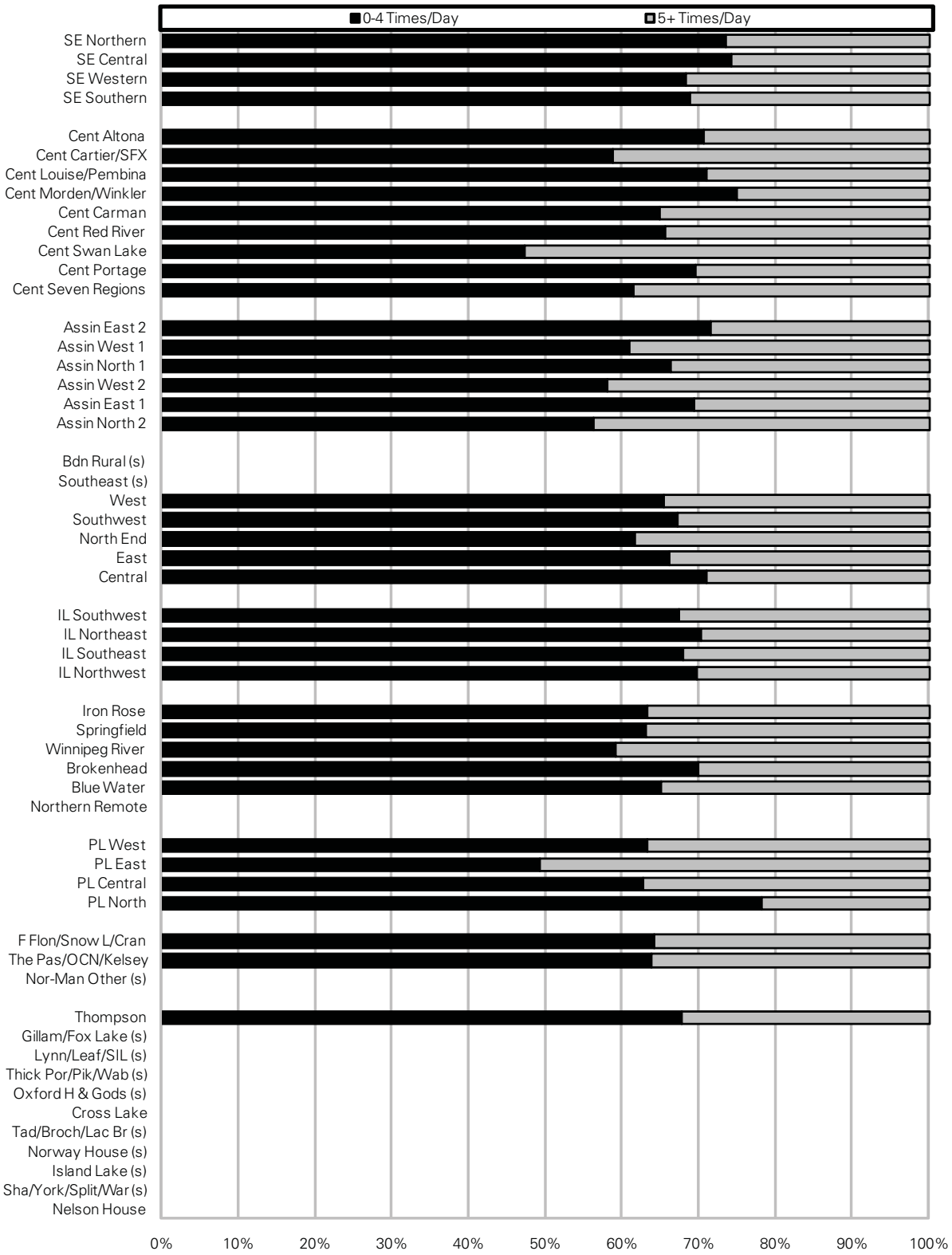
Age- and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 1.1 (2001) and 2.1 (2003)




Source: Manitoba Centre for Health Policy, 2009

## Figure 14.13.2: Average Daily Consumption of Fruits and Vegetables by District

Age- and sex-adjusted percent of weighted sample aged12+ from combined CCHS cycles 1.1 (2001) and 2.1 (2003)

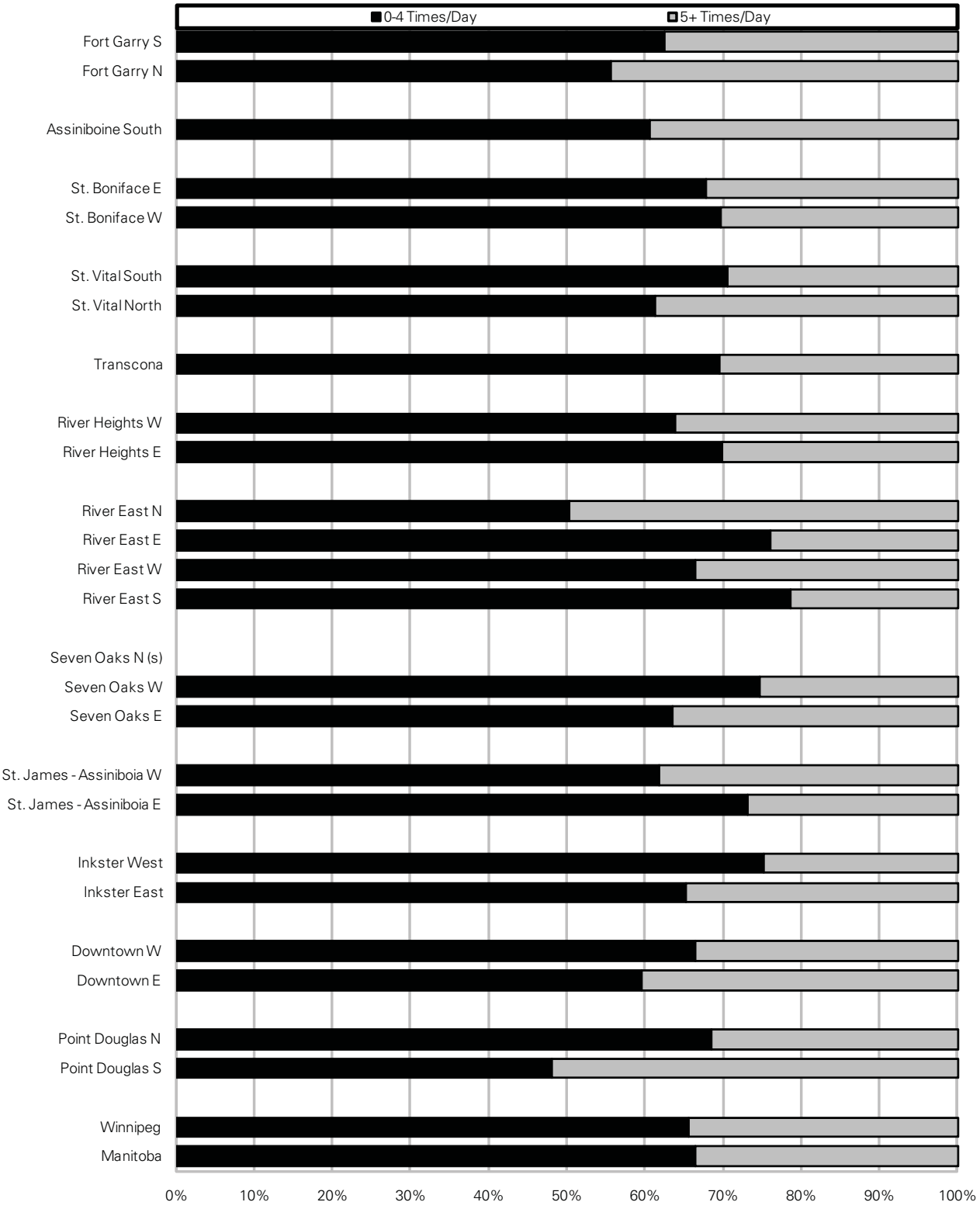



Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Figure 14.13.3: Average Daily Consumption of Fruits and Vegetables by Winnipeg Neighbourhood Cluster

Age- and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 1.1 (2001) and 2.1 (2003)




Missing bars = supressed due to small numbers or highly variable rates

Source: Manitoba Centre for Health Policy, 2009

## Key findings:

- Overall, 66.6% of Manitoba respondents reported eating fruits or vegetables '0–4 times per day' and 33.4% said '5 or more times per day'.
- Rates varied by area, but without any consistent relationship with health status at any level (RHAs, Aggregate areas, Districts, or Winnipeg sub–areas). That is, the areas with the healthiest populations were not consistently those areas with the highest frequency of fruit and vegetable consumption. For example, South Eastman is the most healthy RHA, yet had the lowest proportion reporting consuming fruits and vegetables '5 or more times per day'.
- There were no consistent relationships between area–level income and fruit and vegetable consumption in urban or rural areas (Appendix 2).

## Comparison to other findings:

- Responses from Manitobans indicate substantially lower fruit and vegetable consumption than national averages provided by Statistics Canada: 43.6% reported '5 or more', 56.4% reported '0–4' (CANSIM Table 105–0449).

**Table 14.13: Age/Sex Standardized Rates of Average Daily Consumption of Fruits and Vegetables, aged 12+**

CCHS 1.1 and 2.1 Combined

| Area | 0-4 Servings | 5+ Servings |
|---|---|---|
| South Eastman | **72.8%** | **27.2%** |
| Central | 68.5% | 31.5% |
| Assiniboine | 64.6% | 35.4% |
| Brandon | 67.9% | 32.1% |
| Winnipeg | 65.6% | 34.4% |
| Interlake | 68.2% | 31.8% |
| North Eastman | 62.5% | 37.5% |
| Parkland | 69.6% | 30.4% |
| Churchill (s) | | |
| Nor-Man | 64.1% | 35.9% |
| Burntwood | 67.4% | 32.6% |
| | | |
| Rural South | 68.2% | 31.8% |
| Mid | 67.0% | 33.0% |
| North | 66.4% | 33.6% |
| | | |
| Manitoba | 66.5% | 33.5% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

# Reference List

Al-Sukhni W, Avarino P, McArthur MA, McGeer A. Impact of public vaccination programs on adult vaccination rates: two examples from Ontario, Canada. *Vaccine*. 2008; 26(11):1432-7.

Billings J, Teicholz N. Uninsured patients in District of Columbia hospitals. *Health Affairs.* 1990;9(4):158-65.

Billings J, Zeitel L, Lukomnik J, Carey TS, Blank AE, Newman L. Impact of socioeconomic status on hospital use in New York City. *Health Affairs.* 1993;12(1):162-73.

Black C, Roos NP, Fransoo R, Martens PJ. *Comparative Indicators of Population Health and Health Care use for Manitoba's Regional Health Authorities: A POPULIS Project.* Manitoba Centre for Health Policy and Evaluation, 1999. http://mchp-appserv.cpe.umanitoba.ca/reference/rha.pdf. Accessed April 1, 2009.

Brownell M, De Coster C, Penfold R, Derksen S, Au W, Schultz J, Dahl M. *Manitoba Child Health Atlas Update.* Manitoba Centre for Health Policy, 2008. http://mchp-appserv.cpe.umanitoba.ca/reference/Child_Health_Atlas_Update_Final.pdf. Accessed April 1, 2009.

Brownell M, Lix L, Ekuma O, Derksen S, Dehaney S, Bond R, Fransoo R, MacWilliam L, Bodnarchuk J. *Why is the Health Status of Some Manitobans Not Improving? The Widening Gap in the Health Status of Manitobans*. Manitoba Centre for Health Policy, 2003. http://mchp-appserv.cpe.umanitoba.ca/reference/hlthgap.pdf. Accessed April 1, 2009.

Canadian Institute for Health Information. Exploring the 70/30 split: How Canada's health care system is financed. 2005. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=PG_469_E&cw_topic=469&cw_rel=AR_1282_E. Accessed April 1, 2009.

Canadian Institute for Health Information. Government Home Care Spending Reaches $3.4 Billion in 2003-2004. 2007. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page+media_22mar2007_e. Accessed September 24, 2008.

Canadian Institute for Health Information. Health Indicators 2008. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=AR_152_E. Accessed April 1, 2009.

Canadian Institute of Health Information. Hip and Knee Replacements in Canada, 2007 Annual Report, Canadian Joint Replacement Registry (CJRR). 2008 http://secure.cihi.ca/cihiweb/products/2007CJRRAnnualReport%20(web).pdf. Accessed April 1, 2009.

Canadian Institute of Health Information. National Grouping System Categories (NGS) Report, Canada, 1999-2000 and 2000-2001. 2003. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=PG_19_E&cw_topic=19&cw_rel=AR_18_E#full. Accessed April 1, 2009.

Canadian Institute for Health Information. National Trauma Registry - Hospital Injury Admissions Report, 2000/2001, Figure 1. 2003. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=media_05feb2003_2_e. Accessed April 1, 2009.

Canadian Institute of Health Information. Physicians in Canada: Fee-for-Service Utilization, 2005-2006. 2008. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=PG_1210_E&cw_topic=1210&cw_rel=AR_2009_E. Accessed April 1, 2009.

Canadian Institute for Health Information. QuickStats, Discharge Abstracts Database, Inpatient/Acute Admissions by Province of Facility Location, Age-Sex Standardized Inpatient Hospitalization Rates, Discharge years 2000 and 2005. http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=statistics_results_source_dad_e&cw_topic=Discharge%20Abstract%20Database%20(DAD). Accessed April 24, 2009.

Carstairs V, Morris R. *Deprivation and Health in Scotland.* Aberdeen, Scotland: Aberdeen University Press, 1991.

Donner L, Isfeld H, Hawor M, Forsey C. *Producing a Profile of the Health of Manitoba Women*. Winnipeg, MB: Prairie Women's Health Centre of Excellence; 2008.

Dubowsky, S. *Personal Aid for Mobility and Monitoring: A Helping Hand for the Elderly.* PAMM Concept Study, MIT Home Automation and Healthcare Consortium. 1997.

Erzen D, Carriere KC, Dik N, Mustard C, Roos LL, Manfreda J, Anthonisen NR. Income level and asthma prevalence and care patterns. *Am J Respir Crit Care Med*. 1997;155:1060-1065.

Eyles J, Birch S. A population needs-based approach to health-care resource allocation and planning in Ontario: a link between policy goals and practice? *Can J Public Health.* 1993;84:112-117.

Eyles J, Birch S, Chambers S, Hurley J, Hutchison B. A needs-based methodology for allocating health care resources in Ontario, Canada: development and an application. *Soc Sci Med*. 1991;33:489-500.

Frohlich R, Fransoo R, Roos NP. *Indicators of Health Status and Health Service Use for the Winnipeg Regional Health Authority.* Manitoba Centre for Health Policy and Evaluation, 2001. http://mchp-appserv.cpe.umanitoba.ca/reference/wrha_rev.pdf. Accessed April 1, 2009.

Fransoo R, Martens P, *The Need To Know* Team, Burland E, Prior H, Burchill C, Chateau D, Walld R. *Sex Differences in Health Status, Health Care Use, and Quality of Care: A Population-Based Analysis for Manitoba's Regional Health Authorities.* Manitoba Centre for Health Policy, 2005. http://mchp-appserv.cpe.umanitoba.ca/reference/sexdiff.pdf. Accessed April 1, 2009.

Heart and Stroke Foundation. Statistics. http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.3483991/k.34A8/Statistics.htm. Accessed April 1, 2009.

Heart and Stroke Foundation. Tipping the scales of progress: heart disease and stroke in Canada. 2006. http://www.heartandstroke.com/atf/cf/%7B99452D8B-E7F1-4BD6-A57D-B136CE6C95BF%7D/Tipping_the_Scales_new.pdf. Accessed April 1, 2009.

Katz A, Bogdanovic B, Ekuma O, Soodeen RA, Chateau D, Burnett C. *Physician Resource Projection Models.* Manitoba Centre for Health Policy, 2009. http://mchp-appserv.cpe.umanitoba.ca/reference/Physmod_Full_report_2.pdf. Accessed April 1, 2009.

Katz A, De Coster C, Bogdanovic B, Soodeen R, Chateau D. *Using Administrative Data to Develop Indicators of Quality in Family Practice.* Manitoba Centre for Health Policy, 2004. http://mchp-appserv.cpe.umanitoba.ca/reference/quality_wo.pdf. Accessed April 1, 2009

Langille D, Curry S. *Knowledge Transfer.* Halifax, NS: Dalhousie University; 2005.

Lix L, Yogendran M, Burchill C, Metge C, McKeen N, Moore D, Bond R. *Defining and Validating Chronic Diseases: An Administrative Data Approach.* Manitoba Centre for Health Policy, 2006. http://mchp-appserv.cpe.umanitoba.ca/reference/chronic.disease.pdf. Accessed April 1, 2009.

Lix LM, Yogendran MS, Leslie WD, et al. Using Multiple Data Features Improved the Validity of Osteoporosis Case Ascertainment from Administrative Databases. *Journal of Clinical Epidemiology* 2008;61(12):1250-1260.

Lowe, G. Getting a grip on stress. *Working Well.* 2008:10-11.

Mackenbach JP, Kunst AE, Lautenbach H, Oei YB, Bijlsma F. Gains in life expectancy after elimination of major causes of death: revised estimates taking into account the effect of competing causes. *J Epidemiol Community Health.* 1999;53:32-37.

Martens PJ, Frohlich N, Carriere K, Derksen S, Brownell M. Embedding child health within framework of regional health: Population health status and sociodemographic indicators. *Can J Public Health.* 2002:93(Suppl 2):S15-S20.

Martens PJ, Bond R, Jebamani L, Burchill C, Roos NP, Derksen S, Beaulieu M, Steinbach C, MacWilliam L, Walld R, Dik N, Sanderson D, Health Information and Research Committee AoMC, Tanner-Spence M, Leader A, Elias B, O'Neil J. *The Health and Health Care Use of Registered First Nations People Living in Manitoba: A Population-Based Study.* Manitoba Centre for Health Policy, 2002. http://mchp-appserv.cpe.umanitoba.ca/reference/rfn_report.pdf. Accessed April 1, 2009.

Martens PJ, Fransoo R, McKeen N, *The Need To Know* Team, Burland E, Jebamani L, Burchill C, De Coster C, Ekuma O, Prior H, Chateau D, Robinson R, Metge C.
*Patterns of Regional Mental Illness Disorder Diagnoses and Service Use in Manitoba: A Population-Based Study.* Manitoba Centre for Health Policy, 2004. http://mchp-appserv.cpe.umanitoba.ca/reference/mental.health.pdf. Accessed April 1, 2009.

Martens PJ, Fransoo R, *The Need To Know* Team, Burland E, Jebamani L, Burchill C, Black C, Dik N, MacWilliam L, Derksen S, Walld R, Steinbach C, Dahl M. T*he Manitoba RHA Indicators Atlas: Population-Based Comparison of Health and Health Care Use.* Manitoba Centre for Health Policy, 2003. http://mchp-appserv.cpe.umanitoba.ca/reference/rha2.pdf. Accessed April 1, 2009.

Martens P, Fransoo R, *The Need To Know* Team, Burland E, Prior H, Burchill C, Romphf L, Chateau D, Bailly A, Ouelette C. *What Works? A First Look at Evaluating Manitoba's Regional Health Programs and Policies at the Population Level.* Manitoba Centre for Health Policy, 2008. http://mchp-appserv.cpe.umanitoba.ca/reference/fullwwreport.pdf. Accessed April 1, 2009.

Metge C, Kozyrskyj A, Dahl M, Yogendran M, Roos NP. *Pharmaceuticals: Focussing on Appropriate Utilization.* Manitoba Centre for Health Policy, 2003. http://mchp-appserv.cpe.umanitoba.ca/reference/pharma.pdf. Accessed April 1, 2009.

National Diabetes Surveillance System. *Diabetes in Canada: Highlights from the National Diabetes Surveillance System, 2004-2005.* 2008. http://www.phac-aspc.gc.ca/publicat/2008/dicndss-dacsnsd-04-05/pdf/dicndss-04-05-eng.pdf Accessed April 1, 2009.

Neutel CI, Gao RN, Wai E, Gaudette LA. Trends in in-patient hospital utilization and surgical procedures for breast, prostate, lung and colorectal cancers in Canada. *Cancer Causes Control.* 2005;16(10):1261-70

Public Health Agency of Canada. Leading Causes of Injury Deaths in Canada, 2004. http://dsol-smed.phac-aspc.gc.ca/dsol-smed/is-sb/c_mort_matrix_e.html. Accessed April 1, 2009.

Public Health Agency of Canada. Progress Towards Canadian Target Coverage Rates for Influenza and Pneumococcal Immunizations. *Canada Communicable Disease Report.* 2001. http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/01vol27/dr2710eb.html. Accessed March 26, 2009.

Raymond C, Morgan S, Caetano P. Antidepressant utilization in British Columbia from 1996 to 2004: increasing prevalence but not incidence. *Psychiatr Serv.* 2007;58(1):79-84.

Roos LL, Walld R, Uhanova J, Bond R. Physician visits, hospitalizations, and socioeconomic status: ambulatory care sensitive conditions in a canadian setting. *Health Serv Res* 2005;40(4):1167-1185.

Statistics Canada. CANSIM Table 102-0303. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 102-0311. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 102-0511. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 102-0551. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0409. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0417. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0422. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0427. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0431. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0433. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0438. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0449. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-0456. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. CANSIM Table 105-1100. http://cansim2.statcan.ca. Accessed April 1, 2009.

Statistics Canada. Causes of death, Report 84-208-X. 2004. http://www.statcan.gc.ca/pub/84-208-x/2007001/4152756-eng.htm. Accessed April 1, 2009.

Statistics Canada. Causes of death, Report 84-208-X. 2005a. http://www.statcan.gc.ca/pub/84-208-x/2009001/tbl/tbl1-eng.htm. Accessed April 1, 2009.

Statistics Canada. Comparable Health Indicators - Canada, Provinces and Territories 2006a. Report # 82-401-XIE (contact with telephone health line table). http://www.statcan.gc.ca/pub/82-401-x/2006000/t/4064373-eng.htm. Accessed March 26, 2009.

Statistics Canada. Comparable Health Indicators - Canada, Provinces and Territories 2006b. Report # 82-401-XIE (influenza immunization table). http://www.statcan.gc.ca/pub/82-401-x/2006000/t/4064378-eng.htm. Accessed March 26, 2009.

Statistics Canada. Comparable Health Indicators - Canada, Provinces and Territories 2006c. Report # 82-401-XIE (mammography table). http://www.statcan.gc.ca/pub/82-401-x/2006000/t/4064367-eng.htm. Accessed March 26, 2009.

Statistics Canada. Health indicators, Report 82-221-XIE. 2005b. http://www.statcan.gc.ca/pub/82-221-x/2004002/t/pdf/4226947-eng.pdf. Accessed April 1, 2009.

Statistics Canada. Leading causes of death in Canada, Report 84-215-X. 2005c. http://www.statcan.gc.ca/pub/84-215-x/2009000/tbl/t001-eng.pdf. Accessed April 1, 2009.

Tu JV, Ghali W, Pilote L, Brien S, eds. *CCORT Canadian Cardiovascular Atlas.* Toronto, ON: Pulsus Group Inc. and Institute for Clinical Evaluative Services; 2006a.

Tu JV, Pinfold SP, McColgan P, Laupacis A, eds. *Access to Health Services in Ontario.* 2nd edition. Toronto, ON: Institute for Clinical Evaluative Services; 2006b.

van Doorslaer E, Masseria C, Koolman X, OECD Health Equity Research Group. Inequalities in access to medical care by income in developed countries. *CMAJ.* 2006;174(2):177-83.

# Glossary

This Glossary provides definitions and explanations for key terms and concepts used in this report. Following a general introduction, the exact Definition for each indicator is provided, describing exactly how the indicator was calculated. These definitions are very similar to those in the report body, but often provide more specifics/lists which could not be included in the body.

**Access to Hospital Care**—see **Use of Hospitals**

**Access to Physicians**—see **Use of Physicians**

**Acute Myocardial Infarction (AMI)**
Also known as a heart attack, an acute myocardial infarction (AMI) occurs when the heart muscle (the myocardium) experiences sudden (acute) deprivation of circulating blood. The interruption of blood is usually caused by narrowing of the coronary arteries leading to a blood clot. The clogging is usually initiated by cholesterol accumulating on the inner wall of the blood vessels that distribute blood to the heart muscle.

Definition: The rate of hospitalization or death due to Acute Myocardial Infarction (AMI) in residents age 40 or older, defined by ICD–9–CM code 410 (ICD–10 code I21) in the most responsible diagnosis field for hospitalization or as the cause of death in Vital Statistics files. Rates were calculated for two 5–year periods: 1996/97–2000/01 and 2001/02–2005/06 and were age– and sex–adjusted to the population of Manitoba age 40+ in the first time period. Persons discharged alive from hospital after less than three days were excluded as likely 'rule out' AMI cases. Transfers were tracked to ensure all 'true' AMI cases staying at least three days in hospital(s) were counted.

**Adjusted Rate**
Adjusted rates are estimates of what an area's rate might have been, if that area's age and sex distribution was the same as that for the province overall. This adjustment is done to ensure that rates for different areas can be fairly compared—knowing that the demographic profile of the two areas is not affecting the comparison. For example, the elderly typically have more health problems and use more health services, so one would expect a higher number of services among an area with an elderly population. Adjusted rates allow comparisons of rates across areas, by removing the effects of demographic differences. Statistical models were used to calculate these rates and to compare a given area's rate (i.e., RHA or Winnipeg Community Area) and the provincial rate, as well as, to compare rates over time within an area. Appendix 2 provides crude (unadjusted) rates and the observed number of events for all indicators.

**Age Calculations**
For most indicators in this report, age is calculated as of December 31 of each study year for both the numerator and the denominator. Exceptions include when there are more years of study in the numerator than in the denominator, such as diabetes treatment prevalence, in which case age is calculated as of December 31 of the denominator year. Other exceptions include cohort analyses, where age is calculated as of the time of an event.

**Ambulatory Care Sensitive Conditions**—see **Hospitalization for ACS Conditions**

**Ambulatory Consultations**
Consultations are a subset of ambulatory visits (defined below). They occur when one physician refers a patient to another physician (usually a specialist or surgeon) because of the complexity, obscurity or seriousness of the condition, or when the patient requests a second opinion. After the consultation, the patient usually returns to their GP/FP for ongoing management.

The consultation rate is a measure of 'initial' access to specialist care. People in urban areas often have higher rates of visit to specialists, since they may continue to see the specialist rather than being referred back to their GP/FP. That is why the consultation rate, rather than the total specialist visit rate, is used as an indicator for access to specialist care.

Definition: the average number of ambulatory consultations per resident per year. 'Consultations' are a subset of ambulatory visits: they occur when one physician refers a patient to another physician (usually a specialist or surgeon) because of the complexity, obscurity or seriousness of the condition, or when the patient requests a second opinion. The consult rate is the best indicator of access to specialist care. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

The definition of a consultation is a ambulatory physician visit with one of the following physician tariff codes: 8440, 8449, 8550, 8552, 8553, 8554, 8556, 8557.

**Ambulatory Visits (aka Physician Visits)**
'Ambulatory visits' captures virtually all contacts with physicians, except during inpatient hospitalization.
Definition: the average number of visits to physicians per resident per year. Ambulatory visits includes almost all contacts with physicians (general and family practitioners and specialists): office visits, walk–in clinics, home visits, nursing home visits, visits to outpatient departments, and some emergency room visits (where data are recorded). Excluded are services provided to patients while admitted to hospital and visits for prenatal care. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Ambulatory Visits to Specialists**
Definition: the average number of ambulatory visits (including consultations) made to specialist physicians per resident per year. Specialist physicians include all internal medicine specialists, pediatricians, psychiatrists, obstetricians and gynecologists, and surgeons. (See also Sections 6.2 and 6.3.) Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Anatomical Therapeutic Chemical (ATC) Classification**
A widely used drug classification system derived from the World Health Organization's Collaborating Centre for Drug Statistics Methodology. The drugs are divided into different groups at five levels according to the organ or system on which they act and/or therapeutic and chemical characteristics: 1) anatomical group, 2) therapeutic main group, 3) therapeutic/pharmacological subgroup, 4) chemical/therapeutic/pharmacological subgroup, and 5) subgroup for chemical substance.

**Antidepressant Prescription Follow–up**
Regular monitoring of persons prescribed antidepressants after the initial diagnosis of depression is essential to track that patients' response to the medication and modify treatment if necessary. Often antidepressant medications do not begin to have a clinical effect for some time after initiating therapy, and persons diagnosed with a major depression may be at risk of suicide, which makes follow–up a critical part of treatment for depression.

Definition: the proportion of patients with a new prescription for antidepressants (ATC class N06A) and a physician diagnosis of depression (ICD–9 CM codes 296 or 311) who had at least three physician visits within four months of the prescription being filled. Crude rates were calculated for two 3–year periods: 1998/99–2000/01 and 2003/04–2005/06.

The prescription and the visit had to occur within two weeks of each other, and patients had to be alive for the entire follow–up period. For the depression patient to be 'new', they had to have not received a prescription for an antidepressant or had a physician visit for depression in the two years preceding the index prescription.

**Antidepressant Use**
Antidepressants are medicines used to help people who have depression. Most antidepressants are believed to work by slowing the removal of certain chemicals from the brain. These chemicals are called neurotransmitters and are needed for normal brain function. Antidepressants help people with depression by making these natural chemicals more available to the brain. Antidepressants are typically taken for at least four to six months. In some cases, patients and their doctors may decide that antidepressants are needed for a longer time. In addition, some drugs classified as antidepressants are also used for other health problems.

Definition: the proportion of residents who have had at least two prescriptions for antidepressants (ATC code N06A) in a given year. This includes all sub–types of antidepressants; some of which are sometimes prescribed for issues other than depression.

**Anxiety**
Anxiety disorders include excessive feelings of apprehension or fear.

Definition: Residents were considered to have an anxiety disorder if they met either of the following conditions:

- one or more hospitalizations with a diagnosis for anxiety states, phobic disorders or obsessive–compulsive disorders, ICD–9–CM codes 300.0, 300.2, 300.3; ICD–10–CA codes F40, F41.0, F41.1, F41.3, F41.8, F41.9, F42
- three or more physician visits with a diagnosis for anxiety disorders, ICD–9–CM code 300

Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Arthritis**
Arthritis is a group of conditions that affect the health of the bone joints in the body.

Definition: The proportion of residents age 19 or older diagnosed with arthritis (rheumatoid or osteo–arthritis) in a two–year period, by either:

- at least two physician visits or one hospitalization with an ICD–9–CM code of 274, 446, 710–721, 725–729, 739 (ICD–10 codes M00–M03, M05–M07, M10–M25, M30–M36, M65–M79), or
- one physician visit with an ICD listed above and two or more prescriptions for arthritis medications (listed below)

Values were calculated for two 2–year periods, 1999/00–2000/01 and 2004/05–2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period.

List of drugs used to treat arthritis:

| | ATC Code | Generic Drug Name |
|---|---|---|
| Disease–modifying Anti–rheumatic Drugs | A07EC01 | Sulfasalazine |
| | J01AA08 | Minocycline |
| | L01AA01 | Cyclophosphamide |
| | L01BA01 | Methotrexate |
| | L04AA01 | Cyclosporine |
| | L04AA13 | Leflunomide |
| | L04AX01 | Azathioprine |
| | L04AX03 | Methotrexate |
| | M01CB01 | Sodium Aurothiomalate |
| | M01CB03 | Auranofin |
| | M01CB04 | Aurothioglucose |
| | M01CC01 | Penicillamine |
| | P01BA02 | Hydroxychloroquine |
| Biologic Response Modifiers | L04AA11 | Etanercept |
| | L04AA12 | Infliximab |
| | L04AA14 | Anakinra |
| | L04AA17 | Adalimumab |
| Narcotic Analgesics | N02AA05 | Oxycodone |
| | N02AD01 | Pentazocine |
| | N02AA51 | Morphine, combinations |
| | N02AA59 | Codeine, combinations excluding psycholeptics |
| | N02BA51 | Codeine in combination |
| | N02BE01 | Acetaminophen |
| | N02BE51 | Acetaminophen in combination with codeine |
| | R05DA03 | Hydrocodone |
| | R05DA04 | Codeine |
| | R05DA05 | Opium alkaloids with morphine |
| Glucocorticosteroids (some restrictions on route of administration apply) | H02AB04 | Methylprednisolone |
| | H02AB06 | Prednisolone |
| | H02AB07 | Prednisone |
| | H02AB08 | Triamcinolone |
| | H02AB10 | Cortisone |
| Non–steroidal Anti–inflammatory Drugs (NSAIDS) | M01AH03 | Valdecoxib |
| | M01AA01 | Phenylbutazone |
| | M01AB01 | Indometacin |
| | M01AB02 | Sulindac |
| | M01AB03 | Tolmetin |
| | M01AB05 | Diclofenac |
| | M01AB08 | Etodolac |
| | M01AB15 | Ketorolac |
| | M01AB55 | Diclofenac in combination |
| | M01AC01 | Piroxicam |
| | M01AC02 | Tenoxicam |
| | M01AC06 | Meloxicam |
| | M01AE01 | Ibuprofen |
| | M01AE02 | Naproxen |
| | M01AE03 | Ketoprofen |
| | M01AE04 | Fenoprofen |
| | M01AE09 | Flurbiprofen |
| | M01AE11 | Tiaprofenic acid |
| | M01AE12 | Oxaprozin |
| | M01AG01 | Mefenamic acid |
| | M01AH01 | Celecoxib |
| | M01AH02 | Rofecoxib |
| | M01AX01 | Nabumetone |
| | M02AA | Anti–inflammatory agents for topical use |
| | M02AB01 | Capsicum |
| | M02AC | Preparation with salicylic acid derivations |
| | M02AX03 | Dimethyl sulfoxide |
| Other | M04AA | Preparation inhibiting uric acid production |
| | N02BA01 | Acetylsalicylic acid |
| | N02BA03 | Choline salicylate |
| | N02BA11 | Diflunisal |

**Arthritis Mortality**
This is the crude and adjusted mortality rate for residents age 19 and older with and without arthritis. Individuals were categorized as with or without arthritis in the two–fiscal–year period 1999/00–2000/01 and their mortality rate was calculated in the subsequent five year period: 2001/02–2005/06. The denominator is the Manitoba population age 19 and older as of April 1, 2001, who had at least two years of coverage prior to April 1, 2001, and were registered with MHHL until March 31, 2006 or death.

**Asthma Care: Controller Medication Use**
Guidelines for the treatment of asthma recommend that all patients who require the use of acute medication (e.g., beta 2–agonists) more than once a day should also be treated with long acting anti–inflammatory medication for long–term control.

Definition: the proportion of residents with asthma receiving medications recommended for long–term control of their disease. Asthma was defined by two or more prescriptions for beta 2–agonists (ATC codes R03AA, R03AB, R03AC). Recommended long–term controller medications included inhaled corticosteroids (ATC R03BA), Leukotriene modifiers (ATC R03DC), or combination drugs (R03AK). Patients receiving Ipratropium Bromide (ATC codes R01AX03, R03AK04, R03BB01) were excluded as likely COPD patients. Crude rates were calculated for 2000/01 and 2005/06.

**Benzodiazepine Use**
The benzodiazepine family of depressants is used therapeutically to produce sedation, induce sleep, relieve anxiety and muscle spasms, and to prevent seizures. In general, benzodiazepines act as hypnotics in high doses, anxiolytics in moderate doses, and sedatives in low doses. Short–acting benzodiazepines are generally used for patients with sleep–onset insomnia (difficulty falling asleep) without daytime anxiety. Benzodiazepines with a longer duration of action are utilized to treat insomnia in patients with daytime anxiety. Repeated use of large doses or in some cases, daily use of therapeutic doses of benzodiazepines is associated with amnesia, hostility, irritability, and vivid or disturbing dreams, tolerance, and physical dependence. The withdrawal syndrome is similar to that of alcohol and may require hospitalization. Abrupt cessation of benzodiazepines is not recommended and tapering–down the dose eliminates many of the unpleasant symptoms.

Benzodiazepines were identified by ATC codes N05BA01, N05BA02, N05BA04–N05BA06, N05BA08, N05BA10, N05BA12, N05CD01, N05CD02, N05CD04, N05CD05, N05CD07 and N05CF01.

*Benzodiazepine Prescribing for Community–Dwelling Seniors*
Definition: the crude percentage of residents age 75+ living in the community (i.e., not in a personal care home) who had at least two prescriptions for benzodiazepines or a greater than 30 day supply dispensed. Use of benzodiazepines is not recommended for seniors, so lower rates are better. Crude rates were calculated for 2000/01 and 2005/06.

*Benzodiazepine Prescribing for Residents of Personal Care Homes (PCH)*
Definition: the crude percentage of PCH residents age 75+ who had at least two prescriptions for benzodiazepines or a greater than 30 day supply dispensed. Use of benzodiazepines is not recommended for seniors, so lower rates are better. This indicator is only calculated for RHAs and Winnipeg CAs, not RHA Districts or Winnipeg NCs, because many smaller areas do not contain a PCH. Crude rates were calculated for 2000/01 and 2005/06. PCHs using hospital pharmacies were excluded from this analysis as their prescription data was unavailable.

**Binge Drinking (CCHS Survey Data—Chapter 14)**
Binge drinking is commonly defined in the social sciences as having five or more alcoholic drinks on one occasion. According to Health Canada, binge drinking is linked to motor vehicle accidents, Fetal Alcohol Spectrum Disorder and other health issues, family problems, crime and violence. In the CCHS, one drink was defined as: one bottle or can of beer or a glass of draft, one glass of wine or a wine cooler, or one drink or cocktail with 1 ½ ounces of liquor.

Question: participants were asked, "During the past 12 months, have you had a drink of beer, wine, liquor or any other alcoholic beverage?", and those who did not answer 'No' were then asked, "How often in the past 12 months have you had five or more drinks on one occasion?"

Definition: respondents were grouped into two categories: those who reported consuming 5 or more alcoholic drinks on one occasion once a month or more in the past year, versus those who did not (i.e., never drank, never had more than 5 alcoholic drinks on one occasion, or did so less than once a month in the past year). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Body Mass Index (BMI) (CCHS Survey Data—Chapter 14)**
BMI for adults:
Body Mass Index (BMI) is a statistical measure used to classify and compare individuals according to their height and weight. BMI is calculated as weight (in kilograms) divided by height (in metres) squared and, typically, ranges from 15 to 45.

Definition: BMI was calculated from self–reported height and weight (unless measured values were available in cycle 2.2 only) and grouped into three categories: Underweight and Normal (BMI less than 25), Overweight (25–29), and Obese (30+). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Breast Cancer Screening**—see **Mammography**

**Canadian Community Health Survey (CCHS)**
The Canadian Community Health Survey (CCHS) is a biennial survey conducted by Statistics Canada to provide regular and timely cross–sectional estimates of health determinants, health status and health system utilization for 136 health regions in Canada, including the territories. Survey respondents were sampled from 11 regions in Manitoba. Respondents were 12 years of age or older; the sampling methodology was designed to ensure over–representation of youth under 19 years of age and seniors 65 years of age and older. The survey excludes populations living in First Nations Communities ('Reserves'), on Canadian Forces Bases, in some remote areas, and in institutions.

**Cardiac Catheterization**
The most accurate method for evaluating and defining ischemic heart disease (IHD), also known as coronary artery disease (CAD), cardiac catheterization is used to identify the location and severity of CAD. During cardiac catheterization, a small catheter (a thin hollow tube with a diameter of 2–3 mm) is inserted through the skin into an artery in the groin or the arm. Guided with the assistance of a fluoroscope (a special x–ray viewing instrument), the catheter is then advanced to the opening of the coronary arteries, the vessels supplying blood to the heart. When the catheter is used to inject radiographic contrast (a solution containing iodine, which is easily visualized with x–ray images) into each coronary artery, the cardiac catheterization is termed coronary angiography. The images that are produced are called the angiogram, which shows the extent and severity of blockages in coronary arteries.

Definition: the number of cardiac catheterizations performed on area residents age 40 or older, per 1000 residents age 40 or older. This includes ICD–9–CM procedure codes 37.21–37.23, 88.52–88.57, or CCI codes 2.HZ.28 or 3.IP.10 in any procedure field in a hospital abstract (inpatient or outpatient). Rates were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and age– and sex–adjusted to the Manitoba population 40+ in the first time period.

Cardiac catheterizations were only performed at the two tertiary hospitals (Health Sciences Centre and St Boniface General Hospital), so only hospital separations from those two hospitals were included in the analysis in order to eliminate the potential for double–counting of procedures.

**Cataract Surgery**
Cataracts occur when the lens of the eye becomes cloudy and normal vision is impaired. There are many causes of cataracts including (but not limited to) cortisone medication, trauma, diabetes, and aging. The symptoms of cataracts include double or blurred vision and unusual sensitivity to light and glare. The clouded lens is removed in its entirety by surgery and replaced with an intraocular lens made of plastic, an operation that takes less than an hour and usually does not need overnight stay in hospital.

Definition: the number of cataract replacement surgeries performed on area residents age 50 or older, per 1000 residents age 50 or older. Cataract surgery was defined by a physician claim with tariff codes 5611, 5612 and tariff prefix 2 (surgery), or a hospital separation with ICD–9–CM procedure codes 13.11, 13.19, 13.2, 13.3, 13.41, 13.42, 13.43, 13.51, 13.59, or CCI code 1.CL.89. Additional cataract surgeries for Manitoba residents were added from medical reciprocal claims for

out of province procedures, including Alberta (tariff code 27.72) and Saskatchewan (tariff codes 135S, 136S, 226S and 325S). Rates were calculated for 2000/01 and 2005/06, and age– and sex–adjusted to the Manitoba population 50+ in the first time period.

**Causes of Death**
Definition: The distribution of causes of death based on Vital Statistics files, using the 17 chapters of the International Classification of Diseases (ICD–9–CM) system. Data were analyzed for two 5–year periods: 1996–2000 and 2001–2005. From January 1, 2000, Vital Statistics data were coded using ICD–10–CA, so these codes were converted to ICD–9–CM codes, using the conversion file created by the Canadian Institute for Health Information. Results are shown for Manitoba and for the aggregate areas, but not by RHA due to the relatively small number of deaths by cause in smaller areas.

**Causes of Hospitalization**
Definition: the distribution of 'Most Responsible' diagnoses attributed during inpatient hospitalizations, grouped according to the International Classification of Diseases (ICD) system. Data for 2005/06 were originally coded in ICD–10–CA, so were converted to ICD–9–CM equivalents (using the CIHI conversion) for comparison with 2000/01 results. The top 10 causes are shown for each time period, for each aggregate area. Hospitalizations for injury and poisoning are analyzed in detail in Section 7.12. "Health Status and Contact" contains a variety of cases including convalescence and aftercare following surgery, rehabilitation procedures and physical therapy, sterilization, and palliative care.

**Causes of Physician Visits**
Definition: the distribution of diagnoses attributed during ambulatory visits (each visit has one diagnosis code attributed). Visits are grouped according to the 19 chapters of the International Classification of Diseases system (ICD–9–CM), and the top 10 causes are shown for each time period, by aggregate area.

**Cervical Cancer Screening**—see **Papanicolauo Testing**

**Computed Tomography (CT) Scans**
Computerized tomography (CT) scans are pictures of structures within the body created by a computer that takes the data from multiple X–ray images and turns them into pictures on a screen. The CT scan can reveal soft tissues and other structures that cannot be seen in conventional X–rays.

In this study, the crude and adjusted rate of CT scans per 1,000 residents was measured over two 3–year periods: 1998/99–2000/01 and 2003/04–2005/06. CT scans were defined by a physician claim with tariff codes 7112–7115 or 7221–7230. The denominator includes all Manitoba residents as of December 31 of each year (1998–2000 and 20003–2005).

*Note*: individual–level information regarding CT scans performed in rural hospitals are not always recorded. Therefore, the CT scan rates shown in this report under–estimate the 'true' CT scan rates to an unknown degree.

**Confidence Interval (CI) Limits**
An interval, calculated from data, which contains a population parameter, such as the population median or mean, with specified probability. For example, a 95% Confidence Interval (written as 95% CI) would have a 95% probability of containing the true population value.

**Continuity of Care**
Continuity of care is the extent to which individuals see a given health care provider (versus one or more other providers) over a specified period of time. Individuals with a regular family physician (or specialist) may have improved health outcomes as a result of one physician managing their health care needs over an extended period of time.

Definition: The percentage of residents receiving at least 50% of their ambulatory visits over a two year period from the same physician. For children 0 to 14, it could be a GP/FP or a Pediatrician; for those 15 to 59, only GP/FPs were used; for those 60+, it could be a GP/FP or an Internal Medicine specialist. Residents with less than three ambulatory visits over the two–year period were excluded. Values were calculated for two 2–year periods, 1999/00–2000/01 and 2004/05–2005/06, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Coronary Artery Bypass Surgery**
Bypass surgery is performed on patients with significant narrowing or blockage of coronary arteries to replace narrowed and blocked segments, permitting increased blood flow to deliver oxygen and nutrients to the heart muscles, thereby improving circulation throughout the body.

Definition: The number of bypass surgeries performed on area residents age 40 or older, per 1,000 area residents age 40 or older. Bypass surgery is defined by ICD–9–CM procedure codes 36.10–36.16, 36.19, or CCI code 1.IJ.76 in any procedure field (these codes include all surgeries, regardless of the number of vessels affected). Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– and sex–adjusted to the Manitoba population 40+ in the first time period.

Bypass surgeries were only performed at the two tertiary hospitals (Health Sciences Centre and St Boniface General Hospital), so only hospital separations from those two hospitals were included in the analysis, in order to eliminate the potential for double–counting of procedures.

**Crude Rate**
The number of people with a given condition or procedure, divided by the number of people living in that area; often expressed as a rate per 1,000 residents (for less frequent events). Crude rates are helpful in figuring out the burden of disease, and/or number of residents with that condition or procedure. This is in contrast to adjusted rates, which statistically adjust the crude rates, to arrive at an estimate of what an area's rate might have been if the local population's age and sex distribution was the same as that for the entire province. See also Adjusted Rate.

This could potentially be affected by the age and sex distribution of an area; hence most rates are adjusted for fair comparisons between areas.

**Cumulative Mental Illness**
The grouping 'Cumulative Mental Illness' was created to provide an overall indicator of the prevalence of mental illness, accounting for the co–occurrence among mental illnesses. Cumulative prevalence was defined as the proportion of the population who received treatment for any of the following: depression, anxiety, substance abuse, personality disorders, or schizophrenia. Sections 5.2–5.6 describe the exact case definitions used for each disorder.

**Cumulative Mental Illness—Mortality**
Definition: This indicator compares five–year mortality rates (2001/02–2005/06) for those in the Cumulative Disorders group to those not in that group. Values were age– and sex–adjusted to the Manitoba population age 10+. For 'Key findings' and comparisons with rates for physical diseases, see Chapter 4, Section 3.

**Daily Consumption of Fruits and Vegetables (CCHS Survey Data—Chapter 14)**
Canada's Food Guide recommends that children should eat 4–6 servings of fruits or vegetables daily, and teenagers and adults should eat 7–8 servings of fruits or vegetables daily as part of a healthy diet. One serving means ½ cup of fresh, frozen or canned fruits or vegetables, 1 piece of fruit or ½ cup of fruit juice. Canada's Food Guide states that the benefits to eating well include better overall health, looking and feeling better, lower risk of disease, more energy, a healthy body weight, and stronger muscles and bones.

In the CCHS, the total daily consumption of fruits and vegetables is a derived variable that indicates the total number of times per day the respondent eats fruits and vegetables (ie, not the number of servings eaten). Respondents are asked a series of questions regarding their dietary practices, like "How often do you usually eat potatoes, not including French fries, fried potatoes, or potato chips?" and the total daily consumption of fruits and vegetables is determined based on the respondent's answers. Possible responses include less than 5 times/servings per day, 5 to 10 times/servings per day, mores than 10 times/servings per day or not stated. This variable is calculated for all respondents.

Definition: respondents were grouped into two categories: those eating fruits and vegetables 'Less than 5 times/servings per day' or '5 or more times per day' based on their responses. The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1 and 2.1 (2001–2004).

**Data Suppression**
Data was suppressed when the number of persons or events involved was five or less, though data is not suppressed when the actual count is zero. For CCHS indicators, data was suppressed when the sample size of positive responses from the un–weighted sample was less than10 respondents, or if the Coefficient of Variation calculated from the standard error of the rate was 33.3 or greater.

**Dementia**
Dementia is a loss of brain function. It is not a single disease. Instead, dementia refers to a group of illnesses that involve memory, behavior, learning, and communication problems. The problems are progressive, which means they get worse overtime.

Definition: The proportion of residents age 55 or older with at least one physician visit or hospitalization for any of the following codes: ICD–9–CM 290, 291, 292, 294, 331, 797; ICD–10–CA codes F00, F01, F02, F03, F04, F05.1, F06.5, F06.6, F06.8, F06.9, F09, F10–F19, G30, G31.0, G31.1, G31.9, G32.8, G91, G93.7, G94, R54 (but excluding: F10.0, F10.1, F10.2, F10.3, F10.4, F10.8, F10.9, F11.1, F11.2, F12.1, F12.2, F13.1, F13.2, F14.1, F14.2, F15.1, F15.2, F16.1, F16.2, F17.1, F17.2, F18.1, F18.2, F19.1, F19.2). Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (55+) in the first time period.

**Depression**
Depression is a mood disorder characterized by feelings of sadness, anger, frustration, and a lack of interest in activities that persist to the point that they interfere with daily life for an extended period of time.

Definition: The proportion of residents age 10 or older diagnosed with depression over a five–year period by any of the following conditions:

- one or more hospitalizations with a diagnosis for depressive disorder, affective psychoses, neurotic depression or adjustment reaction, ICD–9–CM codes 296.2–296.8, 300.4, 309, 311; ICD–10–CA codes F31, F32, F33, F341, F38.0, F38.1, F41.2, F43.1, F43.2, F43.8, F53.0, F93.0
- one or more physician visits with a diagnosis for depressive disorder, affective psychoses or adjustment reaction, ICD–9–CM codes 296, 309 or 311
- one or more hospitalizations with a diagnosis for anxiety disorders, ICD–9–CM code 300; ICD–10–CA codes F32.0, F34.1, F40, F41, F42, F44, F45.0, F451, F452, F48, F68.0, F99, and one or more prescriptions for an antidepressant or mood stabilizer, ATC codes N03AB02, N03AB52, N03AF01, N05AN01, N06A
- one or more physician visits with a diagnosis for anxiety disorders, ICD–9–CM code 300, and one or more prescriptions for an antidepressant or mood stabilizer, ATC codes N03AB02, N03AB52, N03AF01, N05AN01, N06A

Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Diabetes**

Diabetes mellitus is a chronic condition in which the pancreas no longer produces enough insulin (type 1 diabetes) or when cells stop responding to the insulin that is produced (type 2 diabetes), so that glucose in the blood cannot be absorbed into the cells of the body. The most common endocrine disorder, diabetes mellitus affects many organs and body functions, especially those involved in metabolism, and can cause serious health complications including renal failure, heart disease, stroke, and blindness. Symptoms include frequent urination, fatigue, excessive thirst, and hunger. Also called insulin–dependent diabetes, type 1 diabetes begins most commonly in childhood or adolescence and is controlled by regular insulin injections. The more common form of diabetes, type 2, can usually be controlled with diet and oral medication. Another form of diabetes called gestational diabetes can develop during pregnancy and generally resolves after the baby is delivered.

Definition: the proportion of residents age 19 or older diagnosed with diabetes in a three–year period, by either:

- at least two physician visits or one hospitalization with a diagnosis of diabetes (ICD–9–CM code 250; ICD–10–CA codes E10–E14), or
- one or more prescriptions for medications to treat diabetes (listed below)

Values were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period.
This measure of diabetes combines type 1 and type 2 diabetes, as physician claims data do not allow separate identification. Gestational diabetes has a separate diagnosis code and is not specifically included here, but some cases may be included if gestational diabetes was not properly coded.

List of drugs used to treat diabetes:

| | **ATC Code** | **Generic Drug Name** |
|---|---|---|
| Insulins and Analogues | A10A | Insulin |
| Blood Glucose Lowering Drugs, excluding Insulin | A10BA02 | Metformin |
| | A10BB01 | Glibenclamide |
| | A10BB02 | Chlorpropamide |
| | A10BB03 | Tolbutamide |
| | A10BB09 | Gliclazide |
| | A10BB12 | Glimepiride |
| | A10BB31 | Acetohexamide |
| | A10BD03 | Metformin and rosiglitazone |
| | A10BF01 | Acarbose |
| | A10BG02 | Rosiglitazone |
| | A10BG02 | Pioglitazone |
| | A10BX02 | Repaglinde |
| | A10BX03 | Nateglinide |

**Diabetes: Alternative Definition**
The definition of Diabetes described above is different from that used by the National Diabetes Surveillance System (NDSS), so our analyses were repeated using a definition closer to that used by NDSS. For this analysis, diabetes was defined by either one hospitalization or two physician visits over a three–year period, for residents age 19+. As such, this is not a replication of the true NDSS definition, as that system uses a moving window of successive two–year periods and accumulates cases moving forward. As well, the NDSS definition excludes pregnant women and is applied to residents age 1 or older. (The MCHP definition uses 19+ as that was used in the work done to validate the indicator against Canadian Community Health Survey data).

**Diabetes Care: Annual Eye Exams**
Individuals with diabetes are at a greater risk of damage to the retina than the general population. In the later stages of diabetes, individuals may develop diabetic retinopathy, which causes the swelling of blood vessels in the retina and leaking of fluid or the abnormal growth of new blood vessels on the surface of the retina. Diabetic retinopathy can develop without symptoms and, when left untreated, may cause loss of vision or blindness, so regular eye examinations for diabetics help to diagnose retinopathy early and slow its progression.

Definition: the proportion of residents age 19+ with diabetes who had an eye exam in a given year, defined by a visit to an Ophthalmologist or an Optometrist. Diabetes was defined as described in Chapter 4. Crude rates were calculated for 2000/01 and 2005/06. *Note: although all residents with diabetes qualify for annual eye exams without having to pay for the service, some may not indicate their diabetic status to the provider, in which case the provider may bill the patient directly. If that occurs, there would be no record of the visit in medical claims data. Furthermore, services provided by General & Family practitioners could not be included, as there is no specific tariff for this service. As a result, this indicator under–estimates eye exam rates to some degree.*

**Diabetes Mortality**
This is the crude and adjusted mortality rate for residents age 19 and older with and without diabetes. Individuals were categorized as with or without diabetes in the three–fiscal–year period 1998/99–2000/01 and their mortality rate was calculated in the subsequent five–year period, 2001/02–2005/06. The denominator is the Manitoba population age 19 and older as of April 1, 2001, who had at least three years of coverage prior to April 1, 2001, and were registered with MHHL until March 31, 2006 or death.

**Diabetes–Related Lower Limb Amputations**—see **Lower Limb Amputations**

**Drug Programs Information Network (DPIN)**
DPIN is an electronic, on–line, point–of–sale prescription drug database. It links all community pharmacies (but not pharmacies in hospitals or nursing care homes/personal care homes) and captures information about all Manitoba residents, including most prescriptions dispensed to status Indians. DPIN contains information such as unique patient identification, age, birth date, sex, medication history, over–the–counter medication history, patient postal code, new drug prescribed, date dispensed, and unique pharmacy identification number. DPIN is maintained by the Government of Manitoba's Ministry of Health.

**Drug Identification Number (DIN)**
An eight digit number assigned by the Therapeutic Products Directorate of Health Canada to each drug approved for use in Canada in accordance with the Food and Drug Regulation. The same drug (e.g., Amoxicillin, 250 mg capsules) can have several different DINs associated with it (due to different manufacturers).

**Drug Use**—see **Pharmaceutical Use**

**Fiscal Year**
The fiscal year starts on April 1 and ends the following March 31. For example, the 2003/04 fiscal year would be April 1, 2003 to March 31, 2004, inclusive.

**General Mental Health (CCHS Survey Data—Chapter 14)**
The general mental health scale is a summary measure from the SF–36, indicating the general mental health of an individual on a scale from 0–100, with higher scores indicating better mental health. Statistics Canada transformed the scale to facilitate comparisons across scales and reflect a relative position.

Definition: the general mental health scale is a derived measure from the SF–36 questionnaire, addressing overall mental health on a scale of 0 to 100 (higher is better). Based on the distribution of scores, three groups were created with approximately one–third of respondents in each group: Low (0–79), Medium (80–91) and High (92–100). The age– and sex–adjusted proportion of respondents in each group is shown. Results from cycles 2.1 and 3.1 (2003–2005) were included.

**General Practitioner/Family Practitioner (GP/FP)**
A physician who operates a general or family practice and is not certified in another specialty in Manitoba.

**Health Links/Info Sante Service**
Health Links/Info Sante is a no–charge, 24–hour telephone information service that provides answers to health questions for residents of Manitoba. The service is maintained by the Winnipeg Regional Health Authority (WRHA) and is staffed by registered nurses.

Definition: the proportion of residents who contacted Manitoba's toll–free Health Links/Info Sante service at least once in two years: 2004/05–2005/06. Rates were adjusted to the Manitoba population in that period. This includes calls placed on a person's behalf by another person—for example, a family member calling on behalf of a child or parent.

**Heart Attack**—see **Acute Myocardial Infarction**

**Hip Replacement Surgery**—see **Total Hip Replacement**

**Home Care**
The Manitoba Home Care Program, established in 1974, is the oldest comprehensive, province–wide, universal home care program in Canada. Home Care is provided to Manitobans of all ages assessed as having inadequate informal resources to return home from hospital or to remain at home in the community. Home care services are provided free–of–charge. Reassessments at pre–determined intervals are the basis for decisions by case managers to discharge individuals from the Program or to change the type or amount of services delivered by the Home Care Program.

**Home Care, Average Length of Case (In–Year Days)**
Definition: the average length (in days) of all home care cases open in a two–year period. A home care client may have more than one case in a period. Each would be counted as a separate case with a separate length. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

For residents with more than one home care case, days in home care were counted for each case open in the fiscal year. If the case was open prior to the start of the fiscal year, the case was assigned April 1st as the start date; and similarly, if the case was not closed prior to the end of the fiscal year, the case was assigned March 31st as the end date.

**Home Care, Case Closings**
Definition: the percentage of the population (all ages) with a home care case which closed during the year (values shown are the annual average for a two–year period). Some home care clients had more than one case in a year, but were only counted once for this indicator. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

**Home Care, New Cases (Incidence)**
Definition: the percentage of the population (all ages) with a new home care case opened in a year (values shown are the annual average for a two–year period). Some home care clients had more than one case in a year, but were only counted once for this indicator. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

**Home Care, Open Cases (Prevalence)**
Definition: the percentage of the population (all ages) with an open home care case in a year (values shown are the annual average for a two–year period). Some home care clients had more than one case in a year, but were only counted once for this indicator. Rates were calculated for 1999/00–2000/01 and 2003/04–2004/05 and were age– and sex–adjusted to the Manitoba population in the first time period.

**Hospital Access**—see **Use of Hospitals and Hospital Separations**

**Hospital Bed Supply**
Definition: the number of beds in acute care hospitals within each RHA divided by the population of the RHA. The bed counts come from the 'Setup Beds' data kept by Manitoba Health and Healthy Living for 2000/01 and 2005/06. These values need to be interpreted with caution because the actual number of beds in use in each hospital varies through the year and because beds can also be used for 'non–acute' care. The values are shown to provide an overall indication of the relative supply of beds across the province, and to track major changes over time.
Hospital Catchment (Separations and Days)
This indicator provides information regarding where hospital patients came from.

Definition: of all separations (days) from all hospitals in each RHA, this is the proportion that were provided to RHA residents, residents of other RHAs, Winnipeg residents, or out–of–province residents.

**Hospital Days used for Long Stays (14+ days)**
The number of days used in 'long' hospitalizations. An inpatient hospitalization lasting 14 days or more was considered a long hospital stay in this study. Newborn (birth) hospitalizations were excluded. All Manitoba hospitals were included; PCHs and Long–term Care facilities were excluded (e.g., Deer Lodge and Riverview).

Definition: the number of hospital days used in long stays (14 or more days), per 1,000 area residents per year. If a resident had more than one long hospitalization in the period, then the days used in all long hospitalizations were summed. Each hospitalization was limited to 365 days maximum length of stay. Hospitalizations in long term care facilities were excluded (e.g., Deer Lodge and Riverview). Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Hospital Days used for Short Stays (1–13 days)**
The number of days used in 'short' hospitalizations. An inpatient hospitalization lasting one day to 13 days is considered a short hospital stay in this study. Newborn (birth) hospitalizations were excluded. All Manitoba hospitals were included; PCHs and Long–term Care facilities were excluded (e.g., Deer Lodge and Riverview).

Definition: the number of hospital days used in short stays (less than 14 days), per 1,000 area residents per year. If a resident had more than one short hospitalization in the period, then the days used in all short hospitalizations were summed. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Hospital Discharge Abstract Database**
Hospital abstracts are completed at the point of discharge for all separations from acute care facilities in Manitoba. Prior to April 1, 2004, they included up to 16 diagnosis codes and 12 procedure codes based on the International Classification of Diseases, 9$^{th}$ Revision, Clinical Modification (ICD–9–CM). On April 1, 2004, hospitals in Manitoba updated coding practices and currently hospital abstracts include up to 25 diagnosis codes based on the International Statistical Classification of Diseases and Related Health Problems, 10$^{th}$ Revision, Canada (ICD–10–CA) and 20 intervention (procedure) codes based on the Canadian Classification of Health Interventions (CCI).

**Hospital Separations**
A separation from a health care facility occurs anytime a patient (or resident) leaves because of discharge, transfer, or death. The number of separations is the most commonly used measure of the utilization of hospital services. Separations, rather than admissions, are used because hospital abstracts for patient care are based on information gathered at the time of discharge.

Definition: the total number of inpatient and outpatient hospital separations of area residents, per 1000 residents per year. In any given period, a resident could be hospitalized more than once, so this indicator shows the total number of separations from acute care facilities by all residents of the area. Rates were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

All Manitoba hospitals were included; Personal Care Homes (PCH) and Long–term Care facilities were excluded (Riverview, Deer Lodge, Rehabilitation Centre for Children and Manitoba Adolescent Treatment Centre). Newborn (birth) hospitalizations were excluded (the mother's hospitalization was included).

**Hospital Use (aka Hospital Access)**—see **Use of Hospitals**
Hospitalizations for Ambulatory Care Sensitive (ACS) Conditions
Ambulatory Care Sensitive (ACS) conditions are a set of medical conditions or diagnoses "for which timely and effective outpatient care can help to reduce the risks of hospitalization by either preventing the onset of an illness or condition, controlling an acute episodic illness or condition, or managing a chronic disease or condition" (Billings et al., 1993).

Definition: the rate at which area residents were hospitalized for Ambulatory Care Sensitive Conditions, per 1000 residents per year. This grouping is comprised of 17 diseases/diagnoses, including asthma, angina, gastroenteritis, and congestive heart failure, created by Billings and colleagues (Billings & Teicholz, 1990; Billings et al., 1993). The idea behind this measure was that if people receive an adequate level of good quality primary care, they should not need to be hospitalized for these conditions.

In this study, the crude and adjusted rate of hospitalizations for ACS conditions per 1,000 residents age 0–74 was measured over two fiscal years: 2000/01 and 2005/06. ACS conditions include:

- Congenital Syphilis: ICD–9–CM code 090; ICD–10–CA code A50 (newborns only)
- Immunization–Related and Preventable Conditions: ICD–9–CM codes 033, 037, 045, 390, 391; ICD–10–CA codes A35, A37, A80, I00, I01 (also including hemophilus meningitis for children ages 1–5 only, ICD–9–CM code 320.0; ICD–10–CA code G00.0)
- Epilepsy: ICD–9–CM code 345; ICD–10–CA codes G40, G41
- Convulsions: ICD–9–CM code 780.3; ICD–10–CA code R56

- Severe ENT Infections: ICD–9–CM codes 382, 462, 463, 465, 472.1; ICD–10–CA codes H66, J02, J03, J06, J312 (cases of otitis media, ICD–9–CM code 382; ICD–10–CA code H66, with a procedure code for myringotomy with insertion of tube are excluded, ICD–9–CM procedure code 20.01; CCI code 1.DF.53.JA–TS)
- Pulmonary Tuberculosis: ICD–9–CM code 011; ICD–10–CA codes A15.0, A15.1, A15.2, A15.3, A15.7, A15.9, A16.0, A16.1, A16.2, A16.7, A16.9
- Other Tuberculosis: ICD–9–CM codes 012–018; ICD–10–CA codes A15.4, A15.5, A15.6, A15.8, A16.3, A16.4, A16.5, A16.8, A17, A18, A19
- Chronic Obstructive Pulmonary Disease (COPD): ICD–9–CM codes 491, 492, 494, 496; ICD–10–CA codes J41, J42, J43, J44, J47 (also included in 2005/06 are patients with a primary diagnosis of acute lower respiratory infection, ICD–10–CA codes J10.0, J11.0, J12–J16, J18, J21, J22, and a secondary diagnosis of COPD with acute lower respiratory infection, ICD–10–CA code J44)
- Acute Bronchitis: (only included if a secondary diagnosis of COPD is also present, diagnosis codes as above), ICD–9–CM code 466.0; ICD–10–CA code J20
- Bacterial Pneumonia: ICD–9–CM codes 481, 482.2, 482.3, 482.9, 483, 485, 486; ICD–10–CA codes J13, J14, J15.3, J15.4, J15.7, J15.9, J16, J18 (patients with a secondary diagnosis of sickle–cell anaemia, ICD–9–CM code 282.6; ICD–10–CA codes D57.0, D57.1, D57.2, D57.8, and patients less than two months of age are excluded)
- Asthma: ICD–9–CM code 493; ICD–10–CA code J45
- Congestive Heart Failure (CHF): ICD–9–CM codes 402.01, 402.11, 402.91, 428, 518.4; ICD–10–CA codes I50, J81 (patients with certain cardiac procedures coded are excluded, ICD–9–CM procedure codes 36.01, 36.02, 36.05, 36.1, 37.5, 37.7; CCI codes 1.HB.53, 1.HB.54, 1.HB.55, 1.HD.53, 1.HD.54, 1.HD.55, 1.HZ.53, 1.HZ.55, 1.HZ.85, 1.IJ.50, 1.IJ.57.GQ, 1.IJ.76)
- Hypertension: ICD–9–CM codes 401.0, 401.9, 402.00, 402.10, 402.90; ICD–10–CA codes I10.0, I10.1, I11 (patients with certain cardiac procedures coded are excluded, procedure codes as in CHF)
- Angina: ICD–9–CM codes 411.1, 411.8, 413; ICD–10–CA codes I20, I23.82, I24.0, I24.8, I24.9 (patients with any surgical procedure coded are excluded)
- Cellulitis: ICD–9–CM codes 681, 682, 683, 686; ICD–10–CA codes L03, L04, L08, L44.4, L88, L92.2, L98.0, L98.3 (patients with any surgical procedure coded are excluded, except for incisions of skin and subcutaneous tissue, ICD–9–CM procedure code 86.0; CCI codes 1.AX.53.LA–QK, 1.IS.53.HN–LF, I.IS.53.LA–LF, 1.JU.53.GP–LG, 1.KR.53.LA–LF, 1.OA.53.LA–QK, 1.SY.53.LA–QK, 1.YA.35.HA–W1, 1.YA.35.HA–X4, 1.YA.52.HA, 1.YA.52.LA, 1.YA.55.DA–TP, 1.YA.55.LA–TP, 1.YA.56.LA, 1.YB.52.HA, 1.YB.52.LA, 1.YB.55.DA–TP, 1.YB.55.LA–TP, 1.YB.56.LA, 1.YF.35.HA–W1, 1.YF.35.HA–X4, 1.YF.52.HA, 1.YF.55.DA–TP, 1.YF.55.LA–TP, 1.YF.56.LA, 1.YG.52.HA, 1.YG.52.LA, 1.YG.55.

DA–TP, 1.YG.55.LA–TP, 1.YG.56.LA, 1.YR.52.HA, 1.YR.52.LA, 1.YR.56.LA, 1.YS.35.HA–W1, 1.YS.35.HA–X4, 1.YS.52.HA, 1.YS.52.LA, 1.YS.55.DA.TP, 1.YS.55.LA–TP, 1.YS.56.LA, 1.YT.35.HA–W1, 1.YT.35.HA–X4, 1.YT.52.HA, 1.YT.52.LA, 1.YT.55.DA–TP, 1.YT.55.LA–TP, 1.YT.56.LA, 1.YU.52.HA, 1.YU.52.LA, 1.YU.55.DA–TP, 1.YU.55.LA–TP, 1.YU.56.LA, 1.YV.35.HA–W1, 1.YV.35.HA–X4, 1.YV.52.HA, 1.YV.52.LA, 1.YV.55.DA–TP, 1.YV.55.LA–TP, 1.YV.56.LA, 1.YW.52.HA, 1.YW.52.LA, 1.YW.55.DA–TP, 1.YW.55.LA–TP, 1.YW.56.LA, 1.YX.52.HA, 1.YX.52.HA–AV, 1.YX.52.LA, 1.YX.56.LA, 1.YZ.35.HA–W1, 1.YZ.35.HA–X4, 1.YZ.52.HA, 1.YZ.52.LA, 1.YZ.55.DA–TP, 1.YZ.55.LA–TP, 1.YZ.56.LA)

- Diabetes: ICD–9–CM codes 250.0, 250.1, 250.2, 250.3, 250.8, 250.9; ICD–10–CA codes E10.1, E10.6, E10.7, E10.9, E11.0, E11.1, E11.6, E11.7, E11.9, E13.0, E13.1, E13.6, E13.7, E13.9, E14.0, E14.1, E14.6, E14.7, E14.9
- Hypoglycemia: ICD–9–CM code 251.2; ICD–10–CA codes E16.0, E16.1, E16.2
- Gastroenteritis: ICD–9–CM code 558.9; ICD–10–CA codes K52.2, K52.8, K52.9
- Kidney/Urinary Infections: ICD–9–CM codes 590, 599.0, 599.9; ICD–10–CA codes N10, N11, n12, N13.6, N15.1, N15.8, N15.9, N16.0–N16.5, N28.83–N28.85, N36.9, N39.0, N39.9
- Dehydration/Volume Depletion: ICD–9–CM code 276.5; ICD–10–CA code E86
- Iron Deficiency Anemia: ICD–9–CM codes 280.1, 280.8, 280.9; ICD–10–CA codes D50.1, D50.8, D50.9 (patients age 0–5 only)
- Nutritional Deficiencies: ICD–9–CM codes 260, 261, 262, 268.0, 268.1; ICD–10–CA codes E40–E43, E55.0, E64.3
- Failure to Thrive: ICD–9–CM code 783.4; ICD–10–CA code R62 (patients less than one year of age only)
- Pelvic Inflammatory Disease: ICD–9–CM code 614; ICD–10–CA codes N70, N73, N99.4 (female patients only, patients with a hysterectomy procedure coded are excluded, ICD–9–CM procedure codes 68.3–68.8; CCI codes 1.RM.87, 1.RM.89, 1.RM.91, 5.CA.89.CK, 5.CA.89.DA, 5.CA.89.GB, 5.CA.89.WJ, 5.CA.89.WK)
- Dental Conditions: ICD–9–CM codes 521, 522, 523, 525, 528; ICD–10–CA codes K02–K06, K08, K09.8, K09.9, K12, K13

For all ACS conditions above (except congenital syphilis), the ACS condition must be coded as the most responsible diagnosis. All Manitoba hospitals were included; PCHs and Long–term Care facilities were excluded (Deer Lodge and Riverview). Individuals who died in hospital were excluded from the numerator. The denominator includes all Manitoba residents age 0–74 as of December 31, 2000 and 2005.

**Hospitalization Rates for Injuries**

Definition: the number of hospital separations of area residents for which any injury code was included as one of the diagnoses (not necessarily the Most Responsible), per 1000 residents per year. In any given period, a resident could be hospitalized for injury more than once, so this measure indicates the total number of injury–related separations from acute care facilities by all residents of the area. This definition encompasses injuries by all causes (including self–inflicted). Rates were calculated for 1996/97–2000/01 and 2001/02–2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

Hospitalizations were defined as any inpatient hospitalization with an external cause of injury diagnosis code (also known as an E–code), ICD–9 CM codes E800–E999*; ICD–10–CA codes V01–Y89. Excluded from the count of hospitalizations due to injury are those related to medical error or drug complications, as follows:

- misadventures during surgical or medical care, ICD–9–CM codes E870–E876; ICD–10–CA codes Y60–Y69, Y88.1
- reactions or complications due to medical care, ICD–9–CM codes E878–E879; ICD–10–CA codes Y70–Y84, Y88.2, Y88.3
- adverse effects due to drugs, ICD–9–CM codes E930–E949; ICD–10–CA codes Y40–Y59, Y88.0

Transfers between hospitals were tracked and only hospital episodes were counted, not individual separations, to reduce double–counting injuries. All Manitoba hospitals were included; PCHs and Long–Term Care facilities were excluded (Riverview, Deer Lodge, Rehabilitation Centre for Children and Adolescent Treatment Centre). Newborn birth injuries or deaths, stillbirths and brain deaths were excluded.

**Hypertension**

Hypertension is often referred to as high blood pressure. It often has no symptoms, therefore hypertension is a major health problem. If left untreated, hypertension can lead to heart attack, stroke, enlarged heart, or kidney damage.

Definition: the proportion of residents age 19 or older diagnosed with hypertension in a one year period by either:

- at least one physician visit or one hospitalization (ICD–9–CM codes 401–405 (ICD–10–CA codes I10–I13, I15), or
- two or more prescriptions for hypertension drugs (listed below)

Values were calculated for two 1–year periods, 2000/01 and 2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period.

List of drugs used to treat hypertension:

| | ATC Code | Generic Drug Name |
|---|---|---|
| Antihypertensives | C02AB01 | Methyldopa (levorotatory) |
| | C02AB02 | Methyldopa (racemic) |
| | C02AC01 | Clonidine |
| | C02CA04 | Doxazosin |
| | C02CA05 | Terazosin |
| | C02DB02 | Hydralazine |
| | C02DC01 | Minoxidil |
| | C02KX01 | Bosentan |
| | C02LA01 | Reserpine and diuretics |
| | C02LB01 | Methyldopa (levorotatory) and diuretics |
| | G04CA03 | Terazosin |
| Diuretics | C03AA03 | Hydrochlorothiazide |
| | C03BA04 | Chlortalidone |
| | C03BA11 | Indapamide |
| | C03CA01 | Furosemide |
| | C03CA02 | Bumetanide |
| | C03CC01 | Etacrynic acid |
| | C03DA01 | Spironolactone |
| | C03DB01 | Amiloride |
| | C03DB02 | Triamterene |
| | C03EA01 | Hydrochlorothiazide and potassium–sparing agents |
| Beta Blocking Agents | C07AA02 | Oxprenolol |
| | C07AA03 | Pindolol |
| | C07AA05 | Propranolol |
| | C07AA06 | Timolol |
| | C07AA12 | Nadolol |
| | C07AB02 | Metoprolol |
| | C07AB03 | Atenolol |
| | C07AB04 | Acebutolol |
| | C07AB07 | Bisoprolol |
| | C07AG01 | Labetalol |
| | C07BA05 | Propranolol and thiazides |
| | C07BA06 | Timolol and thiazides |
| | C07CA03 | Pindolol and other diuretics |
| | C07CB03 | Atenolol and other diuretics |

| | ATC Code | Generic Drug Name |
|---|---|---|
| Calcium Channel Blockers | C08CA01 | Amlodipine |
| | C08CA02 | Felodipine |
| | C08CA04 | Nicardipine |
| | C08CA05 | Nifedipine |
| | C08CA06 | Nimodipine |
| | C08DA01 | Verapamil |
| | C08DB01 | Diltiazem |
| Agents Acting on the Renin–Angiotensin System | C09AA01 | Captopril |
| | C09AA02 | Enalapril |
| | C09AA03 | Lisinopril |
| | C09AA04 | Perindopril |
| | C09AA05 | Ramipril |
| | C09AA06 | Quinapril |
| | C09AA07 | Benazepril |
| | C09AA08 | Cilazapril |
| | C09AA09 | Fosinopril |
| | C09AA10 | Trandolapril |
| | C09BA02 | Enalapril and diuretics |
| | C09BA03 | Lisinopril and diuretics |
| | C09BA04 | Perindopril and diuretics |
| | C09BA06 | Quinapril and diuretics |
| | C09BA08 | Cilazapril and diuretics |
| | C09CA01 | Losartan |
| | C09CA02 | Eprosartan |
| | C09CA03 | Valsartan |
| | C09CA04 | Irbesartan |
| | C09CA06 | Candesartan |
| | C09CA07 | Telmisartan |
| | C09DA01 | Losartan and diuretics |
| | C09DA02 | Eprosartan and diuretics |
| | C09DA03 | Valsartan and diuretics |
| | C09DA04 | Irbesartan and diuretics |
| | C09DA06 | Candesartan and diuretics |
| | C09DA07 | Telmisartan and diuretics |

**Hypertension Mortality**
Definition: the cumulative five–year mortality rate among those with hypertension compared to those without hypertension from 2001/02–2005/06. Rates were age– and sex–adjusted to the Manitoba population 19+. Individuals were categorized as with or without hypertension in fiscal year 2000/01; their mortality rate was calculated in the subsequent five year period 2001/02–2005/06. The denominator is the Manitoba population age 19 and older as of April 1, 2001, who had at least one year of coverage prior to April 1, 2001, and were registered with MHHL until March 31, 2006 or death.

**Immunization**
An intervention to initiate or increase resistance against infectious disease.

**Immunizations for Adult Influenza**—see **Vaccination for Influenza**

**Immunizations for Pneumonia**—see **Vaccination for Pneumonia**

**Incidence**
Incidence is the number of new cases of a given event over a specified time period. The incidence rate uses only new cases in the numerator; individuals with a history of the condition are not included. The denominator for incidence rates is the population at risk. Even though individuals who have already developed the condition should be excluded from the denominator, incidence rates are often expressed based on the average population rather than the population at risk. In the case of chronic conditions, where most people appear to be at risk, the distinction between populations at risk and the whole population appears to be less critical.

**Income Quintiles**
An income quintile divides the population into five income groups (from lowest income to highest income) such that 20% of the population is in each group. The quintiles are based on enumeration area (EA) or dissemination area (DA) level average household income values from a public–use census files. We have created income quintiles within two population groups: urban (Winnipeg and Brandon) and rural (other Manitoba areas). Each person within an EA is "attributed" the average household income of the EA, so this is not an individual income but rather an area–level income measure.

**Injury Causes (Hospitalization and Death)**

The table below lists all injury codes in the ICD–9–CM system, which was used to measure injury mortality rates, injury hospitalization rates, and causes of injury hospitalization in this report.

| ICD-9 CM External Cause of Injury Categories | |
|---|---|
| **Motor Vehicle Accidents** | |
| E810 | Motor vehicle traffic accident involving collision with train |
| E811 | Motor vehicle traffic accident involving re-entrant collision with another vehicle |
| E812 | Other motor vehicle traffic accident involving collision with motor vehicle |
| E813 | Motor vehicle traffic accident involving collision with other vehicle |
| E814 | Motor vehicle traffic accident involving collision with pedestrian |
| E815 | Other motor vehicle traffic accident involving collision on the highway |
| E816 | Motor vehicle traffic accident due to loss of control, without collision on the highway |
| E817 | Noncollision motor vehicle traffic accident while boarding or alighting |
| E818 | Other noncollision motor vehicle traffic accident |
| E819 | Motor vehicle traffic accident of unspecified nature |
| E822 | Other motor vehicle nontraffic accident involving collision with moving object |
| E823 | Other motor vehicle nontraffic accident involving collision with stationary object |
| E824 | Other motor vehicle nontraffic accident while boarding and alighting |
| E825 | Other motor vehicle nontraffic accident of other and unspecified nature |

| **Other Vehicle Accidents** | |
|---|---|
| E800 | Railway accident involving collision with rolling stock |
| E801 | Railway accident involving collision with other object |
| E802 | Railway accident involving derailment without antecedent collision |
| E803 | Railway accident involving explosion, fire, or burning |
| E804 | Fall in, on, or from railway train |
| E805 | Hit by rolling stock |
| E806 | Other specified railway accident |
| E807 | Railway accident of unspecified nature |
| E820 | Nontraffic accident involving motor-driven snow vehicle |
| E821 | Nontraffic accident involving other off-road motor vehicle |
| E826 | Pedal cycle accident |
| E827 | Animal-drawn vehicle accident |
| E828 | Accident involving animal being ridden |
| E829 | Other road vehicle accident |
| E831 | Accident to watercraft causing other injury |
| E833 | Fall on stairs or ladders in water transport |
| E834 | Other fall from one level to another in water transport |
| E835 | Other and unspecified fall in water transport |
| E836 | Machinery accident in water transport |
| E837 | Explosion, fire, or burning in watercraft |
| E838 | Other and unspecified water transport accident |
| E840 | Accident to powered aircraft at takeoff or landing |
| E841 | Accident to powered aircraft, other and unspecified |
| E842 | Accident to unpowered aircraft |

| | |
|---|---|
| E843 | Fall in, on, or from aircraft |
| E844 | Other unspecified air transport accidents |
| E845 | Accident involving spacecraft |
| E846 | Accidents involving powered vehicles used solely within the buildings and premises of industrial or commercial establishment |
| E847 | Accidents involving cable cars not running on rails |
| E848 | Accidents involving other vehicles, not elsewhere classified |

| **Poisoning** | |
|---|---|
| E850 | Accidental poisoning by analgesics, antipyretics, and antirheumatics |
| E851 | Accidental poisoning by barbiturates |
| E852 | Accidental poisoning by other sedatives and hypnotics |
| E853 | Accidental poisoning by tranquilizers |
| E854 | Accidental poisoning by other psychotropic agents |
| E855 | Accidental poisoning by other drugs acting on central and autonomic nervous system |
| E856 | Accidental poisoning by antibiotics |
| E857 | Accidental poisoning by other anti-infectives |
| E858 | Accidental poisoning by other drugs |
| E860 | Accidental poisoning by alcohol, not elsewhere classified |
| E861 | Accidental poisoning by cleansing and polishing agents, disinfectants, paints, and varnishes |
| E862 | Accidental poisoning by petroleum products, other solvents and their vapors, not elsewhere classified |
| E863 | Accidental poisoning by agricultural and horticultural chemical and pharmaceutical preparations other than plant food and fertilizers |
| E864 | Accidental poisoning by corrosives and caustics, not elsewhere classified |
| E865 | Accidental poisoning from poisonous foodstuffs and poisonous plants |
| E866 | Accidental poisoning by other and unspecified solid and liquid substances |
| E867 | Accidental poisoning by gas distributed by pipeline |
| E868 | Accidental poisoning by other utility gas and other carbon monoxide |
| E869 | Accidental poisoning by other gases and vapors |
| E980 | Poisoning by solid or liquid substance, undetermined whether accidentally or purposely inflicted |
| E981 | Poisoning by gases in domestic use, undetermined whether accidentally or purposely inflicted |
| E982 | Poisoning by other gases, undetermined whether accidentally or purposely inflicted |

| **Accidental Falls** | |
|---|---|
| E880 | Fall on or from stairs or steps |
| E881 | Fall on or from ladders or scaffolding |
| E882 | Fall from or out of building or other structure |
| E883 | Fall into hole or other opening in surface |
| E884 | Other fall from one level to another |
| E885 | Fall on same level from slipping, tripping, or stumbling |
| E886.9 | Fall on same level from collision, pushing, or showing, by or with other person - Other and unspecified |
| E888 | Other and unspecified fall |

| Accidents Caused by Fire and Flames | |
|---|---|
| E890 | Conflagration in private dwelling |
| E891 | Conflagration in other and unspecified building or structure |
| E892 | Conflagration not in building or structure |
| E893 | Accident caused by ignition of clothing |
| E894 | Ignition of highly flammable material |
| E895 | Accident caused by controlled fire in private dwelling |
| E896 | Accident caused by controlled fire in other and unspecified building or structure |
| E897 | Accident caused by controlled fire not in building or structure |
| E898 | Accident caused by other specified fire and flames |
| E899 | Accident caused by unspecified fire |

| Accidents Due to Natural and Environmental Factors | |
|---|---|
| E900 | Excessive heat |
| E901 | Excessive cold |
| E902 | High and low air pressure and changes in air pressure |
| E903 | Travel and motion |
| E904 | Hunger, thirst, exposure and neglect |
| E905 | Venomous animals and plants as the cause of poisoning and toxic reactions |
| E906 | Other injury caused by animals |
| E907 | Lightning |
| E908 | Cataclysmic storms, and floods resulting from storms |
| E909 | Cataclysmic earth surface movements and eruptions |
| E928.0 | Prolonged stay in weightless environment |
| E928.1 | Exposure to noise |
| E928.2 | Vibration |
| E928.6 | Environmental exposure to harmful algae and toxins |

| Drowning and Submersion | |
|---|---|
| E830 | Accident to watercraft causing submersion |
| E832 | Other accidental submersion or drowning in water transport accident |
| E910 | Accidental drowning and submersion |
| E974 | Injury due to legal intervention by cutting and piercing instrument |
| E975 | Injury due to legal intervention by other specified means |
| E976 | Injury due to legal intervention by unspecified means |
| E977 | Late effects of injuries due to legal intervention |
| E978 | Legal execution |
| E928.3 | Human bite |

| Accidents Caused by Foreign Bodies | |
|---|---|
| E914 | Foreign body accidentally entering eye and adnexa |
| E915 | Foreign body accidentally entering other orifice |

| Struck by Objects, Caught Between Objects | |
|---|---|
| E916 | Struck accidentally by falling object |
| E917 (except E917.0, E917.5) | Striking against or struck accidentally by objects or persons |
| E918 | Caught accidentally between objects |

| Accidents Caused by Machinery, Explosions, Electricity | |
|---|---|
| E919 | Accidents caused by machinery |
| E920 | Accidents caused by cutting and piercing instruments or objects |
| E921 | Accident caused by explosion of pressure vessel |
| E922 | Accident caused by firearm missile |
| E923 | Accident caused by explosive material |
| E924 | Accident caused by hot substance or object, caustic or corrosive material, and steam |
| E925 | Accident caused by electric current |
| E926 | Exposure to radiation |

| Overexertion, Strenuous Movements | |
|---|---|
| E927 | Overexertion and strenuous movements |

| Injuries Due to War Operations | |
|---|---|
| E990 | Injury due to war operations by fires and conflagrations |
| E991 | Injury due to war operations by bullets and fragments |
| E992 | Injury due to war operations by explosion of marine weapons |
| E993 | Injury due to war operations by other explosion |
| E994 | Injury due to war operations by destruction of aircraft |
| E995 | Injury due to war operations by other and unspecified forms of conventional warfare |
| E996 | Injury due to war operations by nuclear weapons |
| E997 | Injury due to war operations by other forms of unconventional warfare |
| E998 | Injury due to war operations but occurring after cessation of hostilities |
| E999 | Late effect of injury due to war operations |

| Injuries Undetermined as Accidental or Purposely Inflicted | |
|---|---|
| E983 | Hanging, strangulation, or suffocation, undetermined whether accidentally or purposely inflicted |
| E984 | Submersion [drowning], undetermined whether accidentally or purposely inflicted |
| E985 | Injury by firearms and explosives, undetermined whether accidentally or purposely inflicted |
| E986 | Injury by cutting and piercing instruments, undetermined whether accidentally or purposely inflicted |
| E987 | Falling from high place, undetermined whether accidentally or purposely inflicted |
| E988 | Injury by other and unspecified means, undetermined whether accidentally or purposely inflicted |

| Other Unspecified Accidents | |
|---|---|
| E887 | Fracture, cause unspecified |
| E928 | Other and unspecified environmental and accidental causes |
| E928.8 | Other environmental and accidental causes |
| E928.9 | Unspecified accident |

**Injury Hospitalizations**—see **Hospitalization Rates for Injuries**

**Injury Mortality**
Definition: the number of deaths due to injury, per 1000 area residents per year, based on Vital Statistics death codes. This included all 'E–codes' in the ICD–9–CM system (1996–1999), and the corresponding codes in ICD–10–CA (2000–2005), except those for misadventures, reactions, complications, or adverse effects of medical, surgical or pharmaceutical treatments (listed below). Suicides were included in injury mortality rates and are shown separately in Section 3.10. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

Excluded from the count of deaths due to injury are those related to medical error and drug complications as follows:

- misadventures during surgical or medical care, ICD–9–CM codes E870–E876; ICD–10–CA codes Y60–Y69, Y88.1
- reactions or complications due to medical care, ICD–9–CM codes E878–E879; ICD–10–CA codes Y70–Y84, Y88.2, Y88.3
- adverse effects due to drugs, ICD–9–CM codes E930–E949; ICD–10–CA codes Y40–Y59, Y88.0

**Injury Mortality Causes**
Definition: the distribution of causes of injury deaths by major ICD–9–CM sub–groups of injury causes, based on Vital Statistics files. This included all 'E–codes' in the ICD–9–CM system, excluding those for misadventures, reactions, complications, or adverse effects of medical, surgical or pharmaceutical treatments (see list in Injury Mortality). From January 1, 2000, Vital Statistics data were coded using ICD–10–CA, so these codes were converted to ICD–9–CM codes using the conversion file created by the Canadian Institute for Health Information. Results are shown for Manitoba and for the aggregate areas, but not by RHA due to the relatively small number of injury deaths by cause in smaller areas.

**Ischemic Heart Disease (IHD)**
Ischemia is a condition in which blood flow (and thus oxygen) is restricted to a part of the body, usually due to narrowing of the arteries. 'Ischemic heart disease' refers to heart problems caused by narrowed heart arteries. This is also known as coronary artery disease or coronary heart disease. It can ultimately lead to heart attack.

Definition: the proportion of residents age 19 or older diagnosed with ischemic heart disease in a five–year period, through either:

- at least two physician visits or one hospitalization for IHD (ICD–9–CM codes 410–414, ICD–10 codes I20–I22, I24, I25), or
- at least one physician visit with a code listed above and two or more prescriptions for IHD medications (listed below)

Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (19+) in the first time period.

List of drugs used to treat IHD:

| | ATC Code | Generic Drug Name |
|---|---|---|
| Cardiac Therapy Drugs | C01DA02 | Glyceryl trinitrate |
| | C01DA05 | Pentaerithrityl tetranitrate |
| | C01DA08 | Isosorbide dinitrate |
| | C01DA14 | Isosorbide mononitrate |
| | C01EB09 | Ubidecarenone |
| Beta Blocking Agents | C07AA02 | Oxprenolol |
| | C07AA03 | Pindolol |
| | C07AA05 | Propranolol |
| | C07AA06 | Timolol |
| | C07AA12 | Nadolol |
| | C07AB02 | Metoprolol |
| | C07AB03 | Atenolol |
| | C07AB04 | Acebutolol |
| | C07AB07 | Bisoprolol |
| | C07AG01 | Labetalol |
| | C07BA05 | Propranolol and thiazides |
| | C07BA06 | Timolol and thiazides |
| | C07BA12 | Nadolol and thiazides |
| | C07CA03 | Pindolol and other diuretics |
| | C07CB03 | Atenolol and other diuretics |
| Calcium Channel Blockers | C08CA01 | Amlodipine |
| | C08CA02 | Felodipine |
| | C08CA04 | Nicardipine |
| | C08CA05 | Nifedipine |
| | C08CA06 | Nimodipine |
| | C08DA01 | Verapamil |
| | C08DB01 | Diltiazem |
| Agents Acting on the Renin–Angiotensin System | C09AA01 | Captopril |
| | C09AA02 | Enalapril |
| | C09AA03 | Lisinopril |
| | C09AA04 | Perindopril |
| | C09AA05 | Ramipril |
| | C09AA06 | Quinapril |
| | C09AA07 | Benazepril |
| | C09AA08 | Cilazapril |
| | C09AA09 | Fosinopril |
| | C09AA10 | Trandolapril |
| | C09BA02 | Enalapril and diuretics |
| | C09BA03 | Lisinopril and diuretics |
| | C09BA04 | Perindopril and diuretics |
| | C09BA06 | Quinapril and diuretics |
| | C09BA08 | Cilazapril and diuretics |
| | C09CA01 | Losartan |
| | C09CA02 | Eprosartan |
| | C09CA03 | Valsartan |
| | C09CA04 | Irbesartan |
| | C09CA06 | Candesartan |
| | C09CA07 | Telmisartan |
| | C09DA01 | Losartan and diuretics |
| | C09DA02 | Eprosartan and diuretics |
| | C09DA03 | Valsartan and diuretics |
| | C09DA04 | Irbesartan and diuretics |
| | C09DA06 | Candesartan and diuretics |
| | C09DA07 | Telmisartan and diuretics |
| Other | C02LA01 | Reserpine and diuretics |
| | C03AA03 | Hydrochlorothiazide |

**Ischemic Heart Disease (IHD) Mortality**
This is the crude and adjusted mortality rate for residents age 19 and older with and without IHD. Individuals were categorized as with or without IHD in the five–fiscal–year period 1996/97–2000/01; their mortality rate was calculated in the subsequent five year period, 2001/02–2005/06. The denominator is the Manitoba population age 19 and older as of April 1, 2001, who had at least five years of coverage prior to April 1, 2001, and were registered with MHHL until March 31, 2006 or death.

**International Classification of Disease (ICD) Chapters**
The 9th (with Clinical Modifications) and 10th versions of the ICD coding system were developed by the World Health Organization (WHO) and are used to classify diseases, health conditions, and procedures. The Canadian version of ICD–10, the ICD–10–CA, was developed by the Canadian Institute for Health Information (CIHI) and is based on the WHO ICD–10.

The ICD–9–CM chapters are: (1) Infectious and Parasitic Diseases, (2) Neoplasms (i.e., Cancer), (3) Endocrine, Nutritional and Metabolic Diseases, (4) Diseases of the Blood and Blood–forming Organs, (5) Mental Disorders, (6) Diseases of the Nervous System and Sense Organs, (7) Diseases of the Circulatory System, (8) Diseases of the Respiratory System, (9) Diseases of the Digestive System, (10) Diseases of the Genitourinary System, (11) Complications of Pregnancy, Childbirth and the Puerperium, (12) Diseases of the Skin and Subcutaneous Tissue, (13) Diseases of the Musculoskeletal System and Connective Tissue, (14) Congenital Anomalies, (15) Certain Conditions Originating in the Perinatal Period, (16) Symptoms, Signs and Ill–Defined Conditions, and (17) Injury and Poisoning. To allow fair comparisons overtime, diagnoses and causes of death coded in ICD–10–CA were converted to ICD–9–CM codes and then grouped according to the chapters above.

**Knee Replacement Surgery**—see **Total Knee Replacement**

**Level of Care on Admission to PCH**—see **Personal Care Home, Level of Care on Admission**

**Life Expectancy at Birth**
Definition: the expected length of life from birth, based on the patterns of mortality in the population for the preceding five years. Data were analyzed for two 5–year periods: 1996–2000 and 2001–2005. Values are not age–adjusted; they are calculated directly from the mortality experience of local residents using the 'life table' approach. Note: even small differences in life expectancy values imply important differences in health status. It has been estimated that if all cancers could be eradicated, life expectancy would increase by approximately 3.8 years for males, and 3.4 years for females. (Mackenbach et al., 1999)

**Life Satisfaction (CCHS Survey Data—Chapter 14)**
Subjective life satisfaction is a measure of an individual's perceived level of well–being and happiness and has been shown to be positively correlated with health status.

Question: all participants were asked "How satisfied are you with your life in general: Very satisfied, Satisfied, Neither satisfied nor dissatisfied, Dissatisfied, or Very dissatisfied?"

Definition: respondents were grouped into two categories: Very satisfied versus all other responses (the low frequency of the last three responses prevented further refinement). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 2.1 and 3.1 (2003–2005).

**Limitation of Activities (CCHS Survey Data—Chapter 14)**
According to the Public Health Agency of Canada, approximately one in eight Canadians have a physical or mental disability. Disabilities can range from mild limitations such as back pain, to moderate limitations such as arthritis, to severe limitations such as paraplegia. Individuals living with disabilities can face challenges with their daily activities, from climbing a flight of stairs to dressing and feeding themselves.

In the CCHS, participation and activity limitation is a derived variable that classifies respondents according their responses to questions on the frequency with which they experience activity limitations imposed on them by a condition(s) or by long–term physical and/or mental health problems that has lasted or is expected to last six months or more, for example, "Does a long–term physical condition or mental condition or health problem, reduce the amount or the kind of activity you can do at home?"

Definition: respondents are grouped into two categories, 'Has limitations' or 'No limitations' based on their responses to several questions regarding physical or mental problems that last six months or longer. The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 2.1 and 3.1 (2003–2005).

**Lower Limb Amputations Among Residents with Diabetes**
Definition: the percentage of residents with diabetes (age 19+) who had a lower limb amputation (below or including the knee) in a five–year period. Amputation was defined by ICD–9–CM procedure codes 84.1–84.17 (CCI codes: 1.VC.93, 1.VG.93, 1.VQ.93, 1.WA.93, 1.WE.93, 1.WJ.93, 1.WL.93, 1.WM.93) in any procedure field. Amputations associated with accidental injury were excluded (see below for codes). Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population age 19+ in the first time period.

Exclusions for accidental injury: ICD–9–CM diagnosis codes 895, 896, 897 or ICD–10–CA codes S78, S88, S98, T05.3, T05.4, T05.5, T13.6)

**Magnetic Resonance Imaging (MRI) Scans**
Another way to take pictures of the inside of the body, MRI uses magnetism and radio waves. It produces much more detailed images than X–rays because of its ability to separate different types of tissues. MRI can be used to look at any area of the body and is especially useful in diagnosing disease within the soft tissues of the head, spinal cord, kidneys, urinary tract, pancreas, and liver, as well as, tendon and ligament damage in joints.

In this study, the crude and adjusted rate of MRIs per 1,000 residents age 20 and older was measured over two 2–year periods: 2001/02–2002/03 and 2004/05–2005/06. MRIs were defined by a physician claim with tariff codes 7501–7528. The denominator includes all Manitoba residents age 20 and older as of December 31 of each year (2001–2002 and 2004–2005).

**Mammography Rates (Breast Cancer Detection)**
Mammography is a procedure to determine if a woman has breast cancer; it is commonly used for breast cancer screening. Manitoba introduced a province–wide breast screening program in 1995 which is operated by the Manitoba Breast Screening Program of CancerCare Manitoba. It is recommended that all women between 50 and 69 years of age be screened every two years for breast cancer.

Definition: the proportion of women age 50–69 that had at least one mammogram in a two–year period. This included screening and diagnostic mammograms, identified by physician tariffs 7098, 7099, or 7104. Rates were calculated for two 2–year periods, 1999/00–2000/01 and 2004/05–2005/06, and adjusted to the female population age 50–69 in the first period.

- 7098 (Radiology, Intraluminal Dilatation, Mammography, Bilateral)
- 7099 (Radiology, Intraluminal Dilatation, Mammography, Unilateral)
- 7104 (Screening Mammography Bilateral)

**Manitoba Health and Healthy Living (MHHL)**
Manitoba Health and Health Living is a term describing two provincial government departments in Manitoba responsible for health care services and healthy living initiatives.

**Manitoba Immunization Monitoring System (MIMS)**
The Manitoba Immunization Monitoring System (MIMS) is a population–based monitoring system that provides monitoring and reminders to help achieve high levels of immunization. Immunization status is monitored by comparing the system record and the recommended schedule.

**Mid**
Mid is an aggregate geography area which includes all of the RHAs in central Manitoba—Interlake, North Eastman and Parkland.

**Modeling and Adjustment of Rates**
To estimate and compare most adjusted rates of events in this report, the count of events for each indicator was modeled using a generalized linear model (GLM). GLMs are used to model non–normal data, such as count data. Essentially, when data follows a non–linear distribution, a link function transforms the data so that the non–linear response can be analyzed using linear regression techniques. Non–linear distributions chosen to model data in this report were the Poisson distribution, negative binomial distribution or binomial distribution, depending on which distribution provided the best fit to the data.

Covariates included in the model varied depending on the indicator under study, but all models contained covariates describing geography (reference=Manitoba) and time (reference=first time period), as well as the geography by time interaction. If appropriate, models also included covariates to control for age (linear and quadratic terms) and/or sex (reference=female).

To generate the adjusted rates, relative risks were estimated for each region and time period. To estimate relative risks of rates rather than events, the log of the population count in each stratum was included in the model as an offset. Relative risks were calculated from the parameter estimates of the model for each region, as well as for each time period within each region. Contrasts were used to compare the relative risks between time periods within a region or to compare the relative risks between a region and the province as a whole. The values obtained from the contrasts were actually a linear combination of the natural logarithm of the parameter estimates, so an exponential transformation was necessary to obtain estimates of relative risk of events in their original scale. Finally, the adjusted rates were calculated by multiplying the Manitoba crude reference rate by the appropriate relative risk estimate.

CCHS rates were age– and sex–adjusted using a direct standardization method as opposed to age– and sex–adjustment within a modelling framework. All CCHS rates were standardized to population–weighted pooled CCHS cycles 1.1, 2.1, 2.2, and 3.1. Rates were first calculated from the CCHS sample, and then weighted to the entire Manitoba population (excluding First Nations people living on reserve) using the full sample weights provided by Statistics Canada. Confidence intervals were calculated for rates from the standard error estimated using the 500 bootstrap weights. Comparisons between rates were performed by first calculating the difference between two rates using the full sample weights, then bootstrapping that difference using the 500 bootstrap weights to obtain an estimate of the error of the difference. Then, the 99% confidence interval of the difference was calculated using the bootstrapped standard error. If the confidence interval of the difference did not contain zero, then there was a significant difference between the rates for the indicator under study.

**Mortality Rates**–see **Total Mortality Rates**

**North**
North is an aggregate geography which includes all of the northern RHAs—Burntwood, NOR–MAN, and Churchill.

**Number of Different Types of Drugs Dispensed per User**
This is the average number of different types of drugs prescribed to each resident who had at least one prescription in the year. Each pharmaceutical agent that falls under a different fourth–level ATC class is counted as a new drug for each resident (see also Anatomical Therapeutic Chemical Classification). This essentially separates drugs used for different health problems and avoids double–counting prescriptions for drugs in the same group.

Definition: the average number of different types of drugs dispensed to each resident who had at least one prescription in the year. A 'different' drug type was determined by fourth–level class of the Anatomic, Therapeutic, Chemical (ATC) classification system. This level essentially separates drugs used for different health problems. A person could have several prescriptions for drugs in the same 4th level ATC class, but this would only count as one drug type in that year. Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Osteoporosis**
Osteoporosis is a disease that leads to a reduction in bone density, making bones more likely to break.

Definition: the proportion of residents age 50 or older diagnosed with osteoporosis in a three–year period, through either:

- at least one physician visit or hospitalization for any of the following diagnoses:
  - osteoporosis, ICD–9 CM code 733.0; ICD–10–CA code M81
  - hip fracture, ICD–9 CM code 820–821; ICD–10–CA code S72
  - spine fracture, ICD–9 CM code 805; ICD–10–CA codes S12.0–S12.2, S12.7, S12.9, S22.0, S22.1, S32.0–S32.2, T08
  - humerus fracture, ICD–9 CM code 812; ICD–10–CA codes S42.2–S42.4
  - wrist fracture (radius, ulna and carpal bones), ICD–9 CM code 813–814; ICD–10–CA codes S52, S62.0, S62.1, or
- one or more prescriptions for medications to treat osteoporosis (listed below)

Values were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and were age– and sex–adjusted to the Manitoba population (50+) in the first time period.

Notes:

- fractures in hospital associated with a diagnosis code for a major trauma were excluded: ICD–9–CM codes 925–929, E800–E848; ICD–10–CA codes S07, S17, S18, S28.0, S38, S47, S57, S67, S77, S87, S97, T04, T14.7, V01–V99.
- This definition will under–count the true number of fractures because some will have been treated in Emergency Departments at which individual–level physician claims data are not routinely collected; this includes urban community hospitals and many rural hospitals.

List of drugs used to treat osteoporosis:

| | ATC Code | Generic Drug Name |
|---|---|---|
| Selective Estrogen Receptor Modulators | G03XC01 | Raloxifene |
| Parathyroid Hormones and Analogues | H05AA02 | Teriparatide |
| Calcitonin Preparations | H05BA01 | Calcitonin (salmon synthetic) |
| Bisphosphonates | M05BA01 | Etidronic acid |
| | M05BA02 | Clodronic acid |
| | M05BA03 | Pamidronic acid |
| | M05BA04 | Alendronic acid |
| | M05BA07 | Risedronic acid |
| | M05BB01 | Etidronic acid and calcium, sequential |

**Osteoporosis Mortality**

This is the crude and adjusted mortality rate for residents age 50 and older with and without osteoporosis. Individuals were categorized as with or without osteoporosis in the three–fiscal–year period, 1998/99–2000/01, and their mortality rate was calculated in the subsequent five–year period, 2001/02–2005/06. The denominator is the Manitoba population age 50 and older as of April 1, 2001, who had at least three years of coverage prior to April 1, 2001, and were registered with MHHL until March 31, 2006 or death.

**Papanicolaou Tests (Cervical Cancer Detection)**

A Papanicolaou ('Pap') test, used primarily for cervical cancer screening, is based on the examination of cells collected from the cervix to reveal pre–malignant (before cancer) and malignant (cancer) changes, as well as, changes due to non–cancerous conditions such as inflammation from infections.

Definition: the proportion of women age 18–69 who received at least one Pap test in a three–year period. This was defined by a physician visit with a tariff code for a Pap test, including a visit for a physical or regional exam with a Pap test (tariffs 8470, 8495, 8496, 8498), or a visit for Pap testing only (9795), or a laboratory tariff code 9470. Rates were calculated for two 3–year periods, 1998/99–2000/01 and 2003/04–2005/06, and adjusted to the female population age 18–69 in the first period.

Description of tariffs included:

- A physician visit with a tariff code for a Pap test:
  - 8470–regional gynaecological exam, including cytological smear of the cervix, provided by a GP/FP
  - 8495–complete physical and gynaecological exam, including cytological smear of the cervix, provided by an OB/GYN specialist
  - 8496–regional gynaecological exam, including cytological smear of the cervix, provided by an OB/GYN specialist

    - 8498–complete physical and gynaecological exam, including cytological smear of the cervix, provided by a GP/FP
    - 9795–cytological smear of the cervix for cancer screening
- A pathology or laboratory claim with a tariff code for a Pap test:
    - 9470–Cytological Examination–Vaginal Smear

If a laboratory claim and a physician visit claim for the same individual are within 54 days of each other (as the majority are), they are counted as one Pap test in order to reduce double counting. If there was 55 or more days between the visit claim and the lab claim, then they were taken to indicate two separate tests.

In some areas, Pap tests were also performed by nurses, but these services do not appear in administrative data, so could not be included in this analysis. However, this does not apply to Nurse Practitioners whose activity could be recorded in medical claims data as of July 2005 and which did contribute to pap testing rate calculations.

Women who had a complete hysterectomy were excluded from both the numerator and denominator. Hysterectomy surgeries were defined by hospital separations with ICD–9–CM procedure codes 68.4–68.9 and CCI codes 1.RM.89, 1.RM.91, 5.CA.89.CK, 5.CA.89.DA, 5.CA.89.GB, 5.CA.89.WJ and 5.CA.89.WK. These codes cover only total hysterectomies, not partial, as women who have a partial hysterectomy may still have a cervix and would require cervical cancer screening.

**Percutaneous Coronary Interventions (PCI)**
Percutaneous ccoronary interventions (PCI) include percutaneous transluminal coronary angioplasty (PTCA) procedures, commonly known as 'angioplasty' or 'balloon angioplasty'. These procedures treat the narrowed coronary arteries of the heart often found in people with coronary heart disease. Angioplasty procedures use a balloon–tipped catheter to enlarge a narrowing in a coronary artery and, if necessary, a small lattice–shaped metal tube called a stent is inserted permanently into the artery to help hold it open so blood can flow through it more easily. In the first time period, 76% of angioplasty procedures also involved a stent insertion; in the second time period, 95% also had stents.

Definition: the number of percutaneous transluminal coronary angioplasty procedures (with or without stent insertion) performed on area residents age 40 or older, per 1000 residents age 40 or older. This includes ICD–9–CM procedure codes 37.21–37.23, 88.52–88.57, CCI codes 1.IJ.50 and 1.IJ.57 in any procedure field in a hospital abstract (inpatient or outpatient). Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– and sex–adjusted to the Manitoba population 40+ in the first time period.

PCI procedures were only performed at the two tertiary hospitals (Health Sciences Centre and St Boniface General Hospital), so only hospital separations from those two hospitals were included in the analysis in order to eliminate the potential for double–counting of procedures.

**Personal Care Homes (PCH)**
Personal care homes, sometimes referred to as nursing homes, are residential facilities for persons with chronic illness or disability, predominantly older adults. In Manitoba, personal care homes can be proprietary (for profit) or non–proprietary. Non–proprietary homes can be secular or ethnocultural (associated with a particular religious faith or language) as well as either freestanding or juxtaposed with an acute care facility.

**Personal Care Home, Admissions**
Definition: the percentage of area residents age 75+ admitted to a PCH in a year (values shown are the annual average for a two–year period). Area of residence was assigned based on where people lived at the time, which is determined by the location of the PCH (see Sections 10.7 and 10.8). Rates are shown for 1999/00–2000/01 and 2004/05–2005/06 and are age– and sex–adjusted to the population of Manitoba (75+) in the first time period.

**Personal Care Home, Bed Supply**
Definition: the number of PCH beds per thousand residents aged 75+. Bed counts were taken from the Manitoba Health and Healthy Living PCH bed map. Data are shown for two 2–year periods: 1999/00–2000/01 and 2004/05–2005/06.

**Personal Care Home, Level of Care on Admission**
Definition: the distribution of levels of care assigned to PCH residents at the time of their admission. Level 1 represents the lowest level of need, and Level 4 represents the highest. These are crude rates only; statistical testing was not done on these values.

**Personal Care Home, Median Length of Stay by Level of Care**
Definition: the median length of stay (in years) of PCH residents, according to their level of care on admission. The median length of stay is the amount of time which half of all residents stayed. For example, in 1999/00–2000/01, the median was 2.33 years overall, so half of all residents stayed less than 2.33 years and half stayed longer. These are crude values only; statistical testing was not done on these values.

**Personal Care Home, Median Wait Time for Admission**
Definition: the amount of time it took for half of all residents to be admitted, after being assessed as requiring PCH placement. For example, in 1999/00–2000/01, the median wait time was nine weeks, so half of all PCH admittants waited less than nine weeks from assessment to admission, while half waited longer.

**Personal Care Home, Residents**
Definition: the percentage of area residents age 75+ living in a PCH in a year (values shown are the annual average for a two–year period). Area of residence was assigned based on where people lived at the time, which is determined by the location of the PCH (see Sections 10.7 and 10.8). Rates are shown for 1999/00–2000/01 and 2004/05–2005/06 and are age– and sex–adjusted to the population of Manitoba (75+) in the first time period.

**Personal Care Home, Where PCH Residents Came From Prior to Admission**
Definition: the location where PCH residents age 75+ lived prior to their first admission, using the following categories: (i) RHA Residents, (ii) Residents of Other RHAs, (iii) Residents of Winnipeg. This indicator covers two 2–year periods: 1999/00–2000/01 and 2004/05–2005/06. Churchill RHA was excluded as there were no admissions for Churchill residents during the study period. These are crude values only; statistical testing was not done on these values.

**Personal Care Home, Where RHA Residents Went for PCH Admission**
Definition: the location where RHA residents age 75+ went to for their first PCH admission, using the following categories: (i) RHA PCH, (ii) Other RHA PCH, (iii) Winnipeg PCH. This indicator covers two 2–year periods: 1999/00–2000/01 and 2004/05–2005/06. Churchill RHA was excluded as there were no admissions for Churchill residents during the study period. These are crude values only; statistical testing was not done on these values.

**Personality Disorders**
Personality disorders are a class of mental illnesses characterized by chronic behavioral and relationship patterns that often cause serious personal and social difficulties, as well as a general impairment of functioning.

Definition: the percentage of residents age 10 or older diagnosed with ICD–9–CM code 301 (ICD–10–CA codes F34.0, F60, F61, F62, F68.1, F68.8, F69) in hospital abstracts or physician claims. Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Pharmaceutical Use**
This is a measure of the total number of prescriptions per resident and includes any prescription medication captured in Manitoba's Drug Programs Information Network (DPIN).

Definition: the proportion of residents who had at least one prescription dispensed in a given year. This includes all prescriptions dispensed from community–based pharmacies across the province (prescription drugs given to hospitalized patients are not included). Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Physical Functioning (CCHS Survey Data—Chapter 14)**
The physical functioning scale is a summary measure from the SF–36, indicating a person's ability to perform a variety of physical tasks from dressing and bathing, to walking one block, to vigorous exercise.

Definition: the physical functioning scale is a derived measure from the SF–36 questionnaire, addressing basic physical functioning on a scale of 0 to 100 (0 meaning unable to bathe or dress or walk one block; 100 meaning capable of vigorous activity). A majority of respondents received a perfect score, so this indicator shows the age– and sex–adjusted proportion of the population with a score of 100 vs all others. Results from cycles 2.1 and 3.1 (2003–2005) were included.

**Physician Claims**
These are claims for payment submitted to the provincial government by physicians for services they provide. Fee–for–service physicians receive payment based on these claims, while those submitted by salaried physicians are only for administrative purposes (sometimes referred to as "shadow billing"). The physician claims data file is part of the Population Health Research Data Repository.

**Physician Visits**–see **Ambulatory Visits**)

**Population Pyramids (Population Profile)**
This is a picture showing the age and sex distribution of a population. Most developing countries have a population pyramid triangular in shape, indicating a very young population with few people in the oldest age brackets. Most developed countries have a population pyramid that looks more rectangular with more elderly expanding the "top part" of the pyramid.

Definition: a population pyramid is a graph showing the age and sex composition of the population. The percentage (or actual number) of residents within each five–year age group (0–4, 5–9, etc, up to 90+ years old) is shown for both males (on the left side of the graph) and females (on the right side). In this report, there are two types of population pyramids shown for each RHA:

a. The first pyramid is a comparison of one RHA to the Manitoba population on December 31, 2005, showing the percentage of males and females in each five–year age category. For each RHA and for Manitoba, the male plus female bars add up to 100%.

b. The second pyramid shows how each RHA has changed over time. The RHA population on December 31, 2000 is compared with that on December 31, 2005, showing the actual number of males and females in each five–year age category (males on the left, females on the right). The numbers in each of the bars add up to the total population for that RHA in each year.

**Population Registry**
This refers to the Research Registry, which contains de–identified data on the insured population organized by family registration numbers. The research registry contains information on dates of coverage, marital status, and place of residence (by postal code and municipal code only; no addresses are contained in the file). Annual snapshots of this data have been received since 1970; marital status has been reconstructed from the family information. A massive programming effort maintained over many years has joined these snapshot files together such that individual histories can be constructed over the entire period of the data base. This results in the creation of the longitudinal population registry; many checks have been done on this registry. Software has been developed to facilitate longitudinal follow–up or mobility, migration, and mortality.

**Post–Myocardial Infarction Care: Beta–Blocker Prescribing**
Beta–blockers, properly known as beta–adrenergic blocking drugs, have been shown to lower the risk of subsequent heart attacks after patients have suffered an AMI.

Definition: the proportion of patients age 20+ hospitalized for Acute Myocardial Infarction (ICD–9 CM code 410; ICD–10 code XX) who filled at least one prescription for a beta–blocker (ATC C07AA, C07AB) within four months of their AMI. Patients with a diagnosis of asthma, COPD, or peripheral vascular disease were excluded because beta–blockers are contra–indicated for those patients. Crude rates were calculated for two 5–year periods: 1996/97–2000/01 and 2001/02–2005/06.

Patients with a hospitalization for AMI in the preceding three years were also excluded to remove those experiencing multiple heart attacks in a relatively short period.

Exclusions for contra–indications:

- asthma, ICD–9–CM code 493; ICD–10–CA code J45
- chronic obstructive pulmonary disease, ICD–9–CM codes 491 and 492; ICD–10–CA codes J41–J44
- peripheral vascular disease, ICD–9–CM codes 443 and 459; ICD–10–CA codes I73, I79.2, I87

**Potential Years of Life Lost (PYLL)**
PYLL is an indicator of early death (before age 75), which gives greater weight to deaths occurring at a younger age than to those at later ages. PYLL emphasizes the loss to society of the potential contribution that younger individuals can make. By emphasizing the loss of life at an early age, PYLL focuses attention on the need to deal with the major causes of early deaths, such as injury, in order to improve health status. For example, the death of a 50–year old contributes '1 death' to premature mortality, but '25 years' to PYLL; whereas the death of a 70–year old also contributes '1 death' to premature mortality, but only '5 years' to PYLL.

Definition: the number of potential years of life lost among area residents dying between the ages of 1 and 74, per 1000 residents age 1–74. For each death, the PYLL value is calculated as: PYLL = 75 – age at death. This indicator has some similarity to premature mortality and life expectancy, but PYLL is more sensitive to deaths at younger ages (beyond infancy). Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Premature Mortality Rate (PMR)**
Premature mortality rates are often used as an overall indicator of population health status and are correlated with other commonly used measures. It is an important indicator of general health of a population with high premature mortality rates indicating poor health. See Chapter 1 for a more thorough discussion.

Definition: the number of deaths among area residents under 75 years old, per 1000 residents under 75, per year. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period. (See Chapter 1 for a more thorough discussion of the meaning and interpretation of premature mortality rates.)

**Prevalence**
The term prevalence refers to the proportion of the population that has a given disease at a given time. The administrative data used for this study do not directly indicate who has a disease, but rather who received health services treatment for that disease; that is, they received some combination of physician visits, hospitalizations, or prescription drugs.

**Prevalence, Period**
Period prevalence is the measure of a disease or condition in a population during a given period of time.

**Public Trustee Office**
The Office of the Public Trustee has the responsibility to look after the financial and other affairs of residents unable to do so themselves. These are individuals of any age who cannot look after their own affairs. Because this office has total responsibility for such persons, their address of record in the Manitoba Health Registry is that of the Office.

**Region of Residence**
Virtually all analyses in this report allocate health service use to the area where the patient who received the service lived, regardless of where the service was provided. For example, if a resident of Interlake RHA travels to Winnipeg for a physician visit, the visit contributes to the visit rate for Interlake residents. With claims–based analyses, more than one record per person is possible. The residence information on the first–occurring record for a given year was generally used.

**Regional Health Authority (RHA)**
In 1997, the province of Manitoba established the Regional Health Authorities (RHA) as governance structures to be responsible for the delivery and administration of health services for regional health services. As of July 1, 2002, there are 11 RHAs in Manitoba: Winnipeg, Brandon, South Eastman, Assiniboine, Central, Parkland, North Eastman, Interlake, Burntwood, Norman and Churchill.

**Respiratory Disease**–see **Total Respiratory Morbidity**

**Rural South**
Rural South is an aggregate geography area which includes all of the RHAs in southern Manitoba and excludes the two urban centres of Winnipeg and Brandon. The RHAs included South Eastman, Central, Assiniboine.

**Schizophrenia**
Schizophrenia is a long–term mental illness that affects how a person thinks, feels, and acts. Symptoms of the illness include auditory hallucinations, delusions, difficulty in expressing emotions, or disorganized speech and thought.

Definition: The percentage of residents age 10 or older diagnosed with schizophrenia (ICD–9–CM code 295; ICD–10–CA codes F20, F21, F23.2, F25) in hospital abstracts or physician visits. Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06. Within each period, record going back 12 years were examined to ensure inclusion of residents diagnosed earlier, but who have not had the diagnosis attributed to recent service use records. Values were age- and sex-adjusted to the Manitoba population (10+) in the first time period.

**Second Hand Smoke at Home (CCHS Survey Data—Chapter 14)**
Second–Hand smoke is the ambient smoke from a burning cigarette, pipe or cigar, or the smoke exhaled by a smoker. When you are inside the same enclosed space (e.g., home or car) as a smoker, you may breathe in second–hand smoke which is deleterious to health.

Question: participants who did not live alone or were non–smokers were asked the question, "Including both household members and regular visitors, does anyone smoke inside your home, every day or almost every day?"

Definition: respondents were grouped into two categories, 'Exposed to Second–Hand Smoke or 'No Exposure to Second–Hand Smoke' based on their answer to the question above. The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 2.1 and 3.1 (2003–2005).

**Self–Perceived Life Stress (CCHS Survey Data—Chapter 14)**
Stress is an emotional and/or physical response by the body to any situation or thought that causes a disparity in a person's usual biological, psychological, or social systems. Stressful events can be positive, such as receiving a promotion, or negative, such as the death of family member. Some stress is normal part of life and not all stress is negative. Reasons for stress can include responsibilities at home and at work, family or health issues, and many others. Negative stress may cause fear, apprehension, frustration or anger. Prolonged exposure to stress can have harmful effects on mental and physical health and wellbeing.

Question: participants aged 15 and older were asked the question, "Thinking about the amount of stress in your life, would you say that most days are: not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful?"

Definition: respondents were grouped into three categories: Low stress ('not at all stressful' and 'not very stressful'), Medium stress ('a bit stressful') and High stress ('quite a bit stressful' and 'extremely stressful'). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Self–Perceived Work Stress (CCHS Survey Data—Chapter 14)**
Stress in the workplace can happen when a worker experiences increased workload and demands, lack of resources, forced overtime, or if they are worried about the security of their job, and other reasons. Prolonged work–related stress can result in job dissatisfaction, high turnover, illness, absenteeism, and lack of motivation.

Question: participants age 15–75 were asked the question "Have you worked at a job or business at any time in the past 12 months?" Those who did not respond 'No' were then asked, "The next question is about your main job or business in the past 12 months. Would you say that most days were: (not at all stressful, not very stressful, a bit stressful, quite a bit stressful, or extremely stressful)?"

Definition: respondents were grouped into three categories: low stress ('not at all stressful' and 'not very stressful'), medium stress ('a bit stressful') and high stress ('quite a bit stressful' and 'extremely stressful'). The age– and sex–adjusted proportion of respondents in each group is shown. Those responding 'Don't Know' were excluded. Results from cycles 1.1, 2.1, and 3.1 (2001–2005) were included.

**Self–Rated Health (CCHS Survey Data—Chapter 14)**
Self–rated health has been found to be an excellent predictor of the overall health status of the population and is correlated with other population health status measures such as premature mortality rate. It can reflect aspects of health not captured in other measures, such as: incipient disease, disease severity, aspects of positive health status, physiological and psychological reserves, and social and mental function.

Question: participants were asked, "In general, would you say your health is: excellent, very good, good, fair, or poor?" and given the clarification, "By health, we mean not only the absence of disease or injury but also physical, mental and social wellbeing."

Definition: the age– and sex–adjusted proportion of participants in each response category. Responses of 'Fair' and 'Poor' were combined to avoid suppression. Those responding 'Don't Know' were excluded. The age–and sex–adjusted proportion of respondents in each group is shown. Results from cycles 1.1, 2.1, and 3.1 (2001–2005) were included.

**SF–36**
The SF–36 is the 36–item Short Form survey developed for the Medical Outcomes Study. It contains 36 questions about health status and functioning, developed and maintained by John E. Ware Jr. of the Institute for the Improvement of Medical Care and Health. The SF–36 was designed as a generic indicator of health status for use in population surveys and evaluative studies of health policy.

**Smoking (CCHS Survey Data—Chapter 14)**
Smoking is the act of inhaling tobacco smoke from cigarettes, pipes or cigars. Tobacco smoke contains nicotine, an addictive substance that causes some individuals to become addicted to smoking. Smoking damages the lungs and increases the risk of developing cancer, especially lung cancer, as well as chronic obstructive pulmonary disease, asthma, heart disease, and many others. In the CCHS, type of smoker is a derived variable that indicates the type of smoker the respondent is based responses to questions on his/her smoking habits, such as, "Have you ever smoked cigarettes daily?" Possible responses include daily smoker, occasional daily smoker who previously was a daily smoker, always an occasional smoker, former daily smoker, former occasional smoker, never smoked or not stated.

Definition: this variable is derived from responses to several questions on smoking habits, and uses the groupings 'Current smoker'(includes daily smoker, occasional daily smoker who previously was a daily smoker and always an occasional smoker), 'Former smoker' (includes former daily smoker and former occasional smoker), and 'Non–Smoker' (never smoked). The age– and sex–adjusted proportion of participants in each response category is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Statistical Testing**
Statistical testing was performed via contrasts in generalized linear models (for adjusted rates) as well as Chi–square tests (for crude rates) to determine whether regional rates were statistically significantly different from the Manitoba rate for each time period and whether there was a statistically significant difference overtime within a given area. Comparisons overtime within a region were tested via contrasts with significance level 0.05. Due to the multiple comparisons to Manitoba performed for each indicator, a more stringent level of significance was selected than the usual 5% type 1 error rate to control the family wise error rate. For RHA and Winnipeg CA comparisons to Manitoba within a given time period, contrasts with significance level 0.01 were used; for RHA District and Winnipeg NC comparisons to Manitoba within a given time period, contrasts with significance level 0.005 were used. Statistical significance was used to indicate how much confidence to put in the difference between two rates. If a difference was statistically significant, then we are 99% confident (99.5% for RHA District/Winnipeg NC analyses) that this difference is not just due to chance.

**Stroke Rates**
A stroke occurs when there is a sudden death of brain cells due to a lack of oxygen when the blood flow to the brain is impaired by blockage or rupture of an artery to the brain.

Definition: the rate of hospitalization or death due to stroke in residents age 40 or older defined by ICD–9–CM codes 431, 434, or 436 (ICD–10 codes I61, I63, I64) in the most responsible diagnosis field for hospitalization or as the cause of death in Vital Statistics files. Rates were calculated for two 5–year time periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the population of Manitoba age 40+ in the first time period. This definition will not capture minor strokes, which did not result in hospitalization or death.

**Substance Abuse**
Substance abuse is the excess use of and reliance on a drug, alcohol, or other chemical that leads to severe negative effects on the individual's health and well–being or the welfare of others.

Definition: the percentage of residents age 10 or older diagnosed with any of the following codes in one or more physician visits or hospitalizations over a five–year period: alcoholic or drug psychoses, alcohol or drug dependence, or nondependent abuse of drugs—ICD–9–CM codes 291, 292, 303, 304 or 305; ICD–10–CA codes F10–F19, F55. Values were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and were age– and sex–adjusted to the Manitoba population (10+) in the first time period.

**Suicide Rate**
Suicide is the act of intentionally killing oneself.

Definition: the number of deaths due to suicide among residents age 10+, per 1000 area residents age 10+, per year. A relatively 'inclusive' definition was used in an attempt to overcome suspected under–counting of suicides in administrative data. Results are shown by RHA but not by District due to the relatively small number of suicides in smaller areas. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

Suicides were defined as any death record in Vital Statistics data with any of the following causes:

- accidental poisoning, ICD–9–CM codes E850–E854, E858, E862, E868; ICD–10–CA codes X40–X42, X46, X47
- poisoning with undetermined intent, ICD–10–CA codes Y10–Y12, Y16, Y17
- self–inflicted poisoning, ICD–9–CM codes E950–E952; ICD–10–CA codes X60–X69
- self–inflicted injury by hanging, strangulation and suffocation, ICD–9–CM code E953; ICD–10–CA code X70
- self–inflicted injury by drowning, ICD–9–CM code E954; ICD–10–CA code X71
- self–inflicted injury by firearms and explosives, ICD–9–CM code E955; ICD–10–CA codes X72–X75
- self–inflicted injury by smoke, fire, flames, steam, hot vapours and hot objects, ICD–9–CM codes E958.1, E958.2; ICD–10–CA codes X76, X77
- self–inflicted injury by cutting and piecing instruments, ICD–9–CM code E956; ICD–10–CA codes X78, X79
- self–inflicted injury by jumping from high places, ICD–9–CM code E957; ICD–10–CA code X80
- self–inflicted injury by jumping or lying before a moving object, ICD–9–CM code E958.0; ICD–10–CA code X81

- self–inflicted injury by crashing of motor vehicle, ICD–9–CM code E958.5; ICD–10–CA code X82
- self–inflicted injury by other and unspecified means, ICD–9–CM codes E958.3, E958.4, E958.6–E958.9; ICD–10–CA codes X83, X84
- late effects of self–inflicted injury, ICD–9–CM code E959

**Suppression**–see **Data Suppression**

**Total Hip Replacement**
During hip replacement surgery, the ball and socket of the hip joint are completely removed and replaced with artificial materials. A metal ball with a stem (a prosthesis) is inserted into the femur (thigh bone) and an artificial plastic cup socket is placed in the acetabulum (a "cup–shaped" part of the pelvis).

Definition: the number of total hip replacements performed on area residents age 40 or older, per 1,000 area residents age 40 or older. Hip replacements were defined by ICD–9–CM codes 81.50, 81.51 or 81.53 or CCI code 1.VA.53 in any procedure field in hospital abstracts. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– and sex–adjusted to the Manitoba population 40+ in the first time period.

**Total Knee Replacement**
In knee replacement surgery, parts of the knee joint are replaced with artificial materials. The ends of the thigh bone (femur) and the shin bone (tibia) are removed as is often the underside of the kneecap (patella). The artificial parts are then cemented into place. The new knee typically has a metal shell on the end of the femur, a metal and plastic trough on the tibia, and sometimes a plastic button in the kneecap.

Definition: the number of total knee replacements performed on area residents age 40 or older, per 1,000 area residents age 40 or older. Knee replacements were defined by ICD–9–CM codes 81.54, 81.55 or CCI code 1.VG.53in any procedure field in hospital abstracts. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– and sex–adjusted to the Manitoba population 40+ in the first time period.

**Total Mortality Rate**
Definition: the number of deaths per 1,000 area residents, per year. Rates were calculated for two 5–year periods, 1996–2000 and 2001–2005, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Total Physical Activity (CCHS Survey Data—Chapter 14)**
Canada's Physical Activity Guide to Healthy Active Living recommends that Canadians accumulate 30 to 60 minutes of moderate physical activity every day to achieve the health benefits from physical activity. The Public Health Agency of Canada states that the benefits of regular physical activity include protection against disease and premature death, enhanced well–being, optimal childhood growth and development, and continued independent living in later life.

In the CCHS, total physical activity is a derived variable for respondents based on the average daily energy expenditure values (kcal/kg/day) calculated from a series of questions on physical activity (i.e., usual daily activities or occupational–related physical activity), physical activity for travel (i.e., biking or walking to school or work), and leisure time physical activity (i.e., walking, running, gardening, soccer) by the respondent in the past three months. Respondents were asked questions such as, "Thinking back over the past three months, which of the following best describes your usual daily activities or work habits (usually sit, stand or walk quite a lot, usually lift or carry light loads, do heavy work or carry very heavy loads)? In the past three months, how many times did you walk for exercise? About how much time did you spend on each occasion?"

Definition: respondents age 15–75 were grouped into three categories: Active, Moderate, or Inactive based on tertiles of average daily energy expenditure created from the pooled sample of all non–missing scores in CCHS 1.1, 2.1, and 3.1. The tertiles were divided as follows: active physical activity (27.7 kcal/kg/day or more), moderate physical activity (15.4–27.6 kcal/kg/day) and inactive physical activity (0–15.3 kcal/kg/day). The age– and sex–adjusted proportion of respondents in each group is shown. Rates were calculated using data from CCHS cycles 1.1, 2.1, and 3.1 (2001–2005).

**Total Respiratory Morbidity (TRM)**
Total Respiratory Morbidity (TRM) is a measure of the burden of all types of respiratory illnesses in the population.

Definition: the proportion of residents (all ages) diagnosed with any of the following respiratory illnesses in at least one physician visit or hospitalization in one year: asthma, acute bronchitis, chronic bronchitis, bronchitis not specified as acute or chronic, emphysema, or chronic airway obstruction (ICD–9–CM codes 466, 490, 491, 492, 493, or 496; ICD–10 codes J20, J21, J40–J45). This combination of diagnoses is used to overcome problems resulting from different diagnoses being used to describe the same underlying illness (e.g., asthma versus chronic bronchitis). Values were calculated for two 1–year periods, 2000/01 and 2005/06, and were age– and sex–adjusted to the Manitoba population in the first time period.

**Total Respiratory Morbidity (TRM) Mortality**
This is the crude and adjusted mortality rate for residents age 19 and older with and without TRM. Individuals were categorized as with or without TRM in fiscal year 2000/01 and their mortality rate was calculated in the subsequent five year period: 2001/02–2005/06. The denominator is the Manitoba population age 19 and older as of April 1, 2001, who had at least one year of coverage prior to April 1, 2001, and were registered with MHHL until March 31, 2006 or death.

**Trans Urethral Resection of the Prostate (TURP)**
The surgical removal of a portion of the prostate gland via the urethra (the tube through which urine is discharged from the bladder). It is typically used for cases of benign (non–cancer) enlargement of the prostate. Recent advances in drug therapy have reduced the need for this surgery in many patients.

Definition: the number of TURP surgeries performed on males age 40 or older, per 1000 males 40 or older. TURP surgeries were defined by hospital separations with ICD–9–CM procedure code 60.2 and CCI codes 1.QT.59 and 1.QT.87. Rates were calculated for two 5–year periods, 1996/97–2000/01 and 2001/02–2005/06, and age– and sex–adjusted to the male population 40+ in the first time period.

**Urban**
Urban is an aggregate geography which includes the two urban centres in Manitoba, Winnipeg and Brandon.

**Use of Hospitals (aka Access to Hospitals)**
The percentage of residents who are admitted to a hospital at least once over the course of a year gives an indication of the accessibility of hospital care for local residents.

Definition: the proportion of area residents who were admitted to an acute care hospital at least once in a fiscal year. All inpatient hospitalizations of area residents were included regardless of the location of the hospital; outpatient services were excluded. Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Use of Physicians (aka Access to Physicians)**
The percentage of residents who see a physician at least once over the course of a year gives an indication of the accessibility of ambulatory care for local residents.

Definition: the proportion of area residents who received at least one ambulatory visit in a fiscal year. Ambulatory visits include virtually all contacts with physicians, except during inpatient hospitalization (see Chapter 6 Introduction). Values were calculated for 2000/01 and 2005/0, and were age– and sex–adjusted to the Manitoba population in 2000/01.

**Vaccination for Influenza ('Flu shots') among Adults 65+**
Influenza vaccinations are the most effective way to prevent influenza and the complications arising from it in high–risk populations, such as seniors. The Canadian National Advisory Committee on Immunization (1999) recommends influenza vaccination for people at high risk. This includes people aged 65 and above, adults and children with certain chronic medical conditions, nursing home residents, health care workers who are in contact with people in the high–risk groups, and household contacts of people at risk who either cannot be vaccinated or may respond inadequately to vaccination. Influenza vaccination is available free of charge in Manitoba for the target groups identified by the National Advisory Committee on Immunization.

Definition: the proportion of residents age 65 or older who received a vaccine for influenza in a given year. Flu shots were defined by physician tariff codes 8791, 8792, 8793, or 8799 in Manitoba Immunization Monitoring System (MIMS) data. Values were calculated for 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population 65+ in 2000/01.

**Vaccination for Pneumonia among Adults 65+**
Pneumonia is an inflammation of the lungs caused by a bacterial, viral, or fungal infection. Bacterial pneumonia in adults is commonly caused by a bacterium called Streptococcus pneumoniae.

Definition: the proportion of residents age 65 or older who ever received a vaccine for pneumonia. For most seniors, a pneumococcal vaccination is considered a 'once in a lifetime' event, so these rates show the 'cumulative' percent of residents who ever had a pneumococcal vaccination, as defined by physician tariff codes 8681–8684 and 8961 in MIMS data. Values were calculated as of 2000/01 and 2005/06 and were age– and sex–adjusted to the Manitoba population 65+ in 2000/01.

**Visit Rates**–see **Ambulatory Visits**

**Vital Statistics**
Vital Statistics is a Manitoba government department responsible for keeping records and registries of all births, deaths, marriages, and stillbirths that occur in Manitoba.

# Appendix One: Manitoba Regional Health Authority Districts & Winnipeg Community Areas and Neighbourhood Clusters

Eleven Regional Health Authorities (RHAs) have been defined within Manitoba. The RHAs have the responsibility for providing for the delivery and administration of health services in specified geographic areas. The specific area definitions and responsibilities are outlined in The Regional Health Authorities Act (L.M. 1996 c. 53—Chap. R34).

This appendix provides an overview of the RHA districts, including a discussion of the consultation and development of the districts and a discussion of limitations and district assignment. For each RHA, the districts are listed along with the assigned municipal areas and, where necessary, postal codes.

Andrea Zajac (Manitoba Health, Regional Support Services) provided initial district definitions June 5, 2000. The initial districts were created in consultation between Regional Support Services and each RHA during 1999/2000. Further clarifications of districts, especially for RHAs with unorganized territories were made during the summer and fall of 2001. Final discussions happened as part of The Need to Know Team meeting September 18, 2001. There have been two subsequent changes made to the districts after the joining of South Westman and Marquette into Assiniboine as of July 2002, and this report reflects the districts subsequent to the amalgamation. In the spring of 2004, updates were made to the central districts to better reflect delivery of services and programs within the region. On September 9, 2005, Nancy McPherson from Brandon RHA provided information on dividing Brandon city into 6 public health areas to better represent planning needs in the RHA. The Brandon RHA provided a list of postal codes that belong in each area.

The use of these district definitions prior to 1996/97 fiscal may not be valid or should be used with some caution. Users should also be aware of changes to postal codes over time–additions, retirement and movement. The definitions of districts based on postal codes will need to be confirmed each year.

MCHP assigns districts for the regional health authorities using the following process:
Assign districts initially based on municipal code as provided by Manitoba Health. First Nations (A-code municipal areas) are assigned based on postal/municipal code combination.
Within some areas, assign districts based on six-digit postal code. It is important to understand that postal codes alone can only be used where there is a clear distinction between communities and where it is unlikely that individuals will use postal boxes from other communities or live on rural routes that are outside of the district.

Because of the potential cross over between districts in rural and northern areas (see point 2 above), only communities in the unorganized territories sections of Burntwood, Nor–Man and North Eastman have been assigned by postal code. Districts within Brandon and Winnipeg are also defined based on postal code since the error associated with rural routes and postal centres is minimized because of the population size. For purposes of the present report, Winnipeg is subdivided into twelve community areas and 25 neighbourhood clusters.

Further Notes:

1. The assignment of communities that fall within the unorganized territories of Burntwood are assigned by postal code. Some of these are assigned back to municipal code defined areas.
2. Assignment of Brandon districts (municipal area 026) is based on six-digit postal code. The division follows the provincial electoral boundary–north along 18th Street to the Assiniboine River, east along the Assiniboine River to 1st Street, north along 1st Street to boundary of the City of Brandon.
3. Assignment of unorganized territories and First Nations communities is based on six-digit postal code in North Eastman.
4. In Nor-Man, Cranberry Portage is divided from Kelsey by postal code.

**Definitions of Districts within each RHA:**

**Assiniboine RHA**

*North 1*
RM of Archie
RM of Birtle
Town of Birtle
RM of Boulton
RM of Ellice
Village of St. Lazare
RM of Hamiota
Village of Hamiota
RM of Miniota
RM of Rossburn
Town of Rossburn
RM of Russell
Town of Russell
Village of Binscarth
RM of Shellmouth
RM of Shoal Lake
Town of Shoal Lake
RM of Silver Creek
Birdtail Sioux First Nation
Gamblers First Nation
Waywayseecappo First Nation

*North 2*
RM of Blanshard
RM of Clanwilliam
Town of Erickson
RM of Harrison
RM of Minto
Town of Minnedosa
RM of Odanah
RM of Saskatchewan
Town of Rapid City
RM of Strathclair
RM of Park - Marquette
Keeseekoowenin First Nation
Rolling River First Nation

*East 1*
RM of Glenella
RM of Langford
Town of Neepawa
RM of Lansdowne
RM of North Cypress
Town of Carberry
RM of Rosedale

*East 2*
RM of Argyle
RM of Oakland
Village of Wawanesa
RM of Riverside
RM of Roblin
Village of Cartwright
RM of South Cypress
Village of Glenboro
RM of South Norfolk
Village of Treherne
RM of Strathcona
RM of Turtle Mountain
Town of Killarney
RM of Victoria

*West 1*
RM of Cameron
Town of Hartney
RM of Glenwood
Town of Souris
RM of Morton
Town of Boissevain
RM of Sifton
Town of Oak Lake
RM of Whitewater
RM of Winchester
Deloraine

*West 2*
RM of Albert
RM of Arthur
Town of Melita
RM of Brenda
Village of Waskada
RM of Daly
Town of Rivers
RM of Edward
RM of Pipestone
RM of Wallace
Town of Virden
Village of Elkhorn
RM of Woodworth
Oak Lake Sioux First Nation
Sioux Valley First Nation

**Brandon RHA**
*Brandon Rural*
Whitehead RM
Cornwallis RM
Elton RM
***see end of this document for more information about Brandon's city districts*

**Burntwood RHA**
*Thompson*
Thompson City

*Lynn Lake, Leaf Rapids, South Indian Lake*
Lynn Lake LGD
Leaf Rapids Town

*Gillam, Fox Lake*
Gillam LGD
Fox Lake First Nation

*Nelson House*
Nelson House First Nation

*Norway House*
Norway House Cree Nation

*Cross Lake*
Cross Lake First Nation

*Island Lake*
Garden Hill First Nation
Red Sucker Lake First Nation
St. Theresa Point First Nation
Wasagamack First Nation

*Thicket Portage, Pikwitonei, Wabowden*
Thicket Portage First Nation
Pikwitonei First Nation
Wabowden First Nation

*Tadoule Lake, Brochet, Lac Brochet*
Sayisi Dene (Tadoule Lake) First Nation
Barren Lands (Brochet ) First Nation
Northlands (Lac Brochet) First Nation

*Oxford House, Gods Lake*
Oxford House First Nation
Gods Lake First Nation
Gods River First Nation

*Shamattawa, York Factory, Split Lake, War Lake*
Shamattawa First Nation
York Factory First Nation
Split Lake Cree Nation
War Lake First Nation

**Central RHA**
*Seven Regions*
Lakeview RM
Westbourne RM
Gladstone Town
Alonsa RM
Sandy Bay First Nation

*Cartier/SFX*
Cartier RM
Headingley RM
St. Francois Xavier RM

*Portage*
Macgregor Village
North Norfolk RM
Portage RM
Portage City
Dakota Tipi First Nation
Dakota Plains First Nation
Long Plain First Nation

*Carman*
Carman Town
Dufferin RM
Grey RM
Roland RM
St. Claude Village
Thompson RM

*Swan Lake*
Lorne RM
Notre Dame de Lourdes Village
Somerset Village
Swan Lake First Nation

*Morden/Winkler*
Stanley RM
Morden Town
Winkler City

*Louise/Pembina*
Crystal City Village
Louise RM
Manitou Village
Pembina RM
Pilot Mound Village

*Altona*
Altona Town
Gretna Village
Plum Coulee Village
Rhineland RM

*Red River*
Emerson Town
MacDonald RM
Montcalm RM
Morris RM
Morris Town
Roseau River First Nation

**Churchill RHA**
*Churchill*
Churchill

**Interlake RHA**
*Northeast*
Bifrost RM
Riverton Village
Gimli RM
Gimli Town
Dunnottar Village
Winnipeg Beach Town
Fisher LGD
Arborg Village
Unorganized Territories
Peguis First Nation
Fisher River
Jackhead First Nation

*Northwest*
Coldwell RM
Eriksdale RM
St. Laurent RM
Siglunes RM
Grahamdale LGD
Lake Manitoba First Nation
Fairford First Nation
Little Saskatchewan First Nation
Lake St. Martin First Nation
Dauphin River First Nation

*Southeast*
St. Andrews RM
Selkirk Town
St. Clements RM
Brokenhead Ojibway Nation

*Southwest*
Rockwood RM
Stonewall Town
Teulon Village
Rosser RM
Woodlands RM
Armstrong LGD

**Nor-Man RHA**
*Flin Flon, Snow Lake, Cranberry Portage*
Snow Lake Town
Flin Flon City
Cranberry Portage

*The Pas, OCN, Kelsey*
The Pas Town
Kelsey RM (Consol LGD)
Opaskwayak Cree Nation

*Nor-Man Other*
Unorganized Territories
Cormorant
Grand Rapids LGD
Sherridon
Grand Rapids First nation
Mosakahiken Cree Nation
Chemahawin First Nation
Mathias Colomb Cree Nation

**North Eastman RHA**
*Bluewater*
Alexander LGD (includes Belair)
Bissett
Black River
Manigotagan
Pine Falls Town
Powerview Village
Traverse Bay
Victoria Beach RM
Wanipagow
Sagkeeng (Fort Alexander) First Nation
Little Black River First Nation
Hollow Water First Nation

*Brokenhead*
Brokenhead
Beausejour Town
Garson Village

*Iron Rose*
Rennie
Reynolds RM (includes Hadashville)
Seven Sisters Falls
Whitemouth RM
Whiteshell

*Springfield*
Springfield RM

*Northern Remote*
Princes Harbour
Loon Straits
Pauingassi
Berens River First Nation
Bloodvein First Nation
Little Grand Rapids First Nation
Poplar River First Nation
Unorganized Territories

*Winnipeg River*
Lac Du Bonnet RM
Lac Du Bonnet Village
Pinawa LGD
Pointe du Bois
Seddon's Corner

**Parkland RHA**
*Central District*
Dauphin RM
Dauphin Town
Ethelbert RM
Ethelbert Town
Gilbert Plains RM
Gilbert Plains Village
Mossey River RM
Winnipegosis Village

*East District*
Lawrence RM
McCreary RM
Ochre River RM
Ste. Rose RM
Ste. Rose Du Lac Village
McCreary Village
Alonsa LGD
Waterhen First Nation
Ochi-Chak-Ko-Sipi (Crane River) First Nation
Ebb & Flow First nation

*North District*
Minitonas RM
Minitonas Village
Swan River RM
Swan River Town
Benito Village
Bowsman Village
Mountain LGD North
Mountain LGD South
Unorganized Territories
Sapotaweyak Cree Nation
Pine Creek First Nation
Wuskwi Sipihk (Indian Birch) First Nation

*West District*
Grandview RM
Grandview Town
Hillsburg RM
Shell River RM
Roblin Town
Park LGD North
Tootinaowaziibeeng Treaty Reserve (Valley River) First Nation

**South Eastman RHA**
*Central*
Hanover RM
Steinbach Town

*Northern*
La Broquerie RM
Ste. Anne RM
Tache RM
Ste. Anne Village

*Southern*
Franklin RM
Piney LGD
Stuartburn LGD
Unorganized Territories
Buffalo Point First Nation

*Western*
De Salaberry RM
St. Pierrie Jolys Village
Ritchot RM
Niverville Village

***Brandon City Districts*

The areas included are only those found within the municipality of Brandon. The public health areas, in some cases, extend into the surrounding municipalities; but those areas are not included because of difficulties separating location of residence based on postal code alone.

*Southwest*—Bounded by Victoria, 34th St, Richmond Avenue, 18th St. includes: Christian Heritage, Riverheights, Waverly Alexander.

*West*—Bounded by on the north by Pacific Avenue tracks 18th St., Richmond Avenue, 34th St, Victoria Avenue includes: JR Reid, Vincent Massey, Valleyview, Linden Lanes, BU, Earl Oxford.

*Southeast*—Bounded by Richmond Avenue, 18th St. includes: Meadows, Neelin, O'Kelly, Douglas, Spring Valley, Francophone School, Campbell's trailer court, RR#4.

*Central*—Bounded by Pacific Avenue tracks, 1st St., Richmond Avenue, 18th St. includes: George Fitton, St. Augustines, New Era, Betty Gibson, Harrison.

*North End*—Bounded by Pacific Avenue tracks, 1st St. includes: Kirkcaldy, Crocus.

*East* - Bounded by Richmond Avenue 1st St., Highway 1. Includes Green Acres, King George, Riverview, and ACC.

**Definitions of Winnipeg Neighbourhood Clusters within each Community Area:**

**St. James - Assiniboia West**
Assiniboia Downs Buchanan
Crestview
Glendale
Heritage Park Kirkfield
Saskatchewan North
Sturgeon Creek
Westwood

**St. James - Assiniboia East**
Airport
Birchwood
Booth
Bruce Park
Deer Lodge
Jameswood
Kensington
King Edward
Murray Industrial Park
Omand's Creek Industrial
Silver Heights
St. James Industrial
Woodhaven

**Assiniboine South**
Assiniboine Park
Betsworth
Edgeland
Elmhurst
Eric Coy
Marlton
Old Tuxedo
Ridgedale
Ridgewood South
River West Park
Roblin Park
South Tuxedo
Southboine
Tuxedo
Tuxedo Industrial
Varsity View
Vialoux
West Perimeter South
Westdale
Wilkes South

**Fort Garry North**
Beaumont
Brockville
Buffalo
Chevrier
Crescent Park
Linden Ridge
Linden Woods
Maybank
Parker
Pembina Strip
Point Road
West Fort Garry Industrial
Whyte Ridge
Wildwood

**Fort Garry South**
Agassiz
Cloutier Drive
Fairfield Park
Fort Richmond
La Barriere
Montcalm
Parc La Salle
Perrault
Richmond Lakes
Richmond West
St. Norbert
Trappistes
Turnbull Drive
University
Waverley Heights
Waverley West

**St. Vital North**
Alpine Place
Elm Park
Glenwood
Kingston Crescent
Lavalee
Norberry
Pulberry
St. George
Varennes
Victoria Crescent
Worthington

**St. Vital South**
Dakota Crossing
Maple Grove Park
Meadowood
Minnetonka
Normand Park
River Park South
St. Vital Centre
St. Vital Perimeter South
Vista

**St. Boniface West**
Central St. Boniface
North St. Boniface
Norwood East
Norwood West

**St. Boniface East**
Archwood
Dufresne
Dugald
Holden
Island Lakes
Maginot
Mission Industrial
Niakwa Park
Niakwa Place
Royalwood
South St. Boniface
Southdale
Southland Park
St. Boniface Industrial Park
Stock Yards
Symington Yards
The Mint
Tissot
Windsor Park

**Transcona**
Canterbury Park
Griffin
Kern Park
Kildare-Redonda
Meadows
Melrose
Mission Gardens
Peguis
Radisson
Regent
Transcona North
Transcona South
Transcona Yards
Victoria West

**River East South**
Chalmers
East Elmwood
Glenelm (formerly West Elmwood)
Talbot-Grey
Tyne-Tees

**River East West**
Kildonan Drive
Munroe West
River East
Rossmere-A
Rossmere-B
Valhalla

**River East East**
Eaglemere
Grassie
Kil-Cona Park
Kildonan Crossing
Mcleod Industrial
Munroe East
North Transcona Yards
Springfield North
Springfield South
Valley Gardens

**River East North**
RM of East St. Paul

**Seven Oaks West**
Amber Trails
Mandalay West
Rosser-Old Kildonan
The Maples

**Seven Oaks East**
Garden City
Jefferson
Kildonan Park
Leila North
Leila-Mcphillips Triangle
Margaret Park
Riverbend
Rivergrove
Seven Oaks
Templeton-Sinclair
West Kildonan Industrial

**Seven Oaks North**
RM of West St. Paul

**Inkster West**
Inkster Gardens
North Inkster Industrial
Oak Point Highway
Tyndall Park

**Inkster East**
Brooklands
Burrows-Keewatin
Inkster Industrial Park
Pacific Industrial
Shaughnessy Park
Weston
Weston Shops

**Point Douglas North**
Burrows Central
Inkster-Faraday
Luxton
Mynarski
Robertson
St. John's
St. John's Park

**Point Douglas South**
Dufferin
Dufferin Industrial
Lord Selkirk Park
North Point Douglas
South Point Douglas
William Whyte

**Downtown West**
Daniel Mcintyre
Minto
Polo Park
Sargent Park
St. Matthews
West Wolseley
Wolseley

**Downtown East**
Armstrong Point
Broadway-Assiniboine
Centennial
Central Park
China Town
Civic Centre
Colony
Exchange District
Legislature
Logan-C.P.R.
Portage & Main
Portage-Ellice
South Portage
Spence
The Forks
West Alexander
West Broadway

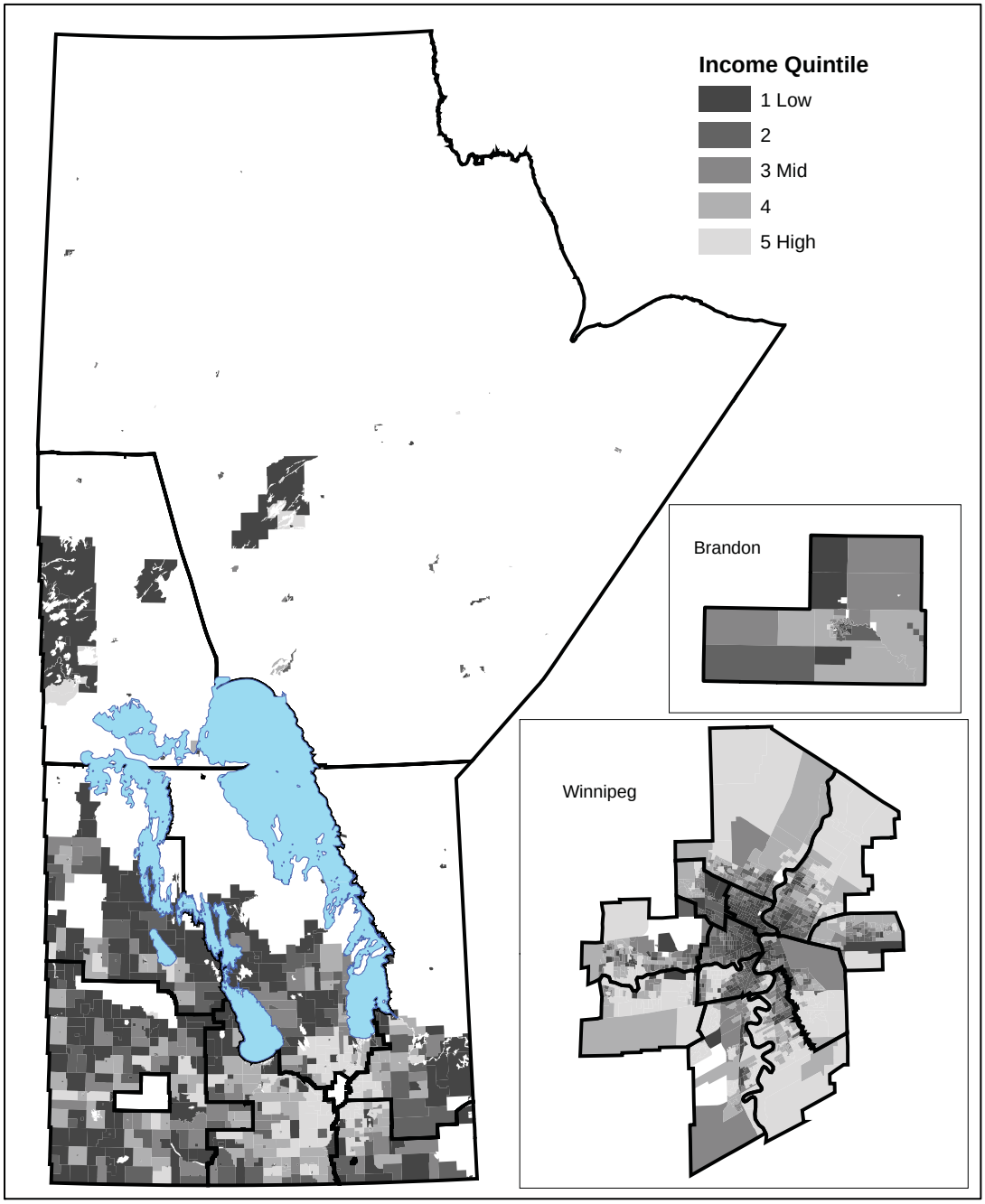
**River Heights West**
Central River Heights
Crescentwood
Earl Grey
Ebby-Wentworth
Grant Park
J. B. Mitchell
Mathers
North River Heights
Rockwood
Sir John Franklin
South River Heights
Wellington Crescent

**River Heights East**
Neighbourhood
Lord Roberts
McMillan
River-Osborne
Riverview
Roslyn

# Appendix Two: Tables for Crude Rates, Observed Numbers, and Income Quintiles

**Appendix Figure 2.1: Distribution of Rural Income Quintiles, 2001 Census Data Dissemination Areas**

Quintile Breaks are at different points in Winnipeg & Brandon




Charles Burchill, Manitoba Centre for Health Policy. May 5, 2005
Based on 20% Population groups of Average Household Income
by Census Dissemenination Areas. Census of Canada 2001.

## Appendix Table 2.1: Total Mortality

| Regional Health Authority | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| South Eastman | 315.2 | 5.95 | 322.4 | 5.61 |
| Central | 779.0 | 8.11 | 765.4 | 7.72 |
| Assiniboine | 825.0 | 11.41 | 793.0 | 11.40 |
| Brandon | 402.4 | 8.58 | 403.8 | 8.40 |
| Winnipeg | 5,171.6 | 8.01 | 5,345.8 | 8.14 |
| Interlake | 613.0 | 8.24 | 618.4 | 8.16 |
| North Eastman | 280.6 | 7.22 | 289.0 | 7.28 |
| Parkland | 518.8 | 11.65 | 500.4 | 11.68 |
| Churchill | 5.4 | 5.20 | 4.6 | 4.58 |
| Nor-Man | 155.6 | 6.14 | 167.0 | 6.72 |
| Burntwood | 173.4 | 3.87 | 203.4 | 4.49 |
| | | | | |
| South | 1,919.2 | 8.67 | 1,880.8 | 8.31 |
| Mid | 1,412.4 | 8.95 | 1,407.8 | 8.89 |
| North | 334.4 | 4.69 | 375.0 | 5.27 |
| | | | | |
| Manitoba | 9,592.2 | 8.37 | 9,761.0 | 8.39 |
| Public Trustee | 352.2 | 120.00 | 347.8 | 111.71 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| Fort Garry | 287.8 | 4.73 | 361.2 | 5.64 |
| Assiniboine South | 307.2 | 8.47 | 326.8 | 8.82 |
| St. Boniface | 322.2 | 7.00 | 332.4 | 6.79 |
| St. Vital | 421.0 | 6.94 | 424.2 | 6.96 |
| Transcona | 182.2 | 5.45 | 185.4 | 5.58 |
| River Heights | 566.0 | 9.99 | 548.2 | 9.79 |
| River East | 711.6 | 7.80 | 745.0 | 7.96 |
| Seven Oaks | 497.6 | 8.70 | 526.8 | 8.99 |
| St. James - Assiniboia | 624.0 | 10.39 | 629.6 | 10.66 |
| Inkster | 177.8 | 5.69 | 177.6 | 5.66 |
| Downtown | 637.0 | 8.91 | 657.0 | 9.03 |
| Point Douglas | 437.2 | 10.75 | 431.6 | 10.42 |
| | | | | |
| Winnipeg | 5,171.6 | 8.01 | 5,345.8 | 8.14 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Income Not Found | 48.73 | 36.03 |
| Lowest Rural R1 | 10.77 | 11.17 |
| R2 | 8.56 | 8.07 |
| R3 | 8.39 | 8.29 |
| R4 | 7.54 | 7.11 |
| Highest Rural R5 | 6.46 | 6.30 |
| Lowest Urban U1 | 10.80 | 10.96 |
| U2 | 7.60 | 7.23 |
| U3 | 6.44 | 6.39 |
| U4 | 5.59 | 5.27 |
| Highest Urban U5 | 5.40 | 5.34 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.5288 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.7377 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.2: Premature Mortality

| Regional Health Authority | Number observed per year | CRUDE rate per 1,000 | Number observed per year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| South Eastman | 120.2 | 2.38 | 123.8 | 2.26 |
| Central | 265.8 | 2.97 | 253.4 | 2.75 |
| Assiniboine | 258.2 | 3.98 | 228.8 | 3.67 |
| Brandon | 148.8 | 3.41 | 137.6 | 3.09 |
| Winnipeg | 2035.6 | 3.37 | 1987.2 | 3.25 |
| Interlake | 260.4 | 3.73 | 254.4 | 3.58 |
| North Eastman | 139.6 | 3.78 | 135.6 | 3.60 |
| Parkland | 166.4 | 4.14 | 166.8 | 4.34 |
| Churchill | 2.8 | 2.74 | 3.6 | 3.64 |
| Nor-Man | 85.6 | 3.50 | 86.4 | 3.60 |
| Burntwood | 128.6 | 2.90 | 154.2 | 3.44 |
| | | | | |
| Rural South | 644.2 | 3.15 | 606.0 | 2.90 |
| Mid | 566.4 | 3.85 | 556.8 | 3.79 |
| North | 217.0 | 3.10 | 244.2 | 3.50 |
| | | | | |
| Manitoba | 3721.4 | 3.48 | 3636.4 | 3.36 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number observed per year | CRUDE rate per 1,000 | Number observed per year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| Fort Garry | 124.6 | 2.14 | 142.8 | 2.37 |
| Assiniboine South | 88.8 | 2.61 | 88.4 | 2.58 |
| St. Boniface | 132.2 | 3.07 | 131.6 | 2.87 |
| St. Vital | 176.8 | 3.10 | 154.6 | 2.72 |
| Transcona | 93.0 | 2.89 | 85.4 | 2.69 |
| River Heights | 171.2 | 3.35 | 162.8 | 3.22 |
| River East | 286.6 | 3.36 | 268.8 | 3.10 |
| Seven Oaks | 177.6 | 3.33 | 182.2 | 3.36 |
| St. James - Assiniboia | 220.4 | 3.99 | 206.0 | 3.83 |
| Inkster | 92.6 | 3.09 | 82.8 | 2.76 |
| Downtown | 294.6 | 4.42 | 292.6 | 4.30 |
| Point Douglas | 177.2 | 4.73 | 189.2 | 4.91 |
| | | | | |
| Winnipeg | 2035.6 | 3.37 | 1987.2 | 3.25 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Income Not Found | 27.60 | 19.49 |
| Lowest Rural R1 | 4.51 | 4.70 |
| R2 | 3.39 | 3.28 |
| R3 | 3.43 | 3.18 |
| R4 | 2.86 | 2.64 |
| Highest Rural R5 | 2.68 | 2.42 |
| Lowest Urban U1 | 5.32 | 5.32 |
| U2 | 3.47 | 3.26 |
| U3 | 2.84 | 2.83 |
| U4 | 2.35 | 2.26 |
| Highest Urban U5 | 2.02 | 1.94 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0090 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.5564 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.3: Male Life Expectancy

| Regional Health Authority | Total Years | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| South Eastman | 77.7 | 79.0 |
| Central | 76.7 | 77.6 |
| Assiniboine | 75.8 | 76.5 |
| Brandon | 75.5 | 76.9 |
| Winnipeg | 76.2 | 76.9 |
| Interlake | 75.5 | 76.7 |
| North Eastman | 75.0 | 75.4 |
| Parkland | 75.5 | 75.9 |
| Churchill | 73.4 | 72.1 |
| Nor-Man | 73.4 | 73.4 |
| Burntwood | 71.4 | 69.7 |
| | | |
| Rural South | 76.6 | 77.6 |
| Mid | 75.4 | 76.1 |
| North | 72.0 | 71.1 |
| | | |
| Manitoba | 75.6 | 76.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Total Years | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Fort Garry | 79.8 | 79.8 |
| Assiniboine South | 77.5 | 79.4 |
| St. Boniface | 77.8 | 78.8 |
| St. Vital | 76.9 | 78.7 |
| Transcona | 77.0 | 77.5 |
| River Heights | 76.9 | 77.6 |
| River East | 76.6 | 77.7 |
| Seven Oaks | 76.5 | 77.0 |
| St. James - Assiniboia | 76.2 | 77.4 |
| Inkster | 75.4 | 76.4 |
| Downtown | 72.6 | 72.1 |
| Point Douglas | 71.7 | 71.5 |
| | | |
| Winnipeg | 76.2 | 76.9 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | Total Years | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Income Not Found | 52.2 | 57.6 |
| Lowest Rural R1 | 73.1 | 73.0 |
| R2 | 75.1 | 76.0 |
| R3 | 75.5 | 75.8 |
| R4 | 77.6 | 78.4 |
| Highest Rural R5 | 79.5 | 79.7 |
| Lowest Urban U1 | 71.3 | 71.3 |
| U2 | 76.3 | 77.2 |
| U3 | 78.8 | 78.6 |
| U4 | 80.3 | 81.1 |
| Highest Urban U5 | 81.2 | 81.3 |

*trend tests not done for this indicator (based on life table)

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.4: Female Life Expectancy

| Regional Health Authority | Total Years | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| South Eastman | 82.6 | 83.2 |
| Central | 81.7 | 82.7 |
| Assiniboine | 82.7 | 82.4 |
| Brandon | 81.9 | 82.7 |
| Winnipeg | 81.3 | 81.8 |
| Interlake | 81.0 | 81.8 |
| North Eastman | 79.7 | 81.3 |
| Parkland | 81.0 | 81.0 |
| Churchill | 75.6 | 79.0 |
| Nor-Man | 78.5 | 77.6 |
| Burntwood | 76.6 | 76.0 |
| | | |
| Rural South | 82.3 | 82.7 |
| Mid | 80.6 | 81.5 |
| North | 77.6 | 76.8 |
| | | |
| Manitoba | 81.0 | 81.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Total Years | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Fort Garry | 83.4 | 84.1 |
| Assiniboine South | 81.1 | 82.3 |
| St. Boniface | 83.1 | 83.5 |
| St. Vital | 82.0 | 83.3 |
| Transcona | 81.1 | 82.4 |
| River Heights | 82.4 | 82.8 |
| River East | 81.8 | 82.2 |
| Seven Oaks | 80.6 | 81.5 |
| St. James - Assiniboia | 81.2 | 81.4 |
| Inkster | 79.7 | 81.8 |
| Downtown | 79.2 | 79.6 |
| Point Douglas | 79.0 | 76.7 |
| | | |
| Winnipeg | 81.3 | 81.8 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | Total Years | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Income Not Found | 54.1 | 60.7 |
| Lowest Rural R1 | 79.4 | 79.3 |
| R2 | 81.6 | 82.2 |
| R3 | 81.5 | 82.0 |
| R4 | 82.2 | 83.0 |
| Highest Rural R5 | 83.6 | 84.0 |
| Lowest Urban U1 | 79.8 | 79.7 |
| U2 | 83.4 | 83.3 |
| U3 | 84.5 | 85.3 |
| U4 | 85.4 | 86.1 |
| Highest Urban U5 | 85.0 | 84.9 |

*trend tests not done for this indicator (based on life table)

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.5: Potential Years of Life Lost

| Regional Health Authority | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| South Eastman | 1,958 | 39.4 | 2,129 | 39.5 |
| Central | 4,193 | 47.6 | 4,101 | 45.1 |
| Assiniboine | 3,586 | 55.9 | 3,538 | 57.5 |
| Brandon | 2,111 | 49.0 | 1,938 | 44.1 |
| Winnipeg | 30,495 | 51.2 | 30,616 | 50.7 |
| Interlake | 3,931 | 57.0 | 3,957 | 56.4 |
| North Eastman | 2,559 | 70.2 | 2,494 | 67.1 |
| Parkland | 2,452 | 61.9 | 2,438 | 64.2 |
| Churchill | 66 | 65.8 | 71 | 73.4 |
| Nor-Man | 1,671 | 69.5 | 1,580 | 67.0 |
| Burntwood | 3,507 | 81.0 | 3,908 | 89.3 |
| | | | | |
| Rural South | 9,737 | 48.2 | 9,768 | 47.3 |
| Mid | 8,942 | 61.7 | 8,889 | 61.2 |
| North | 5,244 | 76.7 | 5,559 | 81.4 |
| | | | | |
| Manitoba | 57,873 | 54.8 | 58,084 | 54.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| Fort Garry | 1,832 | 31.9 | 2,141 | 35.9 |
| Assiniboine South | 1,175 | 34.8 | 1,207 | 35.5 |
| River Heights | 1,998 | 46.9 | 1,808 | 39.9 |
| St. Vital | 2,675 | 47.5 | 2,258 | 40.2 |
| River East | 1,418 | 44.6 | 1,292 | 41.2 |
| St. Boniface | 2,397 | 47.4 | 2,434 | 48.6 |
| Transcona | 3,870 | 45.9 | 3,834 | 44.7 |
| Seven Oaks | 2,571 | 48.8 | 2,521 | 47.0 |
| St. James - Assiniboia | 2,808 | 51.5 | 2,625 | 49.4 |
| Inkster | 1,496 | 50.7 | 1,297 | 43.8 |
| Downtown | 5,299 | 80.8 | 5,571 | 83.1 |
| Point Douglas | 2,955 | 80.2 | 3,628 | 95.8 |
| | | | | |
| Winnipeg | 30,495 | 51.2 | 30,616 | 50.7 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Income Not Found | 415.4 | 285.2 |
| Lowest Rural R1 | 91.9 | 95.0 |
| R2 | 63.5 | 53.2 |
| R3 | 55.6 | 54.8 |
| R4 | 48.5 | 44.2 |
| Highest Rural R5 | 44.3 | 42.4 |
| Lowest Urban U1 | 83.1 | 84.3 |
| U2 | 50.5 | 46.1 |
| U3 | 40.6 | 39.2 |
| U4 | 35.0 | 27.2 |
| Highest Urban U5 | 30.4 | 26.4 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.8560 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.2160 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.6: Injury Mortality

| Regional Health Authority | CRUDE rate per 1,000 | CRUDE rate per 1,000 |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| South Eastman | 0.40 | 0.34 |
| Central | 0.47 | 0.47 |
| Assiniboine | 0.65 | 0.69 |
| Brandon | 0.47 | 0.40 |
| Winnipeg | 0.42 | 0.47 |
| Interlake | 0.54 | 0.49 |
| North Eastman | 0.76 | 0.73 |
| Parkland | 0.63 | 0.69 |
| Churchill | | |
| Nor-Man | 0.75 | 0.64 |
| Burntwood | 0.91 | 1.00 |
| | | |
| Rural South | 0.51 | 0.51 |
| Mid | 0.62 | 0.60 |
| North | 0.84 | 0.87 |
| | | |
| Manitoba | 0.50 | 0.52 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 | CRUDE rate per 1,000 |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Fort Garry | 0.23 | 0.26 |
| Assiniboine South | 0.39 | 0.31 |
| St. Boniface | 0.38 | 0.35 |
| St. Vital | 0.32 | 0.34 |
| Transcona | 0.32 | 0.31 |
| River Heights | 0.47 | 0.52 |
| River East | 0.35 | 0.39 |
| Seven Oaks | 0.32 | 0.45 |
| St. James - Assiniboia | 0.42 | 0.45 |
| Inkster | 0.34 | 0.35 |
| Downtown | 0.76 | 0.86 |
| Point Douglas | 0.72 | 0.91 |
| | | |
| Winnipeg | 0.42 | 0.47 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Income Not Found | 1.44 | 1.40 |
| Lowest Rural R1 | 0.90 | 1.00 |
| R2 | 0.56 | 0.47 |
| R3 | 0.55 | 0.58 |
| R4 | 0.47 | 0.41 |
| Highest Rural R5 | 0.37 | 0.33 |
| Lowest Urban U1 | 0.66 | 0.76 |
| U2 | 0.43 | 0.41 |
| U3 | 0.33 | 0.36 |
| U4 | 0.26 | 0.23 |
| Highest Urban U5 | 0.22 | 0.25 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.2609 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.9055 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.7: Suicide

| Regional Health Authority | Number observed per year | CRUDE rate per 1,000 | Number observed per year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| South Eastman | 2.8 | 0.06 | 4.6 | 0.09 |
| Central | 7.6 | 0.09 | 9.0 | 0.11 |
| Assiniboine | 9.0 | 0.14 | 11.8 | 0.19 |
| Brandon | 6.2 | 0.15 | 4.2 | 0.10 |
| Winnipeg | 77.8 | 0.14 | 87.0 | 0.15 |
| Interlake | 9.6 | 0.15 | 6.2 | 0.09 |
| North Eastman | 10.0 | 0.30 | 10.2 | 0.30 |
| Parkland | 7.0 | 0.18 | 7.0 | 0.19 |
| Churchill | 0.0 | 0.00 | 0.0 | 0.00 |
| Nor-Man | 3.6 | 0.17 | 4.8 | 0.23 |
| Burntwood | 6.4 | 0.19 | 12.6 | 0.36 |
| | | | | |
| South | 19.4 | 0.10 | 25.4 | 0.13 |
| Mid | 26.6 | 0.20 | 23.4 | 0.17 |
| North | 10.0 | 0.18 | 17.4 | 0.31 |
| | | | | |
| Manitoba | 141.0 | 0.14 | 158.6 | 0.16 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number observed per year | CRUDE rate per 1,000 | Number observed per year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 1996-2000 | | 2001-2005 | |
| Fort Garry | 3.6 | 0.07 | 2.8 | 0.05 |
| Assiniboine South | 4.0 | 0.13 | 1.8 | 0.05 |
| St. Boniface | 5.4 | 0.13 | 5.4 | 0.13 |
| St. Vital | 6.4 | 0.12 | 5.4 | 0.10 |
| Transcona | 4.4 | 0.15 | 3.2 | 0.11 |
| River Heights | 6.8 | 0.13 | 6.8 | 0.13 |
| River East | 8.4 | 0.11 | 12.0 | 0.15 |
| Seven Oaks | 5.6 | 0.11 | 7.2 | 0.14 |
| St. James - Assiniboia | 6.0 | 0.11 | 7.2 | 0.14 |
| Inkster | 3.8 | 0.15 | 4.6 | 0.17 |
| Downtown | 15.2 | 0.25 | 20.8 | 0.33 |
| Point Douglas | 8.2 | 0.24 | 9.8 | 0.28 |
| | | | | |
| Winnipeg | 77.8 | 0.14 | 87.0 | 0.15 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996-2000 | 2001-2005 |
| Income Not Found | 0.15 | 0.20 |
| Lowest Rural R1 | 0.28 | 0.38 |
| R2 | 0.14 | 0.14 |
| R3 | 0.11 | 0.17 |
| R4 | 0.12 | 0.11 |
| Highest Rural R5 | 0.10 | 0.09 |
| Lowest Urban U1 | 0.25 | 0.32 |
| U2 | 0.16 | 0.15 |
| U3 | 0.12 | 0.12 |
| U4 | 0.10 | 0.08 |
| Highest Urban U5 | 0.07 | 0.07 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.1794 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.2912 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.8: Hypertension

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 6,981 | 18.6 | 8,868 | 21.2 |
| Central | 13,757 | 20.5 | 16,339 | 23.1 |
| Assiniboine | 13,316 | 25.1 | 15,446 | 29.8 |
| Brandon | 7,101 | 20.4 | 8,920 | 24.1 |
| Winnipeg | 98,453 | 20.1 | 118,927 | 23.4 |
| Interlake | 12,538 | 22.9 | 15,493 | 27.0 |
| North Eastman | 5,979 | 21.4 | 8,154 | 27.9 |
| Parkland | 8,041 | 24.9 | 9,770 | 31.1 |
| Churchill | 150 | 21.4 | 174 | 25.9 |
| Nor-Man | 2,877 | 17.2 | 3,645 | 22.3 |
| Burntwood | 3,975 | 15.2 | 5,867 | 21.9 |
| | | | | |
| Rural South | 34,054 | 21.6 | 40,653 | 24.7 |
| Mid | 26,558 | 23.1 | 33,417 | 28.3 |
| North | 7,002 | 16.1 | 9,686 | 22.1 |
| | | | | |
| Manitoba | 174,002 | 20.6 | 212,532 | 24.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 8,045 | 17.4 | 10,789 | 21.5 |
| Assiniboine South | 5,326 | 19.5 | 6,817 | 23.9 |
| St. Boniface | 7,280 | 20.2 | 8,755 | 22.4 |
| St. Vital | 9,075 | 19.9 | 10,947 | 23.1 |
| Transcona | 4,389 | 18.0 | 5,499 | 22.1 |
| River Heights | 9,481 | 20.7 | 10,508 | 23.1 |
| River East | 14,221 | 20.4 | 17,585 | 24.2 |
| Seven Oaks | 9,704 | 22.1 | 12,074 | 26.0 |
| St. James - Assiniboia | 10,773 | 23.0 | 12,490 | 26.8 |
| Inkster | 4,040 | 18.4 | 5,127 | 22.7 |
| Downtown | 9,861 | 18.2 | 11,237 | 20.5 |
| Point Douglas | 6,258 | 21.4 | 7,099 | 23.6 |
| | | | | |
| Winnipeg | 98,453 | 20.1 | 118,927 | 23.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 17.0 | 19.1 |
| Lowest Rural R1 | 22.6 | 27.3 |
| R2 | 20.9 | 24.5 |
| R3 | 20.9 | 24.7 |
| R4 | 21.0 | 24.5 |
| Highest Rural R5 | 20.4 | 23.2 |
| Lowest Urban U1 | 21.4 | 24.3 |
| U2 | 21.0 | 23.9 |
| U3 | 20.4 | 23.2 |
| U4 | 20.3 | 23.0 |
| Highest Urban U5 | 18.7 | 21.2 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0061 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.7725 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.9: Arthritis

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/2000-2000/01 | | 2004/05-2005/06 | |
| South Eastman | 6,989 | 18.7 | 7,869 | 18.8 |
| Central | 13,045 | 19.5 | 13,795 | 19.5 |
| Assiniboine | 11,593 | 21.8 | 11,192 | 21.6 |
| Brandon | 7,227 | 20.7 | 8,138 | 22.0 |
| Winnipeg | 102,692 | 20.9 | 103,159 | 20.3 |
| Interlake | 10,983 | 20.1 | 11,554 | 20.2 |
| North Eastman | 5,970 | 21.4 | 6,461 | 22.1 |
| Parkland | 8,384 | 25.9 | 8,634 | 27.5 |
| Churchill | 179 | 25.5 | 59 | 8.8 |
| Nor-Man | 3,904 | 23.4 | 3,832 | 23.4 |
| Burntwood | 4,696 | 18.0 | 4,708 | 17.6 |
| | | | | |
| Rural South | 31,627 | 20.1 | 32,856 | 20.0 |
| Mid | 25,337 | 22.0 | 26,649 | 22.6 |
| North | 8,779 | 20.2 | 8,599 | 19.6 |
| | | | | |
| Manitoba | 176,323 | 20.9 | 180,098 | 20.6 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/2000-2000/01 | | 2004/05-2005/06 | |
| Fort Garry | 8,381 | 18.1 | 9,029 | 18.0 |
| Assiniboine South | 5,910 | 21.6 | 6,262 | 22.0 |
| St. Boniface | 7,092 | 19.7 | 7,374 | 18.9 |
| St. Vital | 9,029 | 19.8 | 9,490 | 20.0 |
| Transcona | 4,602 | 18.9 | 4,753 | 19.1 |
| River Heights | 9,850 | 21.5 | 9,186 | 20.2 |
| River East | 14,006 | 20.1 | 14,162 | 19.5 |
| Seven Oaks | 9,628 | 21.9 | 9,642 | 20.8 |
| St. James - Assiniboia | 10,509 | 22.4 | 10,108 | 21.7 |
| Inkster | 4,380 | 20.0 | 4,181 | 18.5 |
| Downtown | 11,918 | 22.0 | 11,613 | 21.1 |
| Point Douglas | 7,387 | 25.2 | 7,359 | 24.5 |
| | | | | |
| Winnipeg | 102,692 | 20.9 | 103,159 | 20.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 1999/2000-2000/01 | 2004/05-2005/06 |
| Income Not Found | 19.7 | 17.1 |
| Lowest Rural R1 | 22.5 | 22.4 |
| R2 | 20.1 | 19.9 |
| R3 | 20.8 | 20.3 |
| R4 | 20.3 | 20.4 |
| Highest Rural R5 | 19.8 | 19.4 |
| Lowest Urban U1 | 23.8 | 23.2 |
| U2 | 21.6 | 20.2 |
| U3 | 20.6 | 19.6 |
| U4 | 19.6 | 19.1 |
| Highest Urban U5 | 18.9 | 18.3 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.6082 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.4232 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.10: Total Respiratory Morbidity

| Regional Health Authority | Total Number Observed | CRUDE percent (%) | Total Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 5,617 | 10.32 | 5,598 | 9.27 |
| Central | 9,051 | 9.35 | 9,265 | 9.16 |
| Assiniboine | 8,108 | 11.33 | 6,842 | 9.99 |
| Brandon | 6,886 | 14.55 | 6,768 | 13.75 |
| Winnipeg | 84,667 | 13.05 | 83,432 | 12.59 |
| Interlake | 8,875 | 11.84 | 8,327 | 10.84 |
| North Eastman | 4,795 | 12.18 | 4,745 | 11.86 |
| Parkland | 7,552 | 17.19 | 6,078 | 14.41 |
| Churchill | 99 | 9.82 | 51 | 5.33 |
| Nor-Man | 2,734 | 10.84 | 2,312 | 9.48 |
| Burntwood | 3,414 | 7.58 | 3,008 | 6.52 |
| | | | | |
| Rural South | 22,776 | 10.22 | 21,705 | 9.44 |
| Mid | 21,222 | 13.41 | 19,150 | 12.04 |
| North | 6,247 | 8.76 | 5,371 | 7.51 |
| | | | | |
| Manitoba | 142,317 | 12.36 | 136,867 | 11.65 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Total Number Observed | CRUDE percent (%) | Total Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 6,737 | 10.90 | 6,967 | 10.58 |
| Assiniboine South | 4,590 | 12.55 | 4,402 | 11.93 |
| St. Boniface | 4,925 | 10.48 | 5,585 | 10.98 |
| St. Vital | 7,380 | 12.19 | 6,835 | 11.13 |
| Transcona | 4,473 | 13.45 | 4,481 | 13.49 |
| River Heights | 6,768 | 12.02 | 6,397 | 11.52 |
| River East | 11,374 | 12.33 | 11,431 | 12.12 |
| Seven Oaks | 8,240 | 14.30 | 7,898 | 13.12 |
| St. James - Assiniboia | 8,332 | 13.99 | 7,812 | 13.36 |
| Inkster | 4,352 | 13.94 | 4,678 | 14.88 |
| Downtown | 10,417 | 14.43 | 9,553 | 13.25 |
| Point Douglas | 7,079 | 17.42 | 7,393 | 17.53 |
| | | | | |
| Winnipeg | 84,667 | 13.05 | 83,432 | 12.59 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 14.62 | 11.99 |
| Lowest Rural R1 | 12.22 | 10.52 |
| R2 | 11.57 | 9.96 |
| R3 | 11.14 | 10.25 |
| R4 | 10.48 | 9.91 |
| Highest Rural R5 | 10.94 | 10.53 |
| Lowest Urban U1 | 15.74 | 14.89 |
| U2 | 13.96 | 13.59 |
| U3 | 13.05 | 12.73 |
| U4 | 12.38 | 11.83 |
| Highest Urban U5 | 10.93 | 10.48 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.9568 |
| compare rural trends over time | | 0.0001 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.9324 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.11: Diabetes

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1998/99-2000/01 | | 2003/04-2005/06 | |
| South Eastman | 1,930 | 5.25 | 2,719 | 6.78 |
| Central | 3,984 | 6.00 | 5,131 | 7.40 |
| Assiniboine | 4,128 | 7.74 | 4,971 | 9.59 |
| Brandon | 2,235 | 6.48 | 3,128 | 8.67 |
| Winnipeg | 30,214 | 6.19 | 40,950 | 8.16 |
| Interlake | 4,114 | 7.57 | 5,391 | 9.58 |
| North Eastman | 2,051 | 7.39 | 2,922 | 10.17 |
| Parkland | 2,899 | 8.93 | 3,495 | 11.05 |
| Churchill | 71 | 9.96 | 85 | 12.46 |
| Nor-Man | 1,508 | 9.01 | 1,899 | 11.49 |
| Burntwood | 2,739 | 10.53 | 3,813 | 14.59 |
| | | | | |
| Rural South | 10,042 | 6.42 | 12,821 | 7.95 |
| Mid | 9,064 | 7.91 | 11,808 | 10.12 |
| North | 4,318 | 9.94 | 5,797 | 13.38 |
| | | | | |
| Manitoba | 56,246 | 6.70 | 75,017 | 8.70 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1998/99-2000/01 | | 2003/04-2005/06 | |
| Fort Garry | 2,241 | 4.88 | 3,289 | 6.77 |
| Assiniboine South | 1,306 | 4.81 | 1,816 | 6.42 |
| St. Boniface | 1,969 | 5.53 | 2,803 | 7.39 |
| St. Vital | 2,453 | 5.42 | 3,381 | 7.27 |
| Transcona | 1,527 | 6.27 | 1,959 | 7.98 |
| River Heights | 2,496 | 5.45 | 3,187 | 6.97 |
| River East | 4,180 | 6.07 | 5,700 | 7.96 |
| Seven Oaks | 3,071 | 7.07 | 4,440 | 9.84 |
| St. James - Assiniboia | 3,003 | 6.37 | 3,896 | 8.36 |
| Inkster | 1,467 | 6.74 | 2,128 | 9.63 |
| Downtown | 3,962 | 7.44 | 5,081 | 9.30 |
| Point Douglas | 2,539 | 8.70 | 3,270 | 10.93 |
| | | | | |
| Winnipeg | 30,214 | 6.19 | 40,950 | 8.16 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| Income Not Found | 8.14 | 9.17 |
| Lowest Rural R1 | 11.94 | 15.18 |
| R2 | 6.85 | 8.56 |
| R3 | 6.96 | 8.74 |
| R4 | 6.14 | 8.13 |
| Highest Rural R5 | 5.69 | 7.09 |
| Lowest Urban U1 | 8.36 | 10.60 |
| U2 | 6.77 | 8.91 |
| U3 | 5.88 | 7.87 |
| U4 | 5.48 | 7.39 |
| Highest Urban U5 | 4.47 | 6.00 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.8764 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.1759 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.12: Ischemic Heart Disease

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 2,967 | 8.21 | 3,182 | 8.00 |
| Central | 5,731 | 8.68 | 5,644 | 8.13 |
| Assiniboine | 5,348 | 10.02 | 5,149 | 9.84 |
| Brandon | 2,719 | 7.94 | 3,015 | 8.42 |
| Winnipeg | 43,880 | 9.05 | 43,933 | 8.75 |
| Interlake | 4,923 | 9.10 | 4,860 | 8.67 |
| North Eastman | 2,215 | 8.09 | 2,318 | 8.07 |
| Parkland | 4,467 | 13.74 | 4,569 | 14.36 |
| Churchill | 50 | 7.11 | 48 | 6.62 |
| Nor-Man | 1,079 | 6.44 | 1,133 | 6.79 |
| Burntwood | 1,313 | 5.06 | 1,529 | 5.79 |
| | | | | |
| Rural South | 14,046 | 9.03 | 13,975 | 8.65 |
| Mid | 11,605 | 10.18 | 11,747 | 10.07 |
| North | 2,442 | 5.63 | 2,710 | 6.18 |
| | | | | |
| Manitoba | 75,163 | 9.00 | 75,918 | 8.80 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 3,052 | 6.75 | 3,535 | 7.30 |
| Assiniboine South | 2,534 | 9.46 | 2,610 | 9.22 |
| St. Boniface | 3,118 | 8.87 | 3,297 | 8.77 |
| St. Vital | 3,682 | 8.17 | 3,971 | 8.52 |
| Transcona | 1,716 | 7.05 | 1,867 | 7.55 |
| River Heights | 4,783 | 10.42 | 4,379 | 9.56 |
| River East | 6,282 | 9.22 | 6,297 | 8.81 |
| Seven Oaks | 4,136 | 9.59 | 4,394 | 9.79 |
| St. James - Assiniboia | 5,774 | 12.23 | 5,246 | 11.24 |
| Inkster | 1,391 | 6.43 | 1,424 | 6.35 |
| Downtown | 4,320 | 8.14 | 4,019 | 7.26 |
| Point Douglas | 3,092 | 10.62 | 2,894 | 9.71 |
| | | | | |
| Winnipeg | 43,880 | 9.05 | 43,933 | 8.75 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 7.79 | 9.97 |
| Lowest Rural R1 | 10.07 | 10.42 |
| R2 | 8.66 | 8.31 |
| R3 | 8.27 | 7.83 |
| R4 | 8.64 | 8.12 |
| Highest Rural R5 | 8.28 | 7.69 |
| Lowest Urban U1 | 10.49 | 9.78 |
| U2 | 9.62 | 8.97 |
| U3 | 9.12 | 8.57 |
| U4 | 8.71 | 8.08 |
| Highest Urban U5 | 8.07 | 7.25 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0039 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.2679 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.13: Osteoporosis

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1998/99-2000/01 | | 2003/04-2005/06 | |
| South Eastman | 1,111 | 8.51 | 1,578 | 10.80 |
| Central | 2,396 | 9.22 | 3,032 | 10.92 |
| Assiniboine | 2,664 | 10.49 | 3,487 | 13.60 |
| Brandon | 1,635 | 12.22 | 2,311 | 16.08 |
| Winnipeg | 20,199 | 10.91 | 26,372 | 13.16 |
| Interlake | 1,929 | 8.50 | 2,937 | 11.71 |
| North Eastman | 862 | 7.75 | 1,235 | 9.84 |
| Parkland | 1,439 | 9.40 | 1,754 | 11.29 |
| Churchill | 21 | 10.94 | 14 | 7.11 |
| Nor-Man | 407 | 7.85 | 699 | 12.33 |
| Burntwood | 418 | 7.15 | 633 | 10.13 |
| | | | | |
| Rural South | 6,171 | 9.58 | 8,097 | 11.91 |
| Mid | 4,230 | 8.61 | 5,926 | 11.15 |
| North | 846 | 7.54 | 1,346 | 11.11 |
| | | | | |
| Manitoba | 33,485 | 10.29 | 44,481 | 12.69 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1998/99-2000/01 | | 2003/04-2005/06 | |
| Fort Garry | 1,618 | 9.93 | 2,466 | 13.10 |
| Assiniboine South | 1,287 | 11.34 | 1,861 | 14.32 |
| St. Boniface | 1,423 | 10.20 | 1,859 | 12.29 |
| St. Vital | 1,803 | 10.84 | 2,461 | 13.02 |
| Transcona | 671 | 8.20 | 881 | 10.03 |
| River Heights | 2,513 | 13.73 | 3,046 | 16.20 |
| River East | 2,864 | 10.73 | 3,729 | 12.60 |
| Seven Oaks | 1,900 | 10.88 | 2,423 | 12.59 |
| St. James - Assiniboia | 2,480 | 11.91 | 3,223 | 15.19 |
| Inkster | 498 | 7.34 | 678 | 9.04 |
| Downtown | 1,967 | 11.03 | 2,444 | 13.17 |
| Point Douglas | 1,175 | 10.77 | 1,301 | 11.93 |
| | | | | |
| Winnipeg | 20,199 | 10.91 | 26,372 | 13.16 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| Income Not Found | 13.71 | 13.85 |
| Lowest Rural R1 | 9.42 | 11.43 |
| R2 | 9.40 | 11.63 |
| R3 | 9.14 | 12.23 |
| R4 | 8.96 | 11.99 |
| Highest Rural R5 | 8.85 | 12.44 |
| Lowest Urban U1 | 11.13 | 13.67 |
| U2 | 10.18 | 12.50 |
| U3 | 10.28 | 13.05 |
| U4 | 10.57 | 12.92 |
| Highest Urban U5 | 10.60 | 13.64 |
| linear trend rural T1 | | 0.0637 |
| linear trend rural T2 | | 0.0169 |
| compare rural trends over time | | 0.0029 |
| linear trend urban T1 | | 0.4297 |
| linear trend urban T2 | | 0.6917 |
| compare urban trends over time | | 0.3938 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.14: AMI

| Regional Health Authority | CRUDE rate per 1,000 | CRUDE rate per 1,000 |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| South Eastman | 4.44 | 3.54 |
| Central | 5.09 | 4.46 |
| Assiniboine | 6.25 | 5.44 |
| Brandon | 6.35 | 5.39 |
| Winnipeg | 5.01 | 4.29 |
| Interlake | 5.67 | 4.53 |
| North Eastman | 4.62 | 3.68 |
| Parkland | 6.74 | 6.35 |
| Churchill | | |
| Nor-Man | 4.60 | 3.93 |
| Burntwood | 4.21 | 3.62 |
| | | |
| South | 5.39 | 4.59 |
| Mid | 5.74 | 4.83 |
| North | 4.36 | 3.74 |
| | | |
| Manitoba | 5.26 | 4.47 |
| Public Trustee | 14.02 | 9.22 |

blank cells = suppressed

itoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 | CRUDE rate per 1,000 |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Fort Garry | 2.70 | 2.90 |
| Assiniboine South | 3.96 | 3.71 |
| St. Boniface | 4.59 | 3.08 |
| St. Vital | 4.77 | 3.30 |
| Transcona | 4.93 | 4.09 |
| River Heights | 5.17 | 3.77 |
| River East | 5.71 | 5.17 |
| Seven Oaks | 5.70 | 5.60 |
| St. James - Assiniboia | 5.42 | 4.92 |
| Inkster | 4.33 | 4.21 |
| Downtown | 5.06 | 4.03 |
| Point Douglas | 7.30 | 6.57 |
| | | |
| Winnipeg | 5.01 | 4.29 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 8.18 | 6.78 |
| Lowest Rural R1 | 6.14 | 5.95 |
| R2 | 5.22 | 4.60 |
| R3 | 5.29 | 4.51 |
| R4 | 4.93 | 4.23 |
| Highest Rural R5 | 4.88 | 3.94 |
| Lowest Urban U1 | 5.90 | 5.40 |
| U2 | 5.96 | 4.98 |
| U3 | 5.06 | 4.59 |
| U4 | 4.88 | 3.99 |
| Highest Urban U5 | 3.74 | 3.27 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0253 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.4532 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.15: Stroke

| Regional Health Authority | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| South Eastman | 3.66 | 2.68 |
| Central | 4.46 | 3.25 |
| Assiniboine | 5.26 | 3.90 |
| Brandon | 3.67 | 2.35 |
| Winnipeg | 3.53 | 2.66 |
| Interlake | 4.79 | 3.36 |
| North Eastman | 4.10 | 3.01 |
| Parkland | 6.36 | 5.05 |
| Churchill | | 0.00 |
| Nor-Man | 3.50 | 2.52 |
| Burntwood | 4.15 | 3.34 |
| | | |
| Rural South | 4.59 | 3.35 |
| Mid | 5.10 | 3.75 |
| North | 3.81 | 2.92 |
| | | |
| Manitoba | 4.05 | 3.01 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Fort Garry | 2.44 | 2.48 |
| Assiniboine South | 2.58 | 2.40 |
| St. Boniface | 3.06 | 1.88 |
| St. Vital | 2.83 | 2.06 |
| Transcona | 2.98 | 2.11 |
| River Heights | 3.93 | 3.02 |
| River East | 4.03 | 3.06 |
| Seven Oaks | 3.35 | 2.72 |
| St. James - Assiniboia | 3.97 | 3.32 |
| Inkster | 2.90 | 1.89 |
| Downtown | 4.31 | 2.91 |
| Point Douglas | 5.12 | 3.14 |
| | | |
| Winnipeg | 3.53 | 2.66 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1996/97-2000/01 | ADJUSTED rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Income Not Found | 8.28 | 7.25 |
| Lowest Rural R1 | 5.96 | 4.47 |
| R2 | 4.52 | 3.50 |
| R3 | 4.44 | 3.65 |
| R4 | 4.32 | 3.11 |
| Highest Rural R5 | 3.78 | 2.66 |
| Lowest Urban U1 | 4.27 | 3.03 |
| U2 | 3.59 | 2.77 |
| U3 | 3.27 | 2.38 |
| U4 | 3.22 | 2.18 |
| Highest Urban U5 | 2.52 | 2.19 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.3271 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.1366 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.16: Lower Limb Amputations Among Residents with Diabetes

| Regional Health Authority | CRUDE Rate per 1,000 1998/99-2002/03 | CRUDE Rate per 1,000 2001/02-2005/06 |
|---|---|---|
| South Eastman | 1.71% | 1.19% |
| Central | 2.00% | 1.70% |
| Assiniboine | 1.40% | 1.23% |
| Brandon | 1.08% | 1.03% |
| Winnipeg | 1.58% | 1.35% |
| Interlake | 1.93% | 2.14% |
| North Eastman | 2.82% | 2.49% |
| Parkland | 2.97% | 2.27% |
| Churchill | 0.00% | |
| Nor-Man | 3.16% | 1.78% |
| Burntwood | 3.59% | 3.82% |
| | | |
| Rural South | 1.69% | 1.41% |
| Mid | 2.47% | 2.26% |
| North | 3.38% | 3.09% |
| | | |
| Manitoba | 1.86% | 1.63% |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE Rate per 1,000 1998/99-2002/03 | CRUDE Rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Fort Garry | 1.45% | 1.11% |
| Assiniboine South | 0.52% | 0.69% |
| St. Boniface | 1.18% | 0.91% |
| St. Vital | 1.03% | 1.06% |
| Transcona | 1.07% | 1.31% |
| River Heights | 1.49% | 0.88% |
| River East | 1.60% | 1.27% |
| Seven Oaks | 2.01% | 1.79% |
| St. James - Assiniboia | 0.89% | 0.86% |
| Inkster | 1.23% | 1.29% |
| Downtown | 2.38% | 1.94% |
| Point Douglas | 2.60% | 2.36% |
| | | |
| Winnipeg | 1.58% | 1.35% |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1998/99-2002/03 | ADJUSTED rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Income Not Found | 1.99% | 1.57% |
| Lowest Rural R1 | 3.63% | 3.05% |
| R2 | 1.93% | 1.99% |
| R3 | 1.88% | 1.67% |
| R4 | 1.73% | 1.50% |
| Highest Rural R5 | 1.82% | 1.67% |
| Lowest Urban U1 | 2.19% | 1.93% |
| U2 | 1.48% | 1.54% |
| U3 | 1.64% | 1.22% |
| U4 | 1.12% | 0.86% |
| Highest Urban U5 | 0.79% | 0.69% |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.9975 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.5930 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.17: Mortality Rates for People With and Without Hypertension, 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Hypertension | | w/o Hypertension | |
| South Eastman | 974 | 14.82 | 584 | 2.06 |
| Central | 2289 | 17.56 | 1458 | 2.93 |
| Assiniboine | 2399 | 19.16 | 1533 | 4.16 |
| Brandon | 1142 | 17.26 | 743 | 3.03 |
| Winnipeg | 15069 | 16.39 | 10892 | 3.08 |
| Interlake | 1837 | 15.45 | 1238 | 3.09 |
| North Eastman | 793 | 14.04 | 604 | 2.91 |
| Parkland | 1452 | 19.26 | 1019 | 4.56 |
| Churchill | 12 | 9.60 | 15 | 3.22 |
| Nor-Man | 390 | 15.11 | 387 | 3.22 |
| Burntwood | 415 | 11.51 | 479 | 2.41 |
| | | | | |
| Rural South | 5662 | 17.62 | 3575 | 3.11 |
| Mid | 4082 | 16.28 | 2861 | 3.44 |
| North | 817 | 12.95 | 881 | 2.72 |
| | | | | |
| Manitoba | 27262 | 16.73 | 19703 | 3.22 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Hypertension | | w/o Hypertension | |
| Fort Garry | 962 | 12.98 | 754 | 2.27 |
| Assiniboine South | 831 | 16.29 | 542 | 2.74 |
| St. Boniface | 1003 | 14.73 | 722 | 2.72 |
| St. Vital | 1272 | 14.93 | 810 | 2.43 |
| Transcona | 558 | 13.54 | 397 | 2.12 |
| River Heights | 1588 | 18.40 | 1195 | 3.74 |
| River East | 2210 | 16.33 | 1467 | 2.86 |
| Seven Oaks | 1492 | 16.15 | 974 | 3.08 |
| St. James - Assiniboia | 1701 | 17.00 | 1192 | 3.65 |
| Inkster | 484 | 12.97 | 401 | 2.44 |
| Downtown | 1805 | 19.88 | 1523 | 4.08 |
| Point Douglas | 1163 | 20.25 | 915 | 4.38 |
| | | | | |
| Winnipeg | 15069 | 16.39 | 10892 | 3.08 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with Hyper-tension | w/o Hyper-tension |
| Income Not Found | 11.61 | 5.43 |
| Lowest Rural R1 | 5.36 | 3.62 |
| R2 | 4.43 | 3.11 |
| R3 | 4.47 | 3.22 |
| R4 | 4.12 | 2.90 |
| Highest Rural R5 | 3.61 | 2.87 |
| Lowest Urban U1 | 6.11 | 3.82 |
| U2 | 4.48 | 3.16 |
| U3 | 4.01 | 2.99 |
| U4 | 3.29 | 2.58 |
| Highest Urban U5 | 3.05 | 2.50 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0193 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.18: Five-Year Mortality for People With and Without Arthritis, 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Arthritis | | w/o Arthritis | |
| South Eastman | 559 | 8.58 | 992 | 3.54 |
| Central | 1353 | 11.21 | 2377 | 4.75 |
| Assiniboine | 1369 | 12.92 | 2548 | 6.64 |
| Brandon | 694 | 10.58 | 1181 | 4.89 |
| Winnipeg | 9836 | 10.49 | 15947 | 4.61 |
| Interlake | 1001 | 9.67 | 2058 | 4.99 |
| North Eastman | 484 | 8.65 | 908 | 4.40 |
| Parkland | 979 | 12.73 | 1482 | 6.77 |
| Churchill | 9 | 6.00 | 18 | 4.26 |
| Nor-Man | 314 | 9.17 | 456 | 4.14 |
| Burntwood | 284 | 6.81 | 607 | 3.17 |
| | | | | |
| Rural South | 3281 | 11.24 | 5917 | 5.08 |
| Mid | 2464 | 10.42 | 4448 | 5.31 |
| North | 607 | 7.84 | 1081 | 3.53 |
| | | | | |
| Manitoba | 17270 | 10.69 | 29423 | 4.88 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Arthritis | | w/o Arthritis | |
| Fort Garry | 623 | 8.22 | 1069 | 3.31 |
| Assiniboine South | 549 | 9.96 | 817 | 4.28 |
| St. Boniface | 600 | 9.26 | 1116 | 4.21 |
| St. Vital | 755 | 9.08 | 1312 | 3.96 |
| Transcona | 317 | 7.44 | 635 | 3.44 |
| River Heights | 1107 | 12.56 | 1651 | 5.31 |
| River East | 1412 | 10.83 | 2250 | 4.40 |
| Seven Oaks | 981 | 10.86 | 1477 | 4.69 |
| St. James - Assiniboia | 1152 | 12.08 | 1725 | 5.28 |
| Inkster | 276 | 6.83 | 604 | 3.81 |
| Downtown | 1248 | 11.87 | 2041 | 5.88 |
| Point Douglas | 816 | 12.31 | 1250 | 6.37 |
| | | | | |
| Winnipeg | 9836 | 10.49 | 15947 | 4.61 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with Arthritis | w/o Arthritis |
| Income Not Found | 13.10 | 8.48 |
| Lowest Rural R1 | 7.01 | 5.55 |
| R2 | 5.89 | 4.65 |
| R3 | 6.02 | 4.77 |
| R4 | 5.50 | 4.34 |
| Highest Rural R5 | 5.10 | 4.11 |
| Lowest Urban U1 | 7.61 | 6.00 |
| U2 | 5.94 | 4.74 |
| U3 | 5.42 | 4.46 |
| U4 | 4.57 | 3.77 |
| Highest Urban U5 | 4.29 | 3.50 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.8071 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.4287 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.19: Five-Year Mortality for People With and Without Total Respiratory Morbidity (TRM), 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with TRM | | w/o TRM | |
| South Eastman | 300 | 8.62 | 1258 | 4.00 |
| Central | 654 | 11.27 | 3093 | 5.43 |
| Assiniboine | 774 | 13.99 | 3158 | 7.20 |
| Brandon | 459 | 10.34 | 1426 | 5.34 |
| Winnipeg | 5993 | 10.50 | 19968 | 5.14 |
| Interlake | 638 | 10.66 | 2437 | 5.30 |
| North Eastman | 263 | 8.59 | 1134 | 4.86 |
| Parkland | 621 | 13.12 | 1850 | 7.36 |
| Churchill | 6 | 10.71 | 21 | 3.93 |
| Nor-Man | 145 | 9.73 | 632 | 4.82 |
| Burntwood | 137 | 7.08 | 757 | 3.52 |
| | | | | |
| Rural South | 1728 | 11.66 | 7509 | 5.68 |
| Mid | 1522 | 11.05 | 5421 | 5.74 |
| North | 288 | 8.28 | 1410 | 4.01 |
| | | | | |
| Manitoba | 10272 | 10.92 | 36693 | 5.39 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with TRM | | w/o TRM | |
| Fort Garry | 373 | 8.63 | 1343 | 3.70 |
| Assiniboine South | 352 | 11.20 | 1021 | 4.70 |
| St. Boniface | 352 | 10.27 | 1373 | 4.59 |
| St. Vital | 474 | 9.69 | 1608 | 4.35 |
| Transcona | 209 | 6.69 | 746 | 3.78 |
| River Heights | 590 | 12.02 | 2193 | 6.15 |
| River East | 817 | 10.42 | 2860 | 5.01 |
| Seven Oaks | 568 | 10.14 | 1898 | 5.38 |
| St. James - Assiniboia | 736 | 12.02 | 2157 | 5.90 |
| Inkster | 196 | 7.64 | 689 | 3.92 |
| Downtown | 831 | 12.70 | 2497 | 6.26 |
| Point Douglas | 495 | 10.82 | 1583 | 7.17 |
| | | | | |
| Winnipeg | 5993 | 10.50 | 19968 | 5.14 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with TRM | w/o TRM |
| Income Not Found | 17.59 | 8.25 |
| Lowest Rural R1 | 9.49 | 5.88 |
| R2 | 7.85 | 5.20 |
| R3 | 8.13 | 5.18 |
| R4 | 7.38 | 4.91 |
| Highest Rural R5 | 6.79 | 4.88 |
| Lowest Urban U1 | 10.07 | 6.71 |
| U2 | 7.88 | 5.35 |
| U3 | 7.21 | 5.07 |
| U4 | 6.09 | 4.33 |
| Highest Urban U5 | 5.72 | 4.15 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0033 |
| compare rural trends over time | | 0.0730 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.1228 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.20: Five-Year Mortality for People With and Without Diabetes, 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Diabetes | | w/o Diabetes | |
| South Eastman | 313 | 19.32 | 1231 | 3.78 |
| Central | 723 | 21.61 | 2991 | 5.14 |
| Assiniboine | 752 | 21.81 | 3154 | 7.00 |
| Brandon | 348 | 18.24 | 1513 | 5.34 |
| Winnipeg | 4760 | 18.72 | 20871 | 5.11 |
| Interlake | 618 | 17.26 | 2430 | 5.10 |
| North Eastman | 293 | 16.30 | 1092 | 4.51 |
| Parkland | 514 | 21.24 | 1929 | 7.18 |
| Churchill | 11 | 19.30 | 16 | 3.16 |
| Nor-Man | 208 | 17.20 | 557 | 4.27 |
| Burntwood | 296 | 12.09 | 593 | 2.86 |
| | | | | |
| Rural South | 1788 | 21.25 | 7376 | 5.43 |
| Mid | 1425 | 18.27 | 5451 | 5.52 |
| North | 515 | 13.87 | 1166 | 3.40 |
| | | | | |
| Manitoba | 9053 | 19.01 | 37390 | 5.28 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Diabetes | | w/o Diabetes | |
| Fort Garry | 326 | 17.34 | 1352 | 3.62 |
| Assiniboine South | 210 | 18.31 | 1146 | 4.95 |
| St. Boniface | 300 | 18.09 | 1405 | 4.54 |
| St. Vital | 382 | 17.90 | 1669 | 4.30 |
| Transcona | 208 | 15.70 | 741 | 3.49 |
| River Heights | 408 | 20.28 | 2336 | 6.28 |
| River East | 707 | 19.62 | 2942 | 4.91 |
| Seven Oaks | 520 | 19.28 | 1928 | 5.15 |
| St. James - Assiniboia | 461 | 18.20 | 2406 | 6.14 |
| Inkster | 193 | 15.20 | 683 | 3.71 |
| Downtown | 616 | 19.79 | 2639 | 6.43 |
| Point Douglas | 429 | 20.88 | 1624 | 6.81 |
| | | | | |
| Winnipeg | 4760 | 18.72 | 20871 | 5.11 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with Diabetes | w/o Diabetes |
| Income Not Found | 24.57 | 7.83 |
| Lowest Rural R1 | 12.23 | 5.96 |
| R2 | 10.62 | 4.82 |
| R3 | 10.93 | 4.88 |
| R4 | 9.81 | 4.94 |
| Highest Rural R5 | 9.17 | 4.56 |
| Lowest Urban U1 | 14.15 | 5.87 |
| U2 | 10.73 | 4.98 |
| U3 | 9.95 | 4.53 |
| U4 | 8.33 | 4.05 |
| Highest Urban U5 | 7.87 | 3.93 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0005 |
| compare rural trends over time | | 0.4017 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0074 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.21: Five-Year Mortality for People With and Without Ischemic Heart Disease (IHD), 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with IHD | | w/o IHD | |
| South Eastman | 512 | 22.75 | 1023 | 3.26 |
| Central | 1174 | 27.28 | 2516 | 4.48 |
| Assiniboine | 1087 | 28.17 | 2793 | 6.38 |
| Brandon | 537 | 27.11 | 1306 | 4.73 |
| Winnipeg | 8312 | 25.62 | 16989 | 4.35 |
| Interlake | 900 | 24.11 | 2127 | 4.55 |
| North Eastman | 343 | 20.39 | 1027 | 4.29 |
| Parkland | 891 | 27.47 | 1532 | 6.01 |
| Churchill | 6 | 18.75 | 21 | 4.02 |
| Nor-Man | 180 | 23.97 | 569 | 4.31 |
| Burntwood | 200 | 19.55 | 684 | 3.14 |
| | | | | |
| Rural South | 2773 | 26.63 | 6332 | 4.82 |
| Mid | 2134 | 24.64 | 4686 | 4.87 |
| North | 386 | 21.37 | 1274 | 3.59 |
| | | | | |
| Manitoba | 14398 | 25.86 | 31545 | 4.61 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with IHD | | w/o IHD | |
| Fort Garry | 508 | 21.64 | 1152 | 3.24 |
| Assiniboine South | 466 | 23.35 | 869 | 4.01 |
| St. Boniface | 529 | 22.58 | 1152 | 3.90 |
| St. Vital | 652 | 22.80 | 1377 | 3.69 |
| Transcona | 281 | 21.53 | 660 | 3.15 |
| River Heights | 985 | 29.59 | 1714 | 4.93 |
| River East | 1235 | 26.01 | 2382 | 4.14 |
| Seven Oaks | 836 | 26.26 | 1589 | 4.40 |
| St. James - Assiniboia | 1030 | 23.84 | 1798 | 4.93 |
| Inkster | 241 | 24.08 | 619 | 3.41 |
| Downtown | 927 | 31.78 | 2276 | 5.78 |
| Point Douglas | 622 | 29.68 | 1401 | 6.07 |
| | | | | |
| Winnipeg | 8312 | 25.62 | 16989 | 4.35 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with IHD | w/o IHD |
| Income Not Found | 17.56 | 6.71 |
| Lowest Rural R1 | 8.72 | 5.04 |
| R2 | 7.28 | 4.34 |
| R3 | 7.50 | 4.41 |
| R4 | 6.67 | 4.26 |
| Highest Rural R5 | 6.13 | 4.13 |
| Lowest Urban U1 | 9.68 | 5.07 |
| U2 | 7.25 | 4.37 |
| U3 | 6.64 | 4.11 |
| U4 | 5.43 | 3.75 |
| Highest Urban U5 | 5.12 | 3.50 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0013 |
| compare rural trends over time | | 0.0163 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.22: Five-Year Mortality for People With and Without Osteoporosis, 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with Osteo-porosis | CRUDE percent (%) w/o Osteo-porosis |
|---|---|---|
| South Eastman | 19.70 | 10.32 |
| Central | 24.43 | 12.56 |
| Assiniboine | 26.61 | 13.95 |
| Brandon | 23.67 | 12.42 |
| Winnipeg | 22.26 | 12.24 |
| Interlake | 19.55 | 11.89 |
| North Eastman | 20.72 | 10.47 |
| Parkland | 22.61 | 14.99 |
| Churchill | | 13.33 |
| Nor-Man | 24.72 | 12.53 |
| Burntwood | 20.75 | 11.34 |
| | | |
| Rural South | 24.47 | 12.64 |
| Mid | 20.81 | 12.50 |
| North | 22.25 | 11.92 |
| | | |
| Manitoba | 23.03 | 12.61 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with Osteo-porosis | CRUDE percent (%) w/o Osteo-porosis |
|---|---|---|
| Fort Garry | 16.20 | 9.29 |
| Assiniboine South | 23.91 | 10.05 |
| St. Boniface | 21.35 | 10.69 |
| St. Vital | 20.37 | 10.72 |
| Transcona | 16.56 | 10.26 |
| River Heights | 22.38 | 13.93 |
| River East | 22.27 | 11.91 |
| Seven Oaks | 21.48 | 12.38 |
| St. James - Assiniboia | 23.56 | 12.58 |
| Inkster | 20.00 | 11.39 |
| Downtown | 28.74 | 15.88 |
| Point Douglas | 24.77 | 17.24 |
| | | |
| Winnipeg | 22.26 | 12.24 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with Osteo-porosis | ADJUSTED percent (%) w/o Osteo-porosis |
|---|---|---|
| Income Not Found | 33.77 | 18.76 |
| Lowest Rural R1 | 17.86 | 12.80 |
| R2 | 15.99 | 12.21 |
| R3 | 16.58 | 12.33 |
| R4 | 15.10 | 11.44 |
| Highest Rural R5 | 14.37 | 11.26 |
| Lowest Urban U1 | 19.83 | 13.53 |
| U2 | 16.51 | 11.91 |
| U3 | 15.08 | 11.31 |
| U4 | 13.24 | 9.37 |
| Highest Urban U5 | 12.27 | 9.64 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0894 |
| compare rural trends over time | | 0.4041 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0953 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.23: Five-Year Mortality for People With and Without Cumulative Mental Illness (CMI), 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with CMI | | w/o CMI | |
| South Eastman | 469 | 6.20 | 1066 | 4.09 |
| Central | 1134 | 9.17 | 2556 | 5.31 |
| Assiniboine | 1163 | 11.86 | 2717 | 7.18 |
| Brandon | 586 | 7.79 | 1257 | 5.70 |
| Winnipeg | 8741 | 7.69 | 16560 | 5.35 |
| Interlake | 864 | 7.47 | 2163 | 5.56 |
| North Eastman | 369 | 6.33 | 1001 | 5.06 |
| Parkland | 643 | 10.23 | 1780 | 7.92 |
| Churchill | 7 | 4.35 | 20 | 5.08 |
| Nor-Man | 206 | 5.37 | 543 | 5.37 |
| Burntwood | 343 | 4.66 | 541 | 3.50 |
| | | | | |
| Rural South | 2766 | 9.30 | 6339 | 5.66 |
| Mid | 1876 | 7.92 | 4944 | 6.09 |
| North | 556 | 4.90 | 1104 | 4.25 |
| | | | | |
| Manitoba | 15205 | 8.11 | 30738 | 5.57 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with CMI | | w/o CMI | |
| Fort Garry | 515 | 5.99 | 1145 | 3.91 |
| Assiniboine South | 524 | 8.43 | 811 | 4.64 |
| St. Boniface | 601 | 6.98 | 1080 | 4.64 |
| St. Vital | 693 | 6.67 | 1336 | 4.49 |
| Transcona | 314 | 5.15 | 627 | 3.88 |
| River Heights | 956 | 8.81 | 1743 | 6.40 |
| River East | 1188 | 7.45 | 2429 | 5.24 |
| Seven Oaks | 847 | 8.08 | 1578 | 5.47 |
| St. James - Assiniboia | 969 | 8.70 | 1859 | 6.26 |
| Inkster | 224 | 5.10 | 636 | 4.31 |
| Downtown | 1182 | 9.06 | 2021 | 6.92 |
| Point Douglas | 728 | 9.17 | 1295 | 7.51 |
| | | | | |
| Winnipeg | 8741 | 7.69 | 16560 | 5.35 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | with CMI | w/o CMI |
| Income Not Found | 20.18 | 9.02 |
| Lowest Rural R1 | 11.39 | 6.63 |
| R2 | 9.63 | 5.27 |
| R3 | 9.77 | 5.50 |
| R4 | 8.88 | 5.03 |
| Highest Rural R5 | 8.45 | 4.50 |
| Lowest Urban U1 | 11.91 | 6.81 |
| U2 | 9.68 | 5.20 |
| U3 | 8.89 | 4.88 |
| U4 | 7.54 | 4.18 |
| Highest Urban U5 | 6.96 | 4.02 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.3519 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.6770 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.24: Cumulative Mental Health Disorders

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 9,303 | 20.0 | 11,132 | 21.7 |
| Central | 15,542 | 18.3 | 17,642 | 19.8 |
| Assiniboine | 12,603 | 18.7 | 13,484 | 20.4 |
| Brandon | 9,645 | 22.2 | 12,236 | 27.3 |
| Winnipeg | 142,150 | 23.6 | 160,578 | 25.8 |
| Interlake | 14,037 | 20.9 | 15,317 | 22.1 |
| North Eastman | 7,132 | 20.7 | 8,073 | 22.5 |
| Parkland | 8,099 | 19.6 | 8,813 | 21.7 |
| Churchill | 218 | 22.5 | 218 | 22.3 |
| Nor-Man | 5,277 | 23.3 | 5,338 | 23.7 |
| Burntwood | 9,810 | 27.1 | 8,973 | 24.1 |
| | | | | |
| Rural South | 37,448 | 18.9 | 42,258 | 20.5 |
| Mid | 29,268 | 20.5 | 32,203 | 22.1 |
| North | 15,305 | 25.6 | 14,529 | 23.9 |
| | | | | |
| Manitoba | 235,592 | 22.4 | 263,692 | 24.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 10,993 | 19.3 | 12,802 | 21.1 |
| Assiniboine South | 7,679 | 22.5 | 8,881 | 24.9 |
| St. Boniface | 10,350 | 24.3 | 11,602 | 25.6 |
| St. Vital | 12,895 | 23.2 | 14,298 | 24.9 |
| Transcona | 7,540 | 24.8 | 8,492 | 27.8 |
| River Heights | 14,117 | 25.6 | 15,290 | 27.7 |
| River East | 19,264 | 22.9 | 22,173 | 25.2 |
| Seven Oaks | 12,538 | 23.6 | 14,261 | 25.9 |
| St. James - Assiniboia | 13,954 | 24.2 | 14,922 | 26.1 |
| Inkster | 5,606 | 20.2 | 6,309 | 22.0 |
| Downtown | 17,023 | 25.3 | 19,967 | 28.1 |
| Point Douglas | 10,191 | 27.4 | 11,581 | 30.4 |
| | | | | |
| Winnipeg | 142,150 | 23.6 | 160,578 | 25.8 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 26.44 | 29.96 |
| Lowest Rural R1 | 20.96 | 22.48 |
| R2 | 20.43 | 21.16 |
| R3 | 21.05 | 22.25 |
| R4 | 20.76 | 21.85 |
| Highest Rural R5 | 20.53 | 21.03 |
| Lowest Urban U1 | 27.13 | 29.87 |
| U2 | 24.01 | 25.82 |
| U3 | 22.81 | 25.21 |
| U4 | 20.98 | 23.18 |
| Highest Urban U5 | 19.72 | 21.91 |
| linear trend rural T1 | | 0.7131 |
| linear trend rural T2 | | 0.1437 |
| compare rural trends over time | | 0.4429 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.6379 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.25: Depression Disorders

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 7,253 | 15.6 | 8,921 | 17.4 |
| Central | 12,207 | 14.4 | 14,681 | 16.5 |
| Assiniboine | 9,724 | 14.5 | 10,895 | 16.5 |
| Brandon | 7,540 | 17.4 | 9,718 | 21.7 |
| Winnipeg | 109,885 | 18.3 | 127,319 | 20.4 |
| Interlake | 10,969 | 16.3 | 12,422 | 17.9 |
| North Eastman | 5,385 | 15.6 | 6,547 | 18.3 |
| Parkland | 6,177 | 14.9 | 6,881 | 17.0 |
| Churchill | 89 | 9.2 | 143 | 14.6 |
| Nor-Man | 3,300 | 14.6 | 3,511 | 15.6 |
| Burntwood | 4,347 | 12.0 | 4,928 | 13.2 |
| | | | | |
| Rural South | 29,184 | 14.7 | 34,497 | 16.7 |
| Mid | 22,531 | 15.7 | 25,850 | 17.7 |
| North | 7,736 | 12.9 | 8,582 | 14.1 |
| | | | | |
| Manitoba | 177,793 | 16.9 | 207,060 | 19.1 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 8,838 | 15.5 | 10,468 | 17.2 |
| Assiniboine South | 6,248 | 18.3 | 7,420 | 20.8 |
| St. Boniface | 8,159 | 19.2 | 9,295 | 20.5 |
| St. Vital | 10,053 | 18.1 | 11,541 | 20.1 |
| Transcona | 5,539 | 18.2 | 6,407 | 21.0 |
| River Heights | 11,555 | 20.9 | 12,651 | 23.0 |
| River East | 15,249 | 18.2 | 18,002 | 20.5 |
| Seven Oaks | 9,693 | 18.3 | 11,280 | 20.5 |
| St. James - Assiniboia | 11,079 | 19.2 | 12,398 | 21.7 |
| Inkster | 4,016 | 14.4 | 4,619 | 16.1 |
| Downtown | 12,058 | 17.9 | 14,549 | 20.4 |
| Point Douglas | 7,398 | 19.9 | 8,689 | 22.8 |
| | | | | |
| Winnipeg | 109,885 | 18.3 | 127,319 | 20.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 17.43 | 21.01 |
| Lowest Rural R1 | 14.48 | 16.50 |
| R2 | 14.70 | 16.29 |
| R3 | 15.43 | 17.35 |
| R4 | 15.84 | 17.66 |
| Highest Rural R5 | 15.19 | 16.62 |
| Lowest Urban U1 | 20.30 | 22.88 |
| U2 | 18.55 | 20.27 |
| U3 | 17.80 | 20.13 |
| U4 | 16.38 | 18.71 |
| Highest Urban U5 | 15.87 | 17.83 |
| linear trend rural T1 | | 0.0183 |
| linear trend rural T2 | | 0.1802 |
| compare rural trends over time | | 0.4566 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.6975 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.26: Anxiety Disorders

| Regional Health Authority | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 2,360 | 5.08 | 3,226 | 6.30 |
| Central | 3,714 | 4.37 | 4,670 | 5.25 |
| Assiniboine | 3,192 | 4.75 | 3,509 | 5.31 |
| Brandon | 2,432 | 5.61 | 3,919 | 8.76 |
| Winnipeg | 41,119 | 6.83 | 51,465 | 8.26 |
| Interlake | 3,160 | 4.70 | 3,927 | 5.66 |
| North Eastman | 1,955 | 5.67 | 1,907 | 5.32 |
| Parkland | 2,330 | 5.63 | 2,982 | 7.36 |
| Churchill | 23 | 2.37 | 42 | 4.30 |
| Nor-Man | 1,859 | 8.20 | 1,917 | 8.51 |
| Burntwood | 1,318 | 3.64 | 1,732 | 4.65 |
| | | | | |
| Rural South | 9,266 | 4.67 | 11,405 | 5.53 |
| Mid | 7,445 | 5.20 | 8,816 | 6.05 |
| North | 3,200 | 5.35 | 3,691 | 6.08 |
| | | | | |
| Manitoba | 63,655 | 6.06 | 79,538 | 7.34 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 2,914 | 5.11 | 4,056 | 6.67 |
| Assiniboine South | 2,194 | 6.43 | 2,778 | 7.79 |
| St. Boniface | 2,963 | 6.97 | 3,908 | 8.62 |
| St. Vital | 4,020 | 7.23 | 4,727 | 8.24 |
| Transcona | 2,724 | 8.94 | 3,378 | 11.05 |
| River Heights | 3,912 | 7.09 | 4,753 | 8.62 |
| River East | 4,970 | 5.92 | 6,644 | 7.56 |
| Seven Oaks | 3,878 | 7.31 | 4,601 | 8.36 |
| St. James - Assiniboia | 3,799 | 6.59 | 4,225 | 7.39 |
| Inkster | 1,662 | 5.98 | 2,087 | 7.28 |
| Downtown | 5,148 | 7.65 | 6,752 | 9.49 |
| Point Douglas | 2,935 | 7.90 | 3,556 | 9.32 |
| | | | | |
| Winnipeg | 41,119 | 6.83 | 51,465 | 8.26 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 4.10 | 5.58 |
| Lowest Rural R1 | 4.84 | 5.99 |
| R2 | 4.94 | 5.84 |
| R3 | 6.01 | 6.32 |
| R4 | 5.17 | 5.89 |
| Highest Rural R5 | 5.17 | 6.22 |
| Lowest Urban U1 | 8.05 | 9.79 |
| U2 | 6.96 | 8.24 |
| U3 | 6.51 | 8.32 |
| U4 | 6.19 | 7.64 |
| Highest Urban U5 | 5.71 | 7.31 |
| linear trend rural T1 | | 0.0539 |
| linear trend rural T2 | | 0.3322 |
| compare rural trends over time | | 0.4694 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.1968 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.27: Substance Abuse

| Regional Health Authority | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 1,968 | 4.2 | 2,043 | 4.0 |
| Central | 3,163 | 3.7 | 2,976 | 3.3 |
| Assiniboine | 2,775 | 4.1 | 2,751 | 4.2 |
| Brandon | 2,211 | 5.1 | 2,707 | 6.0 |
| Winnipeg | 31,358 | 5.2 | 29,875 | 4.8 |
| Interlake | 3,242 | 4.8 | 2,941 | 4.2 |
| North Eastman | 1,784 | 5.2 | 1,681 | 4.7 |
| Parkland | 1,762 | 4.3 | 1,751 | 4.3 |
| Churchill | 144 | 14.9 | 102 | 10.4 |
| Nor-Man | 1,775 | 7.8 | 1,760 | 7.8 |
| Burntwood | 6,663 | 18.4 | 5,088 | 13.7 |
| | | | | |
| Rural South | 7,906 | 4.0 | 7,770 | 3.8 |
| Mid | 6,788 | 4.7 | 6,373 | 4.4 |
| North | 8,582 | 14.3 | 6,950 | 11.4 |
| | | | | |
| Manitoba | 57,175 | 5.4 | 53,996 | 5.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 1,928 | 3.4 | 1,595 | 2.6 |
| Assiniboine South | 1,201 | 3.5 | 1,178 | 3.3 |
| St. Boniface | 2,274 | 5.3 | 1,904 | 4.2 |
| St. Vital | 2,542 | 4.6 | 2,098 | 3.7 |
| Transcona | 1,630 | 5.4 | 1,380 | 4.5 |
| River Heights | 2,627 | 4.8 | 2,270 | 4.1 |
| River East | 4,148 | 4.9 | 3,828 | 4.4 |
| Seven Oaks | 2,280 | 4.3 | 2,324 | 4.2 |
| St. James - Assiniboia | 2,773 | 4.8 | 2,317 | 4.1 |
| Inkster | 1,382 | 5.0 | 1,420 | 5.0 |
| Downtown | 5,251 | 7.8 | 5,931 | 8.3 |
| Point Douglas | 3,322 | 8.9 | 3,630 | 9.5 |
| | | | | |
| Winnipeg | 31,358 | 5.2 | 29,875 | 4.8 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 6.48 | 6.13 |
| Lowest Rural R1 | 7.14 | 6.98 |
| R2 | 5.83 | 4.99 |
| R3 | 5.31 | 4.95 |
| R4 | 4.81 | 4.31 |
| Highest Rural R5 | 5.32 | 4.05 |
| Lowest Urban U1 | 8.11 | 8.04 |
| U2 | 5.48 | 5.07 |
| U3 | 4.90 | 4.43 |
| U4 | 3.91 | 3.23 |
| Highest Urban U5 | 3.05 | 2.59 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0010 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0022 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.28: Schizophrenia

| Regional Health Authority | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 305 | 0.66 | 316 | 0.62 |
| Central | 513 | 0.60 | 536 | 0.60 |
| Assiniboine | 404 | 0.60 | 404 | 0.61 |
| Brandon | 498 | 1.15 | 522 | 1.17 |
| Winnipeg | 7,467 | 1.24 | 7,698 | 1.24 |
| Interlake | 468 | 0.70 | 511 | 0.74 |
| North Eastman | 169 | 0.49 | 192 | 0.54 |
| Parkland | 425 | 1.03 | 465 | 1.15 |
| Churchill | 12 | 1.24 | 9 | 0.92 |
| Nor-Man | 178 | 0.79 | 178 | 0.79 |
| Burntwood | 260 | 0.72 | 291 | 0.78 |
| | | | | |
| South | 1,222 | 0.62 | 1,256 | 0.61 |
| Mid | 1,062 | 0.74 | 1,168 | 0.80 |
| North | 450 | 0.75 | 478 | 0.79 |
| | | | | |
| Manitoba | 11,635 | 1.11 | 12,095 | 1.12 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 459 | 0.81 | 445 | 0.73 |
| Assiniboine South | 228 | 0.67 | 251 | 0.70 |
| St. Boniface | 503 | 1.18 | 540 | 1.19 |
| St. Vital | 492 | 0.89 | 485 | 0.85 |
| Transcona | 230 | 0.76 | 211 | 0.69 |
| River Heights | 820 | 1.49 | 790 | 1.43 |
| River East | 858 | 1.02 | 886 | 1.01 |
| Seven Oaks | 585 | 1.10 | 528 | 0.96 |
| St. James - Assiniboia | 611 | 1.06 | 581 | 1.02 |
| Inkster | 268 | 0.96 | 263 | 0.92 |
| Downtown | 1,720 | 2.56 | 1,972 | 2.77 |
| Point Douglas | 693 | 1.87 | 746 | 1.96 |
| | | | | |
| Winnipeg | 7,467 | 1.24 | 7,698 | 1.24 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 6.46 | 7.60 |
| Lowest Rural R1 | 0.78 | 0.85 |
| R2 | 0.78 | 7.93 |
| R3 | 0.66 | 0.67 |
| R4 | 0.55 | 0.56 |
| Highest Rural R5 | 0.46 | 0.45 |
| Lowest Urban U1 | 2.09 | 2.17 |
| U2 | 1.22 | 1.19 |
| U3 | 0.93 | 0.90 |
| U4 | 0.67 | 0.60 |
| Highest Urban U5 | 0.51 | 0.50 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.5222 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.2838 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.29: Personality Disorders

| Regional Health Authority | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 192 | 0.41 | 214 | 0.42 |
| Central | 413 | 0.49 | 453 | 0.51 |
| Assiniboine | 364 | 0.54 | 396 | 0.60 |
| Brandon | 426 | 0.98 | 386 | 0.86 |
| Winnipeg | 6,515 | 1.08 | 6,463 | 1.04 |
| Interlake | 396 | 0.59 | 349 | 0.50 |
| North Eastman | 159 | 0.46 | 168 | 0.47 |
| Parkland | 241 | 0.58 | 359 | 0.89 |
| Churchill | 10 | 1.03 | 8 | 0.82 |
| Nor-Man | 116 | 0.51 | 113 | 0.50 |
| Burntwood | 172 | 0.48 | 227 | 0.61 |
| | | | | |
| Rural South | 969 | 0.49 | 1,063 | 0.52 |
| Mid | 796 | 0.56 | 876 | 0.60 |
| North | 298 | 0.50 | 348 | 0.57 |
| | | | | |
| Manitoba | 9,240 | 0.88 | 9,355 | 0.86 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 434 | 0.76 | 458 | 0.75 |
| Assiniboine South | 356 | 1.04 | 256 | 0.72 |
| St. Boniface | 438 | 1.03 | 407 | 0.90 |
| St. Vital | 464 | 0.84 | 487 | 0.85 |
| Transcona | 249 | 0.82 | 220 | 0.72 |
| River Heights | 879 | 1.59 | 948 | 1.72 |
| River East | 856 | 1.02 | 773 | 0.88 |
| Seven Oaks | 430 | 0.81 | 434 | 0.79 |
| St. James - Assiniboia | 598 | 1.04 | 477 | 0.83 |
| Inkster | 185 | 0.67 | 194 | 0.68 |
| Downtown | 1,131 | 1.68 | 1,335 | 1.88 |
| Point Douglas | 495 | 1.33 | 474 | 1.24 |
| | | | | |
| Winnipeg | 6,515 | 1.08 | 6,463 | 1.04 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 2.71 | 2.91 |
| Lowest Rural R1 | 0.57 | 0.60 |
| R2 | 0.53 | 0.62 |
| R3 | 0.51 | 0.55 |
| R4 | 0.49 | 0.49 |
| Highest Rural R5 | 0.43 | 0.44 |
| Lowest Urban U1 | 1.57 | 1.58 |
| U2 | 1.07 | 1.03 |
| U3 | 0.92 | 0.84 |
| U4 | 0.69 | 0.62 |
| Highest Urban U5 | 0.71 | 0.58 |
| linear trend rural T1 | | 0.0022 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.3891 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0255 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.30: Dementia

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 732 | 7.39 | 936 | 8.49 |
| Central | 1,879 | 8.80 | 2,320 | 10.43 |
| Assiniboine | 2,073 | 9.36 | 2,025 | 9.28 |
| Brandon | 987 | 9.14 | 1,072 | 9.50 |
| Winnipeg | 15,240 | 10.47 | 18,034 | 11.62 |
| Interlake | 1,353 | 7.61 | 1,574 | 8.16 |
| North Eastman | 601 | 7.17 | 630 | 6.67 |
| Parkland | 1,312 | 9.83 | 1,464 | 11.05 |
| Churchill | 14 | 10.45 | 11 | 8.27 |
| Nor-Man | 279 | 7.28 | 301 | 7.37 |
| Burntwood | 215 | 5.93 | 219 | 5.13 |
| | | | | |
| Rural South | 4,684 | 8.77 | 5,281 | 9.59 |
| Mid | 3,266 | 8.27 | 3,668 | 8.74 |
| North | 508 | 6.69 | 531 | 6.25 |
| | | | | |
| Manitoba | 25,976 | 10.01 | 30,079 | 10.95 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 878 | 7.55 | 1,283 | 9.40 |
| Assiniboine South | 1,073 | 13.53 | 1,265 | 13.12 |
| St. Boniface | 925 | 8.64 | 1,167 | 10.01 |
| St. Vital | 1,277 | 10.28 | 1,575 | 11.34 |
| Transcona | 457 | 7.67 | 572 | 8.79 |
| River Heights | 1,917 | 12.47 | 2,109 | 13.76 |
| River East | 2,165 | 10.30 | 2,520 | 11.04 |
| Seven Oaks | 1,327 | 9.89 | 1,750 | 11.91 |
| St. James - Assiniboia | 1,826 | 10.43 | 2,063 | 11.52 |
| Inkster | 378 | 7.55 | 446 | 8.33 |
| Downtown | 1,772 | 11.81 | 2,014 | 13.53 |
| Point Douglas | 1,245 | 12.93 | 1,270 | 14.26 |
| | | | | |
| Winnipeg | 15,240 | 10.47 | 18,034 | 11.62 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 30.01 | 36.61 |
| Lowest Rural R1 | 8.88 | 9.14 |
| R2 | 8.44 | 9.18 |
| R3 | 8.59 | 9.07 |
| R4 | 7.96 | 9.14 |
| Highest Rural R5 | 8.23 | 8.17 |
| Lowest Urban U1 | 11.33 | 12.64 |
| U2 | 9.26 | 10.24 |
| U3 | 8.70 | 9.19 |
| U4 | 8.38 | 8.96 |
| Highest Urban U5 | 8.67 | 9.45 |
| linear trend rural T1 | | 0.1755 |
| linear trend rural T2 | | 0.1330 |
| compare rural trends over time | | 0.9363 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.6855 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.31: Use of Physicians

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 44,118 | 81.1 | 48,222 | 79.9 |
| Central | 77,847 | 80.4 | 80,271 | 79.3 |
| Assiniboine | 59,078 | 82.6 | 55,891 | 81.6 |
| Brandon | 40,537 | 85.6 | 42,171 | 85.7 |
| Winnipeg | 550,928 | 84.9 | 560,382 | 84.6 |
| Interlake | 61,288 | 81.8 | 61,977 | 80.7 |
| North Eastman | 31,775 | 80.7 | 32,432 | 81.1 |
| Parkland | 37,006 | 84.2 | 35,182 | 83.4 |
| Churchill | 880 | 87.3 | 641 | 67.0 |
| Nor-Man | 19,700 | 78.1 | 18,421 | 75.6 |
| Burntwood | 32,614 | 72.4 | 30,377 | 65.8 |
| | | | | |
| Rural South | 181,043 | 81.3 | 184,384 | 80.2 |
| Mid | 130,069 | 82.2 | 129,591 | 81.5 |
| North | 53,194 | 74.6 | 49,439 | 69.1 |
| | | | | |
| Manitoba | 958,477 | 83.2 | 968,517 | 82.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 51,800 | 83.8 | 55,196 | 83.8 |
| Assiniboine South | 31,034 | 84.8 | 31,445 | 85.2 |
| St. Boniface | 40,369 | 85.9 | 43,750 | 86.0 |
| St. Vital | 52,130 | 86.1 | 52,951 | 86.2 |
| Transcona | 28,125 | 84.6 | 28,201 | 84.9 |
| River Heights | 48,174 | 85.5 | 47,398 | 85.3 |
| River East | 77,695 | 84.2 | 79,283 | 84.1 |
| Seven Oaks | 49,005 | 85.0 | 50,811 | 84.4 |
| St. James - Assiniboia | 51,086 | 85.8 | 49,810 | 85.2 |
| Inkster | 26,397 | 84.6 | 26,113 | 83.0 |
| Downtown | 60,323 | 83.5 | 60,054 | 83.3 |
| Point Douglas | 34,790 | 85.6 | 35,370 | 83.9 |
| | | | | |
| Winnipeg | 550,928 | 84.9 | 560,382 | 84.6 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 79.9 | 73.0 |
| Lowest Rural R1 | 79.1 | 76.8 |
| R2 | 80.6 | 79.1 |
| R3 | 82.6 | 80.5 |
| R4 | 82.3 | 81.9 |
| Highest Rural R5 | 82.9 | 83.2 |
| Lowest Urban U1 | 84.8 | 85.3 |
| U2 | 85.0 | 84.2 |
| U3 | 85.1 | 84.7 |
| U4 | 85.1 | 84.7 |
| Highest Urban U5 | 84.3 | 84.5 |
| linear trend rural T1 | | 0.0177 |
| linear trend rural T2 | | 0.0001 |
| compare rural trends over time | | 0.2496 |
| linear trend urban T1 | | 0.8185 |
| linear trend urban T2 | | 0.7829 |
| compare urban trends over time | | 0.9748 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.32: Ambulatory Visits

| Regional Health Authority | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 233,071 | 4.28 | 255,588 | 4.23 |
| Central | 397,601 | 4.11 | 412,732 | 4.08 |
| Assiniboine | 347,940 | 4.86 | 315,605 | 4.61 |
| Brandon | 250,402 | 5.29 | 272,467 | 5.54 |
| Winnipeg | 3,451,085 | 5.32 | 3,455,601 | 5.22 |
| Interlake | 330,002 | 4.40 | 340,639 | 4.43 |
| North Eastman | 182,009 | 4.62 | 192,448 | 4.81 |
| Parkland | 228,461 | 5.20 | 220,954 | 5.24 |
| Churchill | 5,158 | 5.12 | 2,440 | 2.55 |
| Nor-Man | 113,098 | 4.48 | 105,207 | 4.32 |
| Burntwood | 158,693 | 3.52 | 132,540 | 2.87 |
| | | | | |
| Rural South | 978,612 | 4.39 | 983,925 | 4.28 |
| Mid | 740,472 | 4.68 | 754,041 | 4.74 |
| North | 276,949 | 3.88 | 240,187 | 3.36 |
| | | | | |
| Manitoba | 5,721,596 | 4.97 | 5,732,203 | 4.88 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 294,611 | 4.77 | 317,809 | 4.82 |
| Assiniboine South | 193,621 | 5.29 | 198,620 | 5.38 |
| St. Boniface | 246,186 | 5.24 | 261,503 | 5.14 |
| St. Vital | 309,403 | 5.11 | 323,813 | 5.27 |
| Transcona | 160,091 | 4.81 | 160,064 | 4.82 |
| River Heights | 321,815 | 5.71 | 309,045 | 5.56 |
| River East | 458,646 | 4.97 | 464,812 | 4.93 |
| Seven Oaks | 318,286 | 5.52 | 311,519 | 5.18 |
| St. James - Assiniboia | 327,954 | 5.51 | 317,801 | 5.43 |
| Inkster | 159,025 | 5.09 | 151,216 | 4.81 |
| Downtown | 418,838 | 5.80 | 400,996 | 5.56 |
| Point Douglas | 242,609 | 5.97 | 238,403 | 5.65 |
| | | | | |
| Winnipeg | 3,451,085 | 5.32 | 3,455,601 | 5.22 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate resident | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 5.87 | 5.16 |
| Lowest Rural R1 | 4.43 | 4.32 |
| R2 | 4.47 | 4.40 |
| R3 | 4.73 | 4.51 |
| R4 | 4.59 | 4.51 |
| Highest Rural R5 | 4.55 | 4.50 |
| Lowest Urban U1 | 6.00 | 5.89 |
| U2 | 5.43 | 5.21 |
| U3 | 5.27 | 5.13 |
| U4 | 5.12 | 4.98 |
| Highest Urban U5 | 4.98 | 4.96 |
| linear trend rural T1 | | 0.1942 |
| linear trend rural T2 | | 0.0722 |
| compare rural trends over time | | 0.7223 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.6379 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.33: Ambulatory Consultation Rates

| Regional Health Authority | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 12,828 | 0.24 | 13,879 | 0.23 |
| Central | 19,840 | 0.20 | 22,779 | 0.23 |
| Assiniboine | 17,354 | 0.24 | 14,149 | 0.21 |
| Brandon | 14,099 | 0.30 | 13,175 | 0.27 |
| Winnipeg | 196,601 | 0.30 | 206,210 | 0.31 |
| Interlake | 19,807 | 0.26 | 21,152 | 0.28 |
| North Eastman | 10,026 | 0.25 | 10,376 | 0.26 |
| Parkland | 10,540 | 0.24 | 10,768 | 0.26 |
| Churchill | 426 | 0.42 | 190 | 0.20 |
| Nor-Man | 4,379 | 0.17 | 4,506 | 0.18 |
| Burntwood | 9,482 | 0.21 | 9,674 | 0.21 |
| | | | | |
| Rural South | 50,022 | 0.22 | 50,807 | 0.22 |
| Mid | 40,373 | 0.26 | 42,296 | 0.27 |
| North | 14,287 | 0.20 | 14,370 | 0.20 |
| | | | | |
| Manitoba | 316,454 | 0.27 | 327,793 | 0.28 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 18,989 | 0.31 | 20,807 | 0.32 |
| Assiniboine South | 12,237 | 0.33 | 13,681 | 0.37 |
| St. Boniface | 14,463 | 0.31 | 16,130 | 0.32 |
| St. Vital | 18,297 | 0.30 | 20,009 | 0.33 |
| Transcona | 9,562 | 0.29 | 9,904 | 0.30 |
| River Heights | 19,265 | 0.34 | 19,053 | 0.34 |
| River East | 27,216 | 0.29 | 28,230 | 0.30 |
| Seven Oaks | 17,914 | 0.31 | 18,503 | 0.31 |
| St. James - Assiniboia | 19,876 | 0.33 | 20,678 | 0.35 |
| Inkster | 7,915 | 0.25 | 8,051 | 0.26 |
| Downtown | 19,963 | 0.28 | 19,830 | 0.28 |
| Point Douglas | 10,904 | 0.27 | 11,334 | 0.27 |
| | | | | |
| Winnipeg | 196,601 | 0.30 | 206,210 | 0.31 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate resident | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 0.25 | 0.25 |
| Lowest Rural R1 | 0.23 | 0.23 |
| R2 | 0.23 | 0.23 |
| R3 | 0.25 | 0.23 |
| R4 | 0.25 | 0.25 |
| Highest Rural R5 | 0.26 | 0.27 |
| Lowest Urban U1 | 0.31 | 0.30 |
| U2 | 0.30 | 0.30 |
| U3 | 0.31 | 0.31 |
| U4 | 0.32 | 0.32 |
| Highest Urban U5 | 0.32 | 0.33 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.6957 |
| linear trend urban T1 | 0.0775 |
| linear trend urban T2 | 0.0011 |
| compare urban trends over time | 0.2930 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.34: Ambulatory Visits to Specialists

| Regional Health Authority | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 38,835 | 0.71 | 43,431 | 0.72 |
| Central | 60,017 | 0.62 | 69,114 | 0.68 |
| Assiniboine | 38,743 | 0.54 | 35,362 | 0.52 |
| Brandon | 44,475 | 0.94 | 40,664 | 0.83 |
| Winnipeg | 1,066,707 | 1.64 | 1,073,075 | 1.62 |
| Interlake | 80,020 | 1.07 | 82,690 | 1.08 |
| North Eastman | 35,567 | 0.90 | 38,223 | 0.96 |
| Parkland | 17,366 | 0.40 | 22,722 | 0.54 |
| Churchill | 809 | 0.80 | 567 | 0.59 |
| Nor-Man | 7,883 | 0.31 | 9,638 | 0.40 |
| Burntwood | 22,462 | 0.50 | 24,852 | 0.54 |
| | | | | |
| Rural South | 137,595 | 0.62 | 147,907 | 0.64 |
| Mid | 132,953 | 0.84 | 143,635 | 0.90 |
| North | 31,154 | 0.44 | 35,057 | 0.49 |
| | | | | |
| Manitoba | 1,416,852 | 1.23 | 1,444,714 | 1.23 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 96,491 | 1.56 | 104,710 | 1.59 |
| Assiniboine South | 62,790 | 1.72 | 67,645 | 1.83 |
| St. Boniface | 71,723 | 1.53 | 76,656 | 1.51 |
| St. Vital | 89,469 | 1.48 | 94,125 | 1.53 |
| Transcona | 45,445 | 1.37 | 46,638 | 1.40 |
| River Heights | 113,499 | 2.02 | 106,883 | 1.92 |
| River East | 154,561 | 1.68 | 150,338 | 1.59 |
| Seven Oaks | 105,449 | 1.83 | 102,539 | 1.70 |
| St. James - Assiniboia | 97,907 | 1.64 | 100,089 | 1.71 |
| Inkster | 49,028 | 1.57 | 46,524 | 1.48 |
| Downtown | 118,928 | 1.65 | 116,069 | 1.61 |
| Point Douglas | 61,417 | 1.51 | 60,859 | 1.44 |
| | | | | |
| Winnipeg | 1,066,707 | 1.64 | 1,073,075 | 1.62 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate residents | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 1.12 | 1.03 |
| Lowest Rural R1 | 0.61 | 0.68 |
| R2 | 0.58 | 0.63 |
| R3 | 0.61 | 0.64 |
| R4 | 0.72 | 0.75 |
| Highest Rural R5 | 1.00 | 1.06 |
| Lowest Urban U1 | 1.69 | 1.72 |
| U2 | 1.73 | 1.63 |
| U3 | 1.66 | 1.64 |
| U4 | 1.73 | 1.71 |
| Highest Urban U5 | 1.85 | 1.82 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.3856 |
| linear trend urban T1 | 0.1180 |
| linear trend urban T2 | 0.1459 |
| compare urban trends over time | 0.9391 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.35: Continuity of Care

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1999/2000-2000/01 | | 2004/05-2005/06 | |
| South Eastman | 12,087 | 62.2 | 12,927 | 61.6 |
| Central | 20,975 | 60.7 | 21,225 | 60.8 |
| Assiniboine | 16,526 | 60.9 | 16,321 | 63.9 |
| Brandon | 10,720 | 58.0 | 11,422 | 58.6 |
| Winnipeg | 168,364 | 68.9 | 180,673 | 73.3 |
| Interlake | 17,319 | 64.3 | 18,397 | 68.3 |
| North Eastman | 9,616 | 68.1 | 10,121 | 70.8 |
| Parkland | 11,090 | 64.0 | 10,442 | 63.4 |
| Churchill | 359 | 90.8 | 166 | 80.2 |
| Nor-Man | 6,088 | 69.2 | 5,571 | 66.8 |
| Burntwood | 6,275 | 46.6 | 5,516 | 46.0 |
| | | | | |
| Rural South | 49,588 | 61.1 | 50,472 | 62.0 |
| Mid | 38,024 | 65.1 | 38,960 | 67.5 |
| North | 12,722 | 56.1 | 11,253 | 54.8 |
| | | | | |
| Manitoba | 280,278 | 65.8 | 293,683 | 68.8 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1999/2000-2000/01 | | 2004/05-2005/06 | |
| Fort Garry | 15,432 | 68.6 | 17,200 | 72.4 |
| Assiniboine South | 9,348 | 69.1 | 10,175 | 74.7 |
| St. Boniface | 12,349 | 68.8 | 13,180 | 69.0 |
| St. Vital | 16,024 | 68.6 | 17,056 | 72.5 |
| Transcona | 8,973 | 71.4 | 10,018 | 80.6 |
| River Heights | 14,297 | 67.1 | 14,825 | 71.0 |
| River East | 25,360 | 75.2 | 27,123 | 78.7 |
| Seven Oaks | 16,152 | 73.8 | 17,566 | 79.2 |
| St. James - Assiniboia | 16,008 | 69.4 | 16,853 | 76.2 |
| Inkster | 7,779 | 66.3 | 8,063 | 70.3 |
| Downtown | 16,748 | 62.0 | 18,113 | 66.7 |
| Point Douglas | 9,897 | 62.7 | 10,504 | 66.6 |
| | | | | |
| Winnipeg | 168,364 | 68.9 | 180,673 | 73.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1999/2000-2000/01 | 2004/05-2005/06 |
| Income Not Found | 66.7 | 70.3 |
| Lowest Rural R1 | 54.8 | 54.2 |
| R2 | 62.3 | 63.3 |
| R3 | 63.0 | 63.5 |
| R4 | 63.2 | 61.7 |
| Highest Rural R5 | 66.7 | 68.7 |
| Lowest Urban U1 | 62.8 | 65.9 |
| U2 | 67.4 | 71.1 |
| U3 | 68.6 | 71.5 |
| U4 | 71.5 | 74.3 |
| Highest Urban U5 | 70.7 | 73.1 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.6104 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.5655 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.36: Use of Hospitals

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 3,918 | 7.20 | 3,844 | 6.37 |
| Central | 8,315 | 8.59 | 7,825 | 7.74 |
| Assiniboine | 7,562 | 10.57 | 6,381 | 9.31 |
| Brandon | 3,787 | 8.00 | 3,553 | 7.22 |
| Winnipeg | 40,658 | 6.26 | 39,124 | 5.91 |
| Interlake | 5,756 | 7.68 | 5,722 | 7.45 |
| North Eastman | 3,102 | 7.88 | 3,043 | 7.61 |
| Parkland | 5,068 | 11.53 | 4,831 | 11.45 |
| Churchill | 106 | 10.52 | 81 | 8.46 |
| Nor-Man | 2,431 | 9.63 | 2,258 | 9.26 |
| Burntwood | 4,708 | 10.45 | 5,270 | 11.42 |
| | | | | |
| Rural South | 19,795 | 8.88 | 18,050 | 7.85 |
| Mid | 13,926 | 8.80 | 13,596 | 8.55 |
| North | 7,245 | 10.16 | 7,609 | 10.64 |
| | | | | |
| Manitoba | 86,132 | 7.48 | 82,598 | 7.03 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 3,222 | 5.21 | 3,201 | 4.86 |
| Assiniboine South | 2,057 | 5.62 | 1,989 | 5.39 |
| St. Boniface | 2,826 | 6.01 | 2,762 | 5.43 |
| St. Vital | 3,442 | 5.69 | 3,307 | 5.38 |
| Transcona | 1,885 | 5.67 | 1,782 | 5.36 |
| River Heights | 3,717 | 6.60 | 3,369 | 6.06 |
| River East | 5,757 | 6.24 | 5,439 | 5.77 |
| Seven Oaks | 3,377 | 5.86 | 3,386 | 5.63 |
| St. James - Assiniboia | 3,953 | 6.64 | 3,979 | 6.80 |
| Inkster | 1,825 | 5.85 | 1,743 | 5.54 |
| Downtown | 5,404 | 7.48 | 4,993 | 6.93 |
| Point Douglas | 3,193 | 7.86 | 3,174 | 7.52 |
| | | | | |
| Winnipeg | 40,658 | 6.26 | 39,124 | 5.91 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 11.05 | 9.55 |
| Lowest Rural R1 | 11.93 | 11.42 |
| R2 | 9.41 | 9.18 |
| R3 | 9.66 | 8.78 |
| R4 | 8.80 | 7.71 |
| Highest Rural R5 | 6.96 | 6.72 |
| Lowest Urban U1 | 8.11 | 7.52 |
| U2 | 6.66 | 6.03 |
| U3 | 6.20 | 5.68 |
| U4 | 5.66 | 5.03 |
| Highest Urban U5 | 5.12 | 4.66 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.5962 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.7264 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.37: Hospital Separations

| Regional Health Authority | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 7,678 | 141 | 7,458 | 124 |
| Central | 16,679 | 172 | 15,813 | 156 |
| Assiniboine | 15,718 | 220 | 13,644 | 199 |
| Brandon | 7,612 | 161 | 7,337 | 149 |
| Winnipeg | 82,440 | 127 | 75,515 | 114 |
| Interlake | 11,812 | 158 | 11,289 | 147 |
| North Eastman | 6,103 | 155 | 6,213 | 155 |
| Parkland | 9,703 | 221 | 9,353 | 222 |
| Churchill | 218 | 216 | 152 | 159 |
| Nor-Man | 4,659 | 185 | 4,237 | 174 |
| Burntwood | 8,903 | 198 | 10,319 | 224 |
| | | | | |
| Rural South | 40,075 | 180 | 36,915 | 160 |
| Mid | 27,618 | 175 | 26,855 | 169 |
| North | 13,780 | 193 | 14,708 | 206 |
| | | | | |
| Manitoba | 172,679 | 150 | 162,447 | 138 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 6,580 | 106 | 6,428 | 98 |
| Assiniboine South | 4,264 | 117 | 3,958 | 107 |
| St. Boniface | 5,675 | 121 | 5,406 | 106 |
| St. Vital | 7,138 | 118 | 6,571 | 107 |
| Transcona | 3,985 | 120 | 3,572 | 108 |
| River Heights | 7,521 | 134 | 6,392 | 115 |
| River East | 11,931 | 129 | 10,812 | 115 |
| Seven Oaks | 7,109 | 123 | 6,693 | 111 |
| St. James - Assiniboia | 8,379 | 141 | 7,809 | 134 |
| Inkster | 3,610 | 116 | 3,222 | 102 |
| Downtown | 10,079 | 140 | 8,923 | 124 |
| Point Douglas | 6,169 | 152 | 5,729 | 136 |
| | | | | |
| Winnipeg | 82,440 | 127 | 75,515 | 114 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 189 | 164 |
| Lowest Rural R1 | 241 | 232 |
| R2 | 186 | 182 |
| R3 | 195 | 176 |
| R4 | 180 | 157 |
| Highest Rural R5 | 141 | 134 |
| Lowest Urban U1 | 161 | 141 |
| U2 | 136 | 117 |
| U3 | 130 | 114 |
| U4 | 119 | 102 |
| Highest Urban U5 | 108 | 93 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.3425 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.7064 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.38: Hospital Days Used in Short Stays

| Regional Health Authority | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 17,835 | 328 | 17,187 | 285 |
| Central | 40,944 | 423 | 38,142 | 377 |
| Assiniboine | 44,317 | 619 | 36,904 | 539 |
| Brandon | 18,229 | 385 | 15,994 | 325 |
| Winnipeg | 175,301 | 270 | 166,615 | 251 |
| Interlake | 28,997 | 387 | 28,395 | 370 |
| North Eastman | 15,289 | 388 | 14,806 | 370 |
| Parkland | 28,269 | 643 | 25,452 | 603 |
| Churchill | 494 | 490 | 386 | 403 |
| Nor-Man | 12,109 | 480 | 10,631 | 436 |
| Burntwood | 20,885 | 464 | 23,162 | 502 |
| | | | | |
| Rural South | 103,096 | 463 | 92,233 | 401 |
| Mid | 72,555 | 458 | 68,653 | 432 |
| North | 33,488 | 470 | 34,179 | 478 |
| | | | | |
| Manitoba | 405,691 | 352 | 380,561 | 324 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 13,727 | 222 | 13,456 | 204 |
| Assiniboine South | 8,814 | 241 | 8,692 | 236 |
| St. Boniface | 12,130 | 258 | 11,418 | 225 |
| St. Vital | 14,817 | 245 | 13,660 | 222 |
| Transcona | 7,869 | 237 | 7,174 | 216 |
| River Heights | 16,396 | 291 | 14,227 | 256 |
| River East | 23,987 | 260 | 23,214 | 246 |
| Seven Oaks | 14,441 | 251 | 14,511 | 241 |
| St. James - Assiniboia | 17,955 | 302 | 17,681 | 302 |
| Inkster | 7,520 | 241 | 7,217 | 230 |
| Downtown | 23,741 | 329 | 21,576 | 299 |
| Point Douglas | 13,904 | 342 | 13,789 | 327 |
| | | | | |
| Winnipeg | 175,301 | 270 | 166,615 | 251 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 483 | 373 |
| Lowest Rural R1 | 669 | 606 |
| R2 | 483 | 460 |
| R3 | 503 | 442 |
| R4 | 448 | 386 |
| Highest Rural R5 | 333 | 318 |
| Lowest Urban U1 | 385 | 350 |
| U2 | 294 | 266 |
| U3 | 288 | 248 |
| U4 | 245 | 214 |
| Highest Urban U5 | 221 | 191 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.9713 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.5034 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.39: Hospital Days Used in Long Stays

| Regional Health Authority | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 23,937 | 440 | 27,221 | 451 |
| Central | 55,703 | 575 | 58,582 | 579 |
| Assiniboine | 68,811 | 962 | 55,150 | 805 |
| Brandon | 44,296 | 936 | 42,636 | 866 |
| Winnipeg | 412,665 | 636 | 376,940 | 569 |
| Interlake | 33,165 | 443 | 32,197 | 419 |
| North Eastman | 21,590 | 548 | 21,220 | 530 |
| Parkland | 34,497 | 785 | 38,462 | 912 |
| Churchill | 1,104 | 1095 | 200 | 209 |
| Nor-Man | 17,472 | 692 | 7,835 | 321 |
| Burntwood | 11,447 | 254 | 14,750 | 319 |
| | | | | |
| Rural South | 148,451 | 666 | 140,953 | 613 |
| Mid | 89,252 | 564 | 91,879 | 578 |
| North | 30,023 | 421 | 22,785 | 319 |
| | | | | |
| Manitoba | 759,669 | 659 | 705,771 | 601 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per 1,000 | Number Observed per Year | CRUDE rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 23,779 | 385 | 24,679 | 375 |
| Assiniboine South | 16,750 | 458 | 17,985 | 488 |
| St. Boniface | 30,392 | 647 | 23,605 | 464 |
| St. Vital | 31,878 | 527 | 29,927 | 487 |
| Transcona | 13,348 | 401 | 13,200 | 397 |
| River Heights | 43,891 | 779 | 36,136 | 651 |
| River East | 58,933 | 639 | 47,155 | 500 |
| Seven Oaks | 40,746 | 707 | 46,849 | 778 |
| St. James - Assiniboia | 42,342 | 711 | 42,411 | 725 |
| Inkster | 13,049 | 418 | 13,772 | 438 |
| Downtown | 62,359 | 864 | 49,154 | 682 |
| Point Douglas | 35,198 | 866 | 32,067 | 760 |
| | | | | |
| Winnipeg | 412,665 | 636 | 376,940 | 569 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 5205 | 2528 |
| Lowest Rural R1 | 716 | 800 |
| R2 | 631 | 598 |
| R3 | 610 | 556 |
| R4 | 634 | 473 |
| Highest Rural R5 | 433 | 394 |
| Lowest Urban U1 | 1098 | 886 |
| U2 | 775 | 602 |
| U3 | 600 | 626 |
| U4 | 477 | 413 |
| Highest Urban U5 | 412 | 385 |
| linear trend rural T1 | | 0.0002 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0918 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.2888 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.40: Injury Hospitalization

| Regional Health Authority | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| South Eastman | 419 | 7.9 | 376 | 6.5 |
| Central | 991 | 10.3 | 911 | 9.2 |
| Assiniboine | 977 | 13.5 | 815 | 11.7 |
| Brandon | 399 | 8.5 | 382 | 7.9 |
| Winnipeg | 4,474 | 6.9 | 4,376 | 6.7 |
| Interlake | 632 | 8.5 | 631 | 8.3 |
| North Eastman | 405 | 10.4 | 369 | 9.3 |
| Parkland | 620 | 13.9 | 570 | 13.3 |
| Churchill | 16 | 15.2 | 17 | 17.1 |
| Nor-Man | 400 | 15.8 | 326 | 13.1 |
| Burntwood | 977 | 21.8 | 1,010 | 22.3 |
| | | | | |
| South | 2,387 | 10.8 | 2,103 | 9.3 |
| Mid | 1,657 | 10.5 | 1,570 | 9.9 |
| North | 1,393 | 19.6 | 1,353 | 19.0 |
| | | | | |
| Manitoba | 10,435 | 9.1 | 9,906 | 8.5 |
| Public Trustee | 124 | 42.4 | 123 | 39.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 1996/97-2000/01 | | 2001/02-2005/06 | |
| Fort Garry | 280 | 4.6 | 324 | 5.1 |
| Assiniboine South | 210 | 5.8 | 247 | 6.7 |
| St. Boniface | 262 | 5.7 | 261 | 5.3 |
| St. Vital | 326 | 5.4 | 329 | 5.4 |
| Transcona | 169 | 5.1 | 150 | 4.5 |
| River Heights | 428 | 7.6 | 406 | 7.3 |
| River East | 624 | 6.8 | 557 | 5.9 |
| Seven Oaks | 309 | 5.4 | 329 | 5.6 |
| St. James - Assiniboia | 436 | 7.3 | 412 | 7.0 |
| Inkster | 178 | 5.7 | 164 | 5.2 |
| Downtown | 793 | 11.1 | 750 | 10.3 |
| Point Douglas | 458 | 11.3 | 446 | 10.8 |
| | | | | |
| Winnipeg | 4,474 | 6.9 | 4,376 | 6.7 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 18.0 | 16.5 |
| Lowest Rural R1 | 18.1 | 17.6 |
| R2 | 12.2 | 11.2 |
| R3 | 12.7 | 10.9 |
| R4 | 9.9 | 8.8 |
| Highest Rural R5 | 7.9 | 6.9 |
| Lowest Urban U1 | 11.1 | 10.3 |
| U2 | 7.1 | 6.5 |
| U3 | 6.4 | 5.8 |
| U4 | 5.0 | 4.6 |
| Highest Urban U5 | 4.7 | 4.7 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.1010 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.3024 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.41: Rate of Hospitalization for Ambulatory Care Sensitive Conditions

| Regional Health Authority | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 556 | 10.7 | 381 | 6.6 |
| Central | 1,306 | 14.5 | 1,069 | 11.4 |
| Assiniboine | 1,279 | 19.9 | 866 | 14.1 |
| Brandon | 537 | 12.2 | 342 | 7.5 |
| Winnipeg | 3,978 | 6.6 | 3,749 | 6.1 |
| Interlake | 1,095 | 15.6 | 846 | 11.8 |
| North Eastman | 568 | 15.2 | 490 | 13.0 |
| Parkland | 1,111 | 28.1 | 837 | 22.1 |
| Churchill | 24 | 24.1 | 18 | 19.2 |
| Nor-Man | 464 | 19.1 | 406 | 17.2 |
| Burntwood | 1,093 | 24.5 | 1,223 | 26.8 |
| | | | | |
| Rural South | 3,141 | 15.3 | 2,316 | 10.9 |
| Mid | 2,774 | 18.8 | 2,173 | 14.7 |
| North | 1,581 | 22.6 | 1,647 | 23.5 |
| | | | | |
| Manitoba | 12,128 | 11.3 | 10,342 | 9.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 281 | 4.8 | 249 | 4.0 |
| Assiniboine South | 146 | 4.3 | 148 | 4.4 |
| St. Boniface | 216 | 4.9 | 226 | 4.8 |
| St. Vital | 247 | 4.4 | 250 | 4.4 |
| Transcona | 193 | 6.0 | 187 | 5.9 |
| River Heights | 263 | 5.2 | 242 | 4.8 |
| River East | 569 | 6.6 | 552 | 6.3 |
| Seven Oaks | 328 | 6.1 | 296 | 5.3 |
| St. James - Assiniboia | 355 | 6.5 | 354 | 6.7 |
| Inkster | 237 | 7.9 | 224 | 7.4 |
| Downtown | 737 | 10.9 | 568 | 8.4 |
| Point Douglas | 406 | 10.8 | 453 | 11.5 |
| | | | | |
| Winnipeg | 3,978 | 6.6 | 3,749 | 6.1 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 33.4 | 16.3 |
| Lowest Rural R1 | 30.3 | 25.3 |
| R2 | 18.4 | 14.2 |
| R3 | 18.3 | 14.1 |
| R4 | 14.6 | 11.6 |
| Highest Rural R5 | 8.3 | 7.7 |
| Lowest Urban U1 | 11.7 | 11.4 |
| U2 | 8.2 | 7.1 |
| U3 | 6.6 | 6.0 |
| U4 | 5.0 | 4.2 |
| Highest Urban U5 | 3.6 | 3.1 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.2184 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.1772 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.42: Cardiac Catheterization

| Regional Health Authority | CRUDE rate per 1,000 | CRUDE rate per 1,000 |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| South Eastman | 6.81 | 8.00 |
| Central | 6.28 | 5.95 |
| Assiniboine | 4.98 | 5.61 |
| Brandon | 5.18 | 5.54 |
| Winnipeg | 7.15 | 6.88 |
| Interlake | 7.21 | 6.86 |
| North Eastman | 7.12 | 7.49 |
| Parkland | 7.79 | 8.92 |
| Churchill | 8.74 | |
| Nor-Man | 5.52 | 7.13 |
| Burntwood | 6.75 | 7.54 |
| | | |
| Rural South | 5.91 | 6.31 |
| Mid | 7.36 | 7.57 |
| North | 6.24 | 7.29 |
| | | |
| Manitoba | 6.79 | 6.80 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 | CRUDE rate per 1,000 |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| Fort Garry | 6.22 | 6.39 |
| Assiniboine South | 7.56 | 6.45 |
| St. Boniface | 7.77 | 7.46 |
| St. Vital | 7.33 | 7.31 |
| Transcona | 7.55 | 7.13 |
| River Heights | 6.83 | 6.58 |
| River East | 6.58 | 6.71 |
| Seven Oaks | 7.32 | 6.91 |
| St. James - Assiniboia | 9.17 | 7.49 |
| Inkster | 5.58 | 6.46 |
| Downtown | 6.53 | 6.39 |
| Point Douglas | 7.04 | 7.32 |
| | | |
| Winnipeg | 7.15 | 6.88 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| Income Not Found | 1.98 | 3.07 |
| Lowest Rural R1 | 6.77 | 8.44 |
| R2 | 5.91 | 6.46 |
| R3 | 5.62 | 6.42 |
| R4 | 7.20 | 7.17 |
| Highest Rural R5 | 7.14 | 6.50 |
| Lowest Urban U1 | 8.01 | 7.97 |
| U2 | 7.28 | 7.77 |
| U3 | 8.01 | 7.29 |
| U4 | 6.95 | 6.66 |
| Highest Urban U5 | 6.72 | 6.34 |
| linear trend rural T1 | | 0.0626 |
| linear trend rural T2 | | 0.0073 |
| compare rural trends over time | | 0.0014 |
| linear trend urban T1 | | 0.0043 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.2739 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.43: Percutaneous Coronary Interventions

| Regional Health Authority | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| South Eastman | 1.43 | 2.01 |
| Central | 1.54 | 1.93 |
| Assiniboine | 1.13 | 1.83 |
| Brandon | 1.17 | 1.88 |
| Winnipeg | 1.66 | 2.37 |
| Interlake | 1.60 | 2.26 |
| North Eastman | 1.64 | 2.48 |
| Parkland | 1.60 | 2.45 |
| Churchill | 0.00 | |
| Nor-Man | 1.21 | 1.85 |
| Burntwood | 1.42 | 2.14 |
| | | |
| Rural South | 1.37 | 1.91 |
| Mid | 1.61 | 2.37 |
| North | 1.31 | 2.00 |
| | | |
| Manitoba | 1.55 | 2.24 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Fort Garry | 1.45 | 2.03 |
| Assiniboine South | 1.63 | 2.20 |
| St. Boniface | 1.98 | 2.40 |
| St. Vital | 1.86 | 2.55 |
| Transcona | 1.81 | 2.53 |
| River Heights | 1.63 | 2.32 |
| River East | 1.44 | 2.22 |
| Seven Oaks | 1.54 | 2.40 |
| St. James - Assiniboia | 1.82 | 2.58 |
| Inkster | 1.58 | 2.22 |
| Downtown | 1.68 | 2.41 |
| Point Douglas | 1.62 | 2.67 |
| | | |
| Winnipeg | 1.66 | 2.37 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1996/97-2000/01 | ADJUSTED rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Income Not Found | 0.47 | 0.86 |
| Lowest Rural R1 | 1.36 | 2.33 |
| R2 | 1.33 | 1.93 |
| R3 | 1.21 | 2.09 |
| R4 | 1.70 | 2.05 |
| Highest Rural R5 | 1.67 | 2.11 |
| Lowest Urban U1 | 1.82 | 2.91 |
| U2 | 1.74 | 2.71 |
| U3 | 1.87 | 2.56 |
| U4 | 1.56 | 2.31 |
| Highest Urban U5 | 1.59 | 2.00 |

| | |
|---|---|
| linear trend rural T1 | 0.0130 |
| linear trend rural T2 | 0.5311 |
| compare rural trends over time | 0.0224 |
| linear trend urban T1 | 0.0855 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0713 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.44: Coronary Artery Bypass

| Regional Health Authority | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| South Eastman | 1.82 | 1.62 |
| Central | 1.47 | 1.60 |
| Assiniboine | 1.27 | 1.29 |
| Brandon | 1.49 | 1.33 |
| Winnipeg | 1.71 | 1.52 |
| Interlake | 1.79 | 1.63 |
| North Eastman | 1.73 | 1.64 |
| Parkland | 1.88 | 1.99 |
| Churchill | | |
| Nor-Man | 1.62 | 1.79 |
| Burntwood | 1.42 | 1.57 |
| | | |
| Rural South | 1.47 | 1.50 |
| Mid | 1.80 | 1.74 |
| North | 1.50 | 1.65 |
| | | |
| Manitoba | 1.65 | 1.54 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Fort Garry | 1.73 | 1.25 |
| Assiniboine South | 1.60 | 1.31 |
| St. Boniface | 1.98 | 1.67 |
| St. Vital | 1.86 | 1.78 |
| Transcona | 1.69 | 1.62 |
| River Heights | 1.64 | 1.52 |
| River East | 1.43 | 1.55 |
| Seven Oaks | 2.01 | 1.62 |
| St. James - Assiniboia | 1.99 | 1.76 |
| Inkster | 1.53 | 1.47 |
| Downtown | 1.32 | 1.21 |
| Point Douglas | 1.86 | 1.43 |
| | | |
| Winnipeg | 1.71 | 1.52 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1996/97-2000/01 | ADJUSTED rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Income Not Found | 0.31 | 0.62 |
| Lowest Rural R1 | 1.57 | 1.91 |
| R2 | 1.44 | 1.41 |
| R3 | 1.37 | 1.50 |
| R4 | 1.74 | 1.59 |
| Highest Rural R5 | 1.68 | 1.45 |
| Lowest Urban U1 | 2.00 | 1.66 |
| U2 | 1.84 | 1.74 |
| U3 | 1.84 | 1.60 |
| U4 | 1.67 | 1.53 |
| Highest Urban U5 | 1.60 | 1.32 |

| | |
|---|---|
| linear trend rural T1 | 0.2403 |
| linear trend rural T2 | 0.0941 |
| compare rural trends over time | 0.0445 |
| linear trend urban T1 | 0.0192 |
| linear trend urban T2 | 0.0121 |
| compare urban trends over time | 0.9047 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.45: Hip Replacement

| Regional Health Authority | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| South Eastman | 1.44 | 1.65 |
| Central | 1.91 | 2.27 |
| Assiniboine | 1.98 | 2.58 |
| Brandon | 1.39 | 2.27 |
| Winnipeg | 1.69 | 2.03 |
| Interlake | 1.81 | 2.12 |
| North Eastman | 1.77 | 1.80 |
| Parkland | 2.03 | 2.30 |
| Churchill | | |
| Nor-Man | 1.19 | 1.41 |
| Burntwood | 1.18 | 1.43 |
| | | |
| Rural South | 1.83 | 2.24 |
| Mid | 1.86 | 2.09 |
| North | 1.21 | 1.42 |
| | | |
| Manitoba | 1.71 | 2.07 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 1996/97-2000/01 | CRUDE rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Fort Garry | 1.80 | 1.86 |
| Assiniboine South | 1.46 | 2.46 |
| St. Boniface | 1.68 | 2.29 |
| St. Vital | 1.56 | 2.10 |
| Transcona | 1.22 | 1.67 |
| River Heights | 2.20 | 2.44 |
| River East | 1.71 | 2.08 |
| Seven Oaks | 1.63 | 1.79 |
| St. James - Assiniboia | 2.01 | 2.77 |
| Inkster | 1.00 | 1.09 |
| Downtown | 1.64 | 1.68 |
| Point Douglas | 1.50 | 1.35 |
| | | |
| Winnipeg | 1.69 | 2.03 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1996/97-2000/01 | ADJUSTED rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Income Not Found | 0.84 | 2.92 |
| Lowest Rural R1 | 1.86 | 2.09 |
| R2 | 1.72 | 2.17 |
| R3 | 1.70 | 2.22 |
| R4 | 1.80 | 2.04 |
| Highest Rural R5 | 1.92 | 2.24 |
| Lowest Urban U1 | 1.64 | 2.08 |
| U2 | 1.64 | 1.91 |
| U3 | 1.90 | 2.03 |
| U4 | 1.70 | 2.21 |
| Highest Urban U5 | 1.77 | 2.28 |

| | |
|---|---|
| linear trend rural T1 | 0.5729 |
| linear trend rural T2 | 0.6354 |
| compare rural trends over time | 0.9195 |
| linear trend urban T1 | 0.2357 |
| linear trend urban T2 | 0.0115 |
| compare urban trends over time | 0.4554 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.46: Knee Replacement

| Regional Health Authority | CRUDE Rate per 1,000 1996/97-2000/01 | Crude Rate per 1,000 2001/02-2005/06 |
|---|---|---|
| South Eastman | 2.17 | 2.40 |
| Central | 2.24 | 2.44 |
| Assiniboine | 2.03 | 2.87 |
| Brandon | 1.46 | 2.40 |
| Winnipeg | 2.02 | 2.54 |
| Interlake | 2.52 | 2.95 |
| North Eastman | 2.07 | 2.80 |
| Parkland | 2.39 | 2.82 |
| Churchill | | 3.21 |
| Nor-Man | 1.30 | 2.06 |
| Burntwood | 1.66 | 2.43 |
| | | |
| Rural South | 2.15 | 2.58 |
| Mid | 2.37 | 2.88 |
| North | 1.51 | 2.28 |
| | | |
| Manitoba | 2.04 | 2.57 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Crude Rate per 1,000 1996/97-2000/01 | CRUDE Rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Fort Garry | 1.90 | 2.56 |
| Assiniboine South | 1.99 | 2.70 |
| St. Boniface | 1.90 | 2.48 |
| St. Vital | 2.05 | 2.56 |
| Transcona | 2.04 | 2.59 |
| River Heights | 2.00 | 2.45 |
| River East | 2.45 | 2.87 |
| Seven Oaks | 1.78 | 2.34 |
| St. James - Assiniboia | 2.66 | 3.61 |
| Inkster | 1.17 | 1.55 |
| Downtown | 1.45 | 1.72 |
| Point Douglas | 2.13 | 2.23 |
| | | |
| Winnipeg | 2.02 | 2.54 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1996/97-2000/01 | ADJUSTED rate per 1,000 2001/02-2005/06 |
|---|---|---|
| Income Not Found | 0.47 | 1.14 |
| Lowest Rural R1 | 2.18 | 2.89 |
| R2 | 2.20 | 2.75 |
| R3 | 2.04 | 2.96 |
| R4 | 2.52 | 2.89 |
| Highest Rural R5 | 2.08 | 3.08 |
| Lowest Urban U1 | 2.16 | 2.74 |
| U2 | 2.10 | 2.76 |
| U3 | 2.22 | 2.90 |
| U4 | 1.96 | 3.06 |
| Highest Urban U5 | 2.14 | 2.83 |

| | |
|---|---|
| linear trend rural T1 | 0.8658 |
| linear trend rural T2 | 0.4008 |
| compare rural trends over time | 0.6606 |
| linear trend urban T1 | 0.6876 |
| linear trend urban T2 | 0.3842 |
| compare urban trends over time | 0.3764 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.47: Cataract Surgery

| Regional Health Authority | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 324 | 24.3 | 358 | 22.8 |
| Central | 634 | 24.1 | 706 | 24.3 |
| Assiniboine | 782 | 30.7 | 805 | 30.7 |
| Brandon | 491 | 36.1 | 435 | 29.2 |
| Winnipeg | 5535 | 29.3 | 5928 | 28.3 |
| Interlake | 597 | 25.7 | 680 | 25.8 |
| North Eastman | 231 | 20.4 | 298 | 22.4 |
| Parkland | 354 | 23.1 | 463 | 29.4 |
| Churchill | 8 | 41.0 | 11 | 52.6 |
| Nor-Man | 95 | 17.8 | 117 | 19.7 |
| Burntwood | 84 | 14.0 | 92 | 13.7 |
| | | | | |
| Rural South | 1740 | 26.7 | 1869 | 26.3 |
| Mid | 1182 | 23.7 | 1441 | 26.0 |
| North | 187 | 16.2 | 220 | 17.1 |
| | | | | |
| Manitoba | 9185 | 27.7 | 9938 | 27.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 398 | 23.8 | 585 | 28.9 |
| Assiniboine South | 255 | 21.8 | 339 | 24.9 |
| St. Boniface | 422 | 29.8 | 466 | 29.1 |
| St. Vital | 504 | 29.3 | 560 | 27.8 |
| Transcona | 194 | 23.2 | 212 | 22.7 |
| River Heights | 636 | 34.4 | 594 | 31.0 |
| River East | 862 | 31.5 | 851 | 27.4 |
| Seven Oaks | 520 | 29.0 | 552 | 27.4 |
| St. James - Assiniboia | 615 | 29.4 | 724 | 33.4 |
| Inkster | 187 | 26.7 | 231 | 28.3 |
| Downtown | 561 | 30.8 | 511 | 27.0 |
| Point Douglas | 381 | 35.0 | 303 | 27.1 |
| | | | | |
| Winnipeg | 5535 | 29.3 | 5928 | 28.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 13.8 | 15.6 |
| Lowest Rural R1 | 26.9 | 29.7 |
| R2 | 24.2 | 26.9 |
| R3 | 26.5 | 26.5 |
| R4 | 23.9 | 27.5 |
| Highest Rural R5 | 24.4 | 26.9 |
| Lowest Urban U1 | 33.9 | 33.8 |
| U2 | 31.5 | 30.7 |
| U3 | 30.5 | 30.2 |
| U4 | 28.5 | 30.3 |
| Highest Urban U5 | 26.6 | 28.7 |
| linear trend rural T1 | | 0.1921 |
| linear trend rural T2 | | 0.2372 |
| compare rural trends over time | | 0.8785 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0047 |
| compare urban trends over time | | 0.1415 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.48: Trans Urethral Resection of the Prostate (TURP)

| Regional Health Authority | CRUDE Rate per 1,000 | CRUDE Rate per 1,000 |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| South Eastman | 3.49 | 2.78 |
| Central | 3.79 | 2.55 |
| Assiniboine | 3.71 | 3.08 |
| Brandon | 3.23 | 3.10 |
| Winnipeg | 4.02 | 2.67 |
| Interlake | 3.82 | 2.84 |
| North Eastman | 3.94 | 2.41 |
| Parkland | 5.10 | 4.40 |
| Churchill | | 0.00 |
| Nor-Man | 2.06 | 1.15 |
| Burntwood | 2.16 | 1.32 |
| | | |
| Rural South | 3.69 | 2.79 |
| Mid | 4.22 | 3.16 |
| North | 2.10 | 1.22 |
| | | |
| Manitoba | 3.89 | 2.74 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE Rate per 1,000 | CRUDE Rate per 1,000 |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Fort Garry | 3.26 | 2.71 |
| Assiniboine South | 3.06 | 2.73 |
| St. Boniface | 3.56 | 2.04 |
| St. Vital | 3.12 | 2.66 |
| Transcona | 3.64 | 2.69 |
| River Heights | 4.33 | 3.08 |
| River East | 4.84 | 2.57 |
| Seven Oaks | 4.36 | 2.96 |
| St. James - Assiniboia | 5.20 | 3.46 |
| Inkster | 3.50 | 2.50 |
| Downtown | 3.81 | 2.10 |
| Point Douglas | 4.38 | 2.46 |
| | | |
| Winnipeg | 4.02 | 2.67 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 3.91 | 3.08 |
| Lowest Rural R1 | 3.63 | 2.48 |
| R2 | 3.25 | 2.93 |
| R3 | 3.56 | 2.71 |
| R4 | 3.68 | 2.67 |
| Highest Rural R5 | 3.77 | 2.92 |
| Lowest Urban U1 | 4.36 | 2.78 |
| U2 | 4.28 | 2.93 |
| U3 | 4.05 | 3.16 |
| U4 | 4.05 | 2.80 |
| Highest Urban U5 | 3.90 | 2.72 |
| linear trend rural T1 | | 0.2770 |
| linear trend rural T2 | | 0.2531 |
| compare rural trends over time | | 0.8941 |
| linear trend urban T1 | | 0.0481 |
| linear trend urban T2 | | 0.6152 |
| compare urban trends over time | | 0.3586 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.49: MRI (Magnetic Resonance Imaging) Scan

| Regional Health Authority | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2001/02-2002/03 | | 2004/05-2005/06 | |
| South Eastman | 337 | 13.4 | 530 | 19.9 |
| Central | 421 | 9.5 | 727 | 15.9 |
| Assiniboine | 252 | 7.4 | 926 | 27.3 |
| Brandon | 202 | 8.8 | 876 | 36.7 |
| Winnipeg | 4,604 | 14.2 | 7,237 | 21.9 |
| Interlake | 426 | 11.8 | 748 | 20.1 |
| North Eastman | 235 | 12.8 | 356 | 18.8 |
| Parkland | 157 | 7.5 | 420 | 20.4 |
| Churchill | 6 | 13.5 | 8 | 17.3 |
| Nor-Man | 82 | 7.5 | 141 | 13.2 |
| Burntwood | 136 | 8.0 | 198 | 11.6 |
| | | | | |
| Rural South | 1,011 | 9.7 | 2,182 | 20.6 |
| Mid | 818 | 10.8 | 1,524 | 19.9 |
| North | 224 | 7.9 | 346 | 12.3 |
| | | | | |
| Manitoba | 6,868 | 12.3 | 12,187 | 21.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Rate per 1,000 | Number Observed per Year | CRUDE Rate per 1,000 |
|---|---|---|---|---|
| | 2001/02-2002/03 | | 2004/05-2005/06 | |
| Fort Garry | 451 | 14.6 | 718 | 22.2 |
| Assiniboine South | 329 | 18.0 | 512 | 27.6 |
| St. Boniface | 419 | 17.5 | 617 | 24.4 |
| St. Vital | 491 | 16.3 | 742 | 24.1 |
| Transcona | 245 | 15.3 | 368 | 22.8 |
| River Heights | 486 | 16.1 | 743 | 24.7 |
| River East | 636 | 13.8 | 1,017 | 21.6 |
| Seven Oaks | 416 | 14.3 | 619 | 20.6 |
| St. James - Assiniboia | 436 | 14.2 | 714 | 23.3 |
| Inkster | 136 | 9.4 | 243 | 16.7 |
| Downtown | 355 | 9.9 | 603 | 16.8 |
| Point Douglas | 205 | 10.7 | 341 | 17.4 |
| | | | | |
| Winnipeg | 4,604 | 14.2 | 7,237 | 21.9 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 | |
|---|---|---|
| | 2001/02-2002/03 | 2004/05-2005/06 |
| Income Not Found | 4.1 | 14.9 |
| Lowest Rural R1 | 7.7 | 15.5 |
| R2 | 8.7 | 20.8 |
| R3 | 9.0 | 19.6 |
| R4 | 12.0 | 20.4 |
| Highest Rural R5 | 12.2 | 20.0 |
| Lowest Urban U1 | 12.1 | 21.0 |
| U2 | 13.3 | 22.9 |
| U3 | 14.3 | 24.0 |
| U4 | 14.6 | 24.2 |
| Highest Urban U5 | 16.8 | 25.9 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0000 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0072 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.50: New Home Care Cases

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| South Eastman | 507 | 0.9 | 532 | 0.9 |
| Central | 1,086 | 1.1 | 1,114 | 1.1 |
| Assiniboine | 983 | 1.4 | 944 | 1.4 |
| Brandon | 642 | 1.4 | 720 | 1.5 |
| Winnipeg | 8,149 | 1.3 | 9,104 | 1.4 |
| Interlake | 857 | 1.1 | 861 | 1.1 |
| North Eastman | 344 | 0.9 | 370 | 0.9 |
| Parkland | 769 | 1.7 | 777 | 1.8 |
| Churchill | 10 | 1.0 | 11 | 1.1 |
| Nor-Man | 197 | 0.8 | 185 | 0.7 |
| Burntwood | 206 | 0.5 | 281 | 0.6 |
| | | | | |
| Rural South | 2,576 | 1.2 | 2,589 | 1.1 |
| Mid | 1,969 | 1.2 | 2,007 | 1.3 |
| North | 413 | 0.6 | 477 | 0.7 |
| | | | | |
| Manitoba | 14,004 | 1.2 | 15,118 | 1.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| Fort Garry | 536 | 0.9 | 681 | 1.1 |
| Assiniboine South | 380 | 1.0 | 505 | 1.4 |
| St. Boniface | 612 | 1.3 | 656 | 1.3 |
| St. Vital | 726 | 1.2 | 794 | 1.3 |
| Transcona | 300 | 0.9 | 351 | 1.1 |
| River Heights | 911 | 1.6 | 963 | 1.7 |
| River East | 1,162 | 1.3 | 1,253 | 1.3 |
| Seven Oaks | 747 | 1.3 | 816 | 1.4 |
| St. James - Assiniboia | 863 | 1.4 | 986 | 1.7 |
| Inkster | 250 | 0.8 | 302 | 1.0 |
| Downtown | 1,042 | 1.5 | 1,132 | 1.6 |
| Point Douglas | 621 | 1.5 | 669 | 1.6 |
| | | | | |
| Winnipeg | 8,149 | 1.3 | 9,104 | 1.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 1999/00-2000/01 | 2003/04-2004/05 |
| Income Not Found | 2.9 | 2.7 |
| Lowest Rural R1 | 1.2 | 1.3 |
| R2 | 1.2 | 1.3 |
| R3 | 1.1 | 1.1 |
| R4 | 1.3 | 1.2 |
| Highest Rural R5 | 1.3 | 1.2 |
| Lowest Urban U1 | 2.7 | 2.3 |
| U2 | 1.3 | 1.6 |
| U3 | 1.3 | 1.5 |
| U4 | 1.1 | 1.2 |
| Highest Urban U5 | 1.2 | 1.2 |
| linear trend rural T1 | | 0.3168 |
| linear trend rural T2 | | 0.1858 |
| compare rural trends over time | | 0.1003 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.7787 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.51: Open Home Care Cases

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| South Eastman | 1,269 | 2.4 | 1,463 | 2.5 |
| Central | 2,317 | 2.4 | 2,559 | 2.6 |
| Assiniboine | 2,251 | 3.1 | 2,289 | 3.3 |
| Brandon | 1,174 | 2.5 | 1,298 | 2.7 |
| Winnipeg | 18,061 | 2.8 | 20,666 | 3.1 |
| Interlake | 2,130 | 2.8 | 2,106 | 2.8 |
| North Eastman | 894 | 2.3 | 913 | 2.3 |
| Parkland | 1,896 | 4.3 | 1,906 | 4.5 |
| Churchill | 21 | 2.0 | 25 | 2.5 |
| Nor-Man | 515 | 2.0 | 486 | 2.0 |
| Burntwood | 338 | 0.7 | 453 | 1.0 |
| | | | | |
| Rural South | 5,836 | 2.6 | 6,310 | 2.8 |
| Mid | 4,919 | 3.1 | 4,925 | 3.1 |
| North | 873 | 1.2 | 964 | 1.4 |
| | | | | |
| Manitoba | 31,421 | 2.7 | 34,670 | 3.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| Fort Garry | 1,098 | 1.8 | 1,412 | 2.2 |
| Assiniboine South | 843 | 2.3 | 1,172 | 3.2 |
| St. Boniface | 1,254 | 2.7 | 1,483 | 3.0 |
| St. Vital | 1,552 | 2.6 | 1,723 | 2.8 |
| Transcona | 646 | 1.9 | 715 | 2.1 |
| River Heights | 2,131 | 3.8 | 2,344 | 4.2 |
| River East | 2,594 | 2.8 | 2,877 | 3.1 |
| Seven Oaks | 1,711 | 3.0 | 1,977 | 3.4 |
| St. James - Assiniboia | 1,855 | 3.1 | 2,146 | 3.6 |
| Inkster | 512 | 1.6 | 600 | 1.9 |
| Downtown | 2,502 | 3.5 | 2,728 | 3.7 |
| Point Douglas | 1,365 | 3.4 | 1,491 | 3.6 |
| | | | | |
| Winnipeg | 18,061 | 2.8 | 20,666 | 3.1 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 1999/00-2000/01 | 2003/04-2004/05 |
| Income Not Found | 7.4 | 7.6 |
| Lowest Rural R1 | 2.8 | 3.0 |
| R2 | 2.9 | 3.1 |
| R3 | 2.5 | 2.8 |
| R4 | 2.9 | 3.1 |
| Highest Rural R5 | 3.1 | 3.0 |
| Lowest Urban U1 | 4.4 | 5.5 |
| U2 | 3.1 | 3.7 |
| U3 | 2.8 | 3.3 |
| U4 | 2.4 | 2.9 |
| Highest Urban U5 | 2.1 | 2.6 |
| linear trend rural T1 | | 0.2235 |
| linear trend rural T2 | | 0.8965 |
| compare rural trends over time | | 0.3407 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.9284 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.52: Home Care Case Closing

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| South Eastman | 493 | 0.9 | 535 | 0.9 |
| Central | 1,003 | 1.0 | 1,042 | 1.0 |
| Assiniboine | 945 | 1.3 | 983 | 1.4 |
| Brandon | 636 | 1.3 | 734 | 1.5 |
| Winnipeg | 9,101 | 1.4 | 10,165 | 1.5 |
| Interlake | 829 | 1.1 | 809 | 1.1 |
| North Eastman | 340 | 0.9 | 360 | 0.9 |
| Parkland | 711 | 1.6 | 791 | 1.8 |
| Churchill | 12 | 1.1 | 11 | 1.1 |
| Nor-Man | 188 | 0.7 | 186 | 0.7 |
| Burntwood | 199 | 0.4 | 264 | 0.6 |
| | | | | |
| Rural South | 2,441 | 1.1 | 2,560 | 1.1 |
| Mid | 1,880 | 1.2 | 1,960 | 1.2 |
| North | 398 | 0.6 | 461 | 0.6 |
| | | | | |
| Manitoba | 14,812 | 1.3 | 16,176 | 1.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| Fort Garry | 570 | 0.9 | 749 | 1.2 |
| Assiniboine South | 445 | 1.2 | 620 | 1.7 |
| St. Boniface | 629 | 1.3 | 709 | 1.4 |
| St. Vital | 757 | 1.2 | 883 | 1.4 |
| Transcona | 321 | 1.0 | 365 | 1.1 |
| River Heights | 1,031 | 1.8 | 1,115 | 2.0 |
| River East | 1,283 | 1.4 | 1,405 | 1.5 |
| Seven Oaks | 891 | 1.5 | 952 | 1.6 |
| St. James - Assiniboia | 984 | 1.6 | 1,113 | 1.9 |
| Inkster | 280 | 0.9 | 331 | 1.1 |
| Downtown | 1,197 | 1.7 | 1,205 | 1.7 |
| Point Douglas | 716 | 1.8 | 720 | 1.7 |
| | | | | |
| Winnipeg | 9,101 | 1.4 | 10,165 | 1.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 1999/00-2000/01 | 2003/04-2004/05 |
| Income Not Found | 4.6 | 3.8 |
| Lowest Rural R1 | 1.1 | 1.3 |
| R2 | 1.2 | 1.3 |
| R3 | 1.1 | 1.1 |
| R4 | 1.2 | 1.2 |
| Highest Rural R5 | 1.3 | 1.2 |
| Lowest Urban U1 | 2.0 | 2.4 |
| U2 | 1.5 | 1.7 |
| U3 | 1.3 | 1.6 |
| U4 | 1.2 | 1.4 |
| Highest Urban U5 | 1.0 | 1.3 |
| linear trend rural T1 | | 0.0354 |
| linear trend rural T2 | | 0.1822 |
| compare rural trends over time | | 0.0149 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.4994 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.53: Average Length of Home Care Cases

| Regional Health Authority | Number Observed per Year | CRUDE rate per case | Number Observed per Year | CRUDE rate per case |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| South Eastman | 295,011 | 232.6 | 352,020 | 240.7 |
| Central | 489,319 | 211.2 | 563,579 | 220.3 |
| Assiniboine | 488,479 | 217.1 | 501,548 | 219.2 |
| Brandon | 208,208 | 177.4 | 226,589 | 174.6 |
| Winnipeg | 3,999,251 | 221.4 | 4,590,434 | 222.1 |
| Interlake | 484,717 | 227.6 | 483,769 | 229.7 |
| North Eastman | 211,106 | 236.3 | 208,155 | 228.0 |
| Parkland | 441,508 | 232.9 | 427,687 | 224.4 |
| Churchill | 4,327 | 211.0 | 6,073 | 242.9 |
| Nor-Man | 125,283 | 243.3 | 113,782 | 234.1 |
| Burntwood | 53,284 | 157.9 | 69,691 | 153.8 |
| | | | | |
| Rural South | 1,272,808 | 218.1 | 1,417,146 | 224.6 |
| Mid | 1,137,330 | 231.2 | 1,119,610 | 227.3 |
| North | 182,893 | 209.5 | 189,545 | 196.6 |
| | | | | |
| Manitoba | 6,903,453 | 219.7 | 7,646,424 | 220.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per case | Number Observed per Year | CRUDE rate per case |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2003/04-2004/05 | |
| Fort Garry | 228,484 | 208.2 | 299,808 | 212.4 |
| Assiniboine South | 185,138 | 219.6 | 256,325 | 218.7 |
| St. Boniface | 271,402 | 216.4 | 332,913 | 224.6 |
| St. Vital | 333,863 | 215.1 | 369,748 | 214.6 |
| Transcona | 140,812 | 218.1 | 149,475 | 209.1 |
| River Heights | 484,792 | 227.5 | 543,299 | 231.8 |
| River East | 585,474 | 225.7 | 642,213 | 223.2 |
| Seven Oaks | 380,225 | 222.3 | 455,194 | 230.3 |
| St. James - Assiniboia | 400,819 | 216.1 | 464,432 | 216.4 |
| Inkster | 107,366 | 209.7 | 118,828 | 198.0 |
| Downtown | 579,612 | 231.7 | 633,376 | 232.2 |
| Point Douglas | 301,268 | 220.8 | 324,827 | 217.9 |
| | | | | |
| Winnipeg | 3,999,251 | 221.4 | 4,590,434 | 222.1 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per case | |
|---|---|---|
| | 1999/00-2000/01 | 2003/04-2004/05 |
| Income Not Found | 177.1 | 212.1 |
| Lowest Rural R1 | 217.0 | 203.0 |
| R2 | 216.0 | 233.5 |
| R3 | 226.7 | 235.4 |
| R4 | 213.9 | 236.1 |
| Highest Rural R5 | 219.6 | 226.7 |
| Lowest Urban U1 | 227.2 | 228.5 |
| U2 | 219.7 | 224.4 |
| U3 | 222.2 | 212.7 |
| U4 | 226.0 | 216.7 |
| Highest Urban U5 | 222.8 | 212.0 |
| linear trend rural T1 | | 0.8842 |
| linear trend rural T2 | | 0.0139 |
| compare rural trends over time | | 0.1029 |
| linear trend urban T1 | | 0.9056 |
| linear trend urban T2 | | 0.0469 |
| compare urban trends over time | | 0.1874 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.54: Admissions to PCH

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| South Eastman | 78.0 | 2.9 | 74.0 | 2.5 |
| Central | 212.0 | 3.1 | 199.0 | 2.9 |
| Assiniboine | 249.0 | 3.3 | 257.0 | 3.5 |
| Brandon | 108.5 | 3.3 | 132.0 | 3.7 |
| Winnipeg | 1,352.0 | 3.1 | 1,395.0 | 3.0 |
| Interlake | 130.5 | 2.9 | 125.0 | 2.6 |
| North Eastman | 48.0 | 2.4 | 39.5 | 1.9 |
| Parkland | 125.5 | 2.9 | 147.5 | 3.4 |
| Churchill | 0.0 | 0.0 | 0.0 | 0.0 |
| Nor-Man | 22.5 | 2.6 | 26.0 | 3.0 |
| Burntwood | 4.5 | 0.9 | 10.0 | 2.0 |
| | | | | |
| Rural South | 539.0 | 3.2 | 530.0 | 3.1 |
| Mid | 304.0 | 2.8 | 312.0 | 2.8 |
| North | 27.0 | 2.0 | 36.0 | 2.6 |
| | | | | |
| Manitoba | 2,330.5 | 3.1 | 2,405.0 | 3.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Areas | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| Fort Garry | 52.0 | 1.7 | 62.0 | 1.6 |
| Assiniboine South | 137.5 | 5.9 | 159.5 | 5.6 |
| St. Boniface | 42.0 | 1.4 | 45.5 | 1.4 |
| St. Vital | 65.0 | 1.7 | 64.0 | 1.5 |
| Transcona | 21.0 | 1.6 | 23.0 | 1.5 |
| River Heights | 190.0 | 3.4 | 138.0 | 2.6 |
| River East | 139.0 | 2.2 | 103.0 | 1.5 |
| Seven Oaks | 149.0 | 3.6 | 171.0 | 3.8 |
| St. James - Assiniboia | 217.5 | 4.3 | 286.0 | 5.3 |
| Inkster | 17.0 | 1.3 | 18.5 | 1.4 |
| Downtown | 235.0 | 4.9 | 209.0 | 4.6 |
| Point Douglas | 87.0 | 2.8 | 115.5 | 4.1 |
| | | | | |
| Winnipeg | 1,352.0 | 3.1 | 1,395.0 | 3.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.55: Residents in Personal Care Homes

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| South Eastman | 352.5 | 13.3 | 360.0 | 12.4 |
| Central | 942.0 | 14.0 | 921.5 | 13.4 |
| Assiniboine | 1,020.5 | 13.7 | 1,059.0 | 14.6 |
| Brandon | 598.0 | 17.9 | 620.0 | 17.2 |
| Winnipeg | 5,834.0 | 13.3 | 6,101.5 | 13.1 |
| Interlake | 596.0 | 13.0 | 594.5 | 12.2 |
| North Eastman | 176.5 | 9.0 | 206.5 | 9.8 |
| Parkland | 581.5 | 13.3 | 598.5 | 13.7 |
| Churchill | 3.0 | 18.8 | 3.5 | 20.6 |
| Nor-Man | 102.5 | 11.7 | 122.0 | 14.3 |
| Burntwood | 19.5 | 4.0 | 36.5 | 7.3 |
| | | | | |
| Rural South | 2,315.0 | 13.8 | 2,340.5 | 13.7 |
| Mid | 1,354.0 | 12.4 | 1,399.5 | 12.3 |
| North | 125.0 | 9.0 | 162.0 | 11.8 |
| | | | | |
| Manitoba | 10,226.0 | 13.4 | 10,623.5 | 13.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Areas | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| | 246.5 | 8.2 | 332.5 | 8.6 |
| Assiniboine South | 609.0 | 26.0 | 631.0 | 22.1 |
| St. Boniface | 242.0 | 8.0 | 250.0 | 7.8 |
| St. Vital | 416.5 | 11.0 | 409.5 | 9.7 |
| Transcona | 108.5 | 8.3 | 114.5 | 7.6 |
| River Heights | 679.5 | 12.3 | 635.5 | 12.1 |
| River East | 649.0 | 10.4 | 691.5 | 9.8 |
| Seven Oaks | 631.0 | 15.4 | 660.0 | 14.7 |
| St. James - Assiniboia | 854.5 | 16.8 | 918.0 | 17.0 |
| Inkster | 144.0 | 10.6 | 144.0 | 10.6 |
| Downtown | 693.5 | 14.4 | 798.5 | 17.7 |
| Point Douglas | 560.0 | 17.8 | 516.5 | 18.1 |
| | | | | |
| Winnipeg | 5,834.0 | 13.3 | 6,101.5 | 13.1 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.56: Adult Influenza Immunization Rates

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 2,984 | 50.8 | 3,881 | 60.7 |
| Central | 6,467 | 49.3 | 8,345 | 62.7 |
| Assiniboine | 7,113 | 51.1 | 8,638 | 65.0 |
| Brandon | 3,977 | 59.9 | 4,997 | 72.8 |
| Winnipeg | 50,357 | 56.6 | 62,541 | 69.0 |
| Interlake | 5,628 | 53.8 | 7,313 | 65.5 |
| North Eastman | 2,230 | 46.7 | 3,382 | 62.6 |
| Parkland | 4,258 | 51.5 | 4,961 | 63.0 |
| Churchill | 25 | 51.0 | 31 | 49.2 |
| Nor-Man | 1,008 | 50.8 | 1,307 | 64.2 |
| Burntwood | 253 | 16.9 | 810 | 47.0 |
| | | | | |
| Rural South | 16,564 | 50.3 | 20,864 | 63.2 |
| Mid | 12,116 | 51.5 | 15,656 | 64.0 |
| North | 1,286 | 36.4 | 2,148 | 56.2 |
| | | | | |
| Manitoba | 85,664 | 54.5 | 107,276 | 67.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 4,217 | 60.0 | 5,798 | 69.8 |
| Assiniboine South | 3,269 | 68.2 | 4,048 | 72.9 |
| St. Boniface | 3,486 | 53.5 | 4,706 | 68.7 |
| St. Vital | 4,713 | 59.6 | 5,993 | 71.5 |
| Transcona | 1,828 | 53.9 | 2,497 | 69.4 |
| River Heights | 5,442 | 55.8 | 6,180 | 68.9 |
| River East | 7,620 | 57.8 | 9,671 | 69.7 |
| Seven Oaks | 4,809 | 57.8 | 5,882 | 68.6 |
| St. James - Assiniboia | 6,489 | 61.2 | 8,103 | 74.2 |
| Inkster | 1,321 | 46.0 | 1,692 | 59.6 |
| Downtown | 4,320 | 48.4 | 4,886 | 61.9 |
| Point Douglas | 2,843 | 49.8 | 3,085 | 62.6 |
| | | | | |
| Winnipeg | 50,357 | 56.6 | 62,541 | 69.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 100 | 92.1 |
| Lowest Rural R1 | 42.7 | 55.6 |
| R2 | 52.3 | 62.1 |
| R3 | 51.4 | 63.6 |
| R4 | 43.0 | 62.7 |
| Highest Rural R5 | 47.5 | 64.5 |
| Lowest Urban U1 | 54.0 | 65.4 |
| U2 | 48.2 | 65.0 |
| U3 | 48.4 | 65.2 |
| U4 | 51.5 | 67.2 |
| Highest Urban U5 | 53.9 | 67.7 |
| linear trend rural T1 | | 0.7871 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.0004 |
| linear trend urban T1 | | 0.2075 |
| linear trend urban T2 | | 0.0201 |
| compare urban trends over time | | 0.5147 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.57: Pneumococcal Immunization Rates

| Regional Health Authority | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 2,237 | 38.1 | 4,073 | 63.7 |
| Central | 1,891 | 14.4 | 8,064 | 60.6 |
| Assiniboine | 2,602 | 18.7 | 8,737 | 65.8 |
| Brandon | 1,120 | 16.9 | 4,645 | 67.6 |
| Winnipeg | 21,895 | 24.6 | 62,729 | 69.2 |
| Interlake | 2,425 | 23.2 | 7,530 | 67.4 |
| North Eastman | 943 | 19.7 | 3,479 | 64.4 |
| Parkland | 2,170 | 26.3 | 5,235 | 66.5 |
| Churchill | 26 | 53.1 | 42 | 66.7 |
| Nor-Man | 846 | 42.6 | 1,408 | 69.2 |
| Burntwood | 178 | 11.9 | 801 | 46.5 |
| | | | | |
| Rural South | 6,730 | 20.5 | 20,874 | 63.3 |
| Mid | 5,538 | 23.6 | 16,244 | 66.4 |
| North | 1,050 | 29.7 | 2,251 | 58.9 |
| | | | | |
| Manitoba | 37,143 | 23.6 | 107,676 | 67.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE percent (%) | Number Observed per Year | CRUDE percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 1,799 | 25.6 | 5,766 | 69.5 |
| Assiniboine South | 1,102 | 23.0 | 3,835 | 69.0 |
| St. Boniface | 1,928 | 29.6 | 4,759 | 69.5 |
| St. Vital | 2,235 | 28.3 | 6,033 | 72.0 |
| Transcona | 754 | 22.2 | 2,526 | 70.2 |
| River Heights | 2,395 | 24.5 | 6,133 | 68.4 |
| River East | 2,753 | 20.9 | 9,785 | 70.5 |
| Seven Oaks | 2,195 | 26.4 | 5,999 | 70.0 |
| St. James - Assiniboia | 2,571 | 24.2 | 7,701 | 70.5 |
| Inkster | 742 | 25.9 | 1,815 | 64.0 |
| Downtown | 1,865 | 20.9 | 5,145 | 65.2 |
| Point Douglas | 1,556 | 27.3 | 3,232 | 65.6 |
| | | | | |
| Winnipeg | 21,895 | 24.6 | 62,729 | 69.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 43.7 | 63.2 |
| Lowest Rural R1 | 16.0 | 54.5 |
| R2 | 21.5 | 58.9 |
| R3 | 20.0 | 60.2 |
| R4 | 22.4 | 58.7 |
| Highest Rural R5 | 24.0 | 63.0 |
| Lowest Urban U1 | 23.6 | 62.0 |
| U2 | 21.5 | 62.1 |
| U3 | 21.5 | 63.0 |
| U4 | 20.4 | 62.5 |
| Highest Urban U5 | 19.5 | 62.2 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.0000 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.8201 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.58: Mammography Screening

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/2000-2000/01 | | 2004/05-2005/06 | |
| South Eastman | 2,917 | 65.54 | 3,494 | 63.74 |
| Central | 5,279 | 65.06 | 5,639 | 59.41 |
| Assiniboine | 5,068 | 68.18 | 5,252 | 65.91 |
| Brandon | 3,133 | 70.75 | 3,407 | 67.48 |
| Winnipeg | 37,397 | 58.77 | 44,081 | 60.18 |
| Interlake | 5,148 | 65.29 | 5,900 | 64.74 |
| North Eastman | 2,645 | 67.25 | 3,066 | 64.52 |
| Parkland | 2,890 | 65.00 | 3,136 | 65.32 |
| Churchill | 36 | 47.37 | 50 | 64.10 |
| Nor-Man | 1,101 | 59.26 | 1,304 | 60.34 |
| Burntwood | 1,180 | 50.41 | 1,293 | 48.21 |
| | | | | |
| Rural South | 13,264 | 66.33 | 14,385 | 62.70 |
| Mid | 10,683 | 65.68 | 12,102 | 64.83 |
| North | 2,317 | 54.20 | 2,647 | 53.79 |
| | | | | |
| Manitoba | 66,903 | 61.39 | 76,774 | 61.31 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | 1999/2000-2000/01 | | 2004/05-2005/06 | |
| Fort Garry | 3,784 | 63.24 | 4,762 | 65.25 |
| Assiniboine South | 2,695 | 64.94 | 3,333 | 67.80 |
| St. Boniface | 2,932 | 60.17 | 3,647 | 64.37 |
| St. Vital | 3,727 | 62.88 | 4,580 | 63.77 |
| Transcona | 1,888 | 60.92 | 2,128 | 60.97 |
| River Heights | 3,619 | 61.97 | 4,120 | 63.12 |
| River East | 5,360 | 58.43 | 6,420 | 60.38 |
| Seven Oaks | 3,494 | 56.56 | 4,273 | 59.50 |
| St. James - Assiniboia | 4,700 | 66.65 | 4,763 | 65.35 |
| Inkster | 1,211 | 47.92 | 1,622 | 51.54 |
| Downtown | 2,487 | 44.70 | 2,875 | 45.53 |
| Point Douglas | 1,500 | 45.97 | 1,558 | 43.25 |
| | | | | |
| Winnipeg | 37,397 | 58.77 | 44,081 | 60.18 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1999/2000-2000/01 | 2004/05-2005/06 |
| Income Not Found | 35.47 | 39.24 |
| Lowest Rural R1 | 57.94 | 53.27 |
| R2 | 63.48 | 63.09 |
| R3 | 67.01 | 65.71 |
| R4 | 66.53 | 64.62 |
| Highest Rural R5 | 67.50 | 65.86 |
| Lowest Urban U1 | 48.30 | 48.06 |
| U2 | 56.31 | 57.43 |
| U3 | 62.49 | 62.93 |
| U4 | 63.53 | 65.50 |
| Highest Urban U5 | 65.54 | 68.70 |

| | |
|---|---|
| linear trend rural T1 | 0.0002 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.4689 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.3646 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.59: Papanicolauo Test

| Regional Health Authority | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1998/99-2000/01 | | 2003/04-2005/06 | |
| South Eastman | 10,522 | 69.8 | 11,376 | 70.0 |
| Central | 16,882 | 63.5 | 17,268 | 62.7 |
| Assiniboine | 12,434 | 62.8 | 11,815 | 62.8 |
| Brandon | 10,766 | 74.2 | 11,272 | 75.6 |
| Winnipeg | 150,986 | 73.9 | 150,753 | 72.7 |
| Interlake | 15,063 | 69.1 | 14,851 | 67.1 |
| North Eastman | 7,539 | 67.4 | 7,161 | 62.8 |
| Parkland | 7,347 | 61.5 | 6,826 | 59.8 |
| Churchill | 171 | 52.9 | 92 | 30.4 |
| Nor-Man | 3,853 | 55.2 | 3,539 | 51.6 |
| Burntwood | 6,214 | 52.3 | 4,676 | 39.9 |
| | | | | |
| Rural South | 39,838 | 64.8 | 40,459 | 64.6 |
| Mid | 29,949 | 66.7 | 28,838 | 64.2 |
| North | 10,238 | 53.4 | 8,307 | 44.0 |
| | | | | |
| Manitoba | 241,939 | 70.1 | 239,754 | 68.6 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE Percent (%) | Number Observed | CRUDE Percent (%) |
|---|---|---|---|---|
| | 1998/99-2000/01 | | 2003/04-2005/06 | |
| Fort Garry | 15,621 | 76.7 | 16,160 | 76.6 |
| Assiniboine South | 8,971 | 76.9 | 8,982 | 76.2 |
| St. Boniface | 11,659 | 78.1 | 12,193 | 76.6 |
| St. Vital | 15,266 | 77.9 | 15,295 | 77.9 |
| Transcona | 8,133 | 77.3 | 8,004 | 77.2 |
| River Heights | 14,621 | 76.4 | 14,408 | 75.6 |
| River East | 21,307 | 74.2 | 21,296 | 72.9 |
| Seven Oaks | 13,082 | 71.3 | 13,173 | 70.7 |
| St. James - Assiniboia | 14,867 | 77.5 | 13,923 | 74.9 |
| Inkster | 6,448 | 67.6 | 6,192 | 64.9 |
| Downtown | 13,841 | 65.3 | 13,851 | 63.4 |
| Point Douglas | 7,170 | 63.7 | 7,276 | 61.8 |
| | | | | |
| Winnipeg | 150,986 | 73.9 | 150,753 | 72.7 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| Income Not Found | 40.7 | 38.5 |
| Lowest Rural R1 | 53.8 | 49.5 |
| R2 | 61.2 | 58.1 |
| R3 | 63.4 | 61.6 |
| R4 | 67.6 | 67.6 |
| Highest Rural R5 | 71.7 | 72.0 |
| Lowest Urban U1 | 66.2 | 64.0 |
| U2 | 71.3 | 69.7 |
| U3 | 74.9 | 74.4 |
| U4 | 77.0 | 77.3 |
| Highest Urban U5 | 78.6 | 80.2 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.0005 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0282 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.60: Health Links Contacts

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|
| | 2004/05-2005/06 | |
| South Eastman | 2,025 | 12.4 |
| Central | 1,998 | 7.3 |
| Assiniboine | 635 | 3.4 |
| Brandon | 1,285 | 9.7 |
| Winnipeg | 24,631 | 13.8 |
| Interlake | 2,134 | 10.3 |
| North Eastman | 767 | 7.1 |
| Parkland | 445 | 3.9 |
| Churchill | 36 | 13.8 |
| Nor-Man | 378 | 5.7 |
| Burntwood | 434 | 3.5 |
| | | |
| South | 4,658 | 7.5 |
| Mid | 3,347 | 7.8 |
| North | 847 | 4.4 |
| | | |
| Manitoba | 34,789 | 11.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|
| | 2004/05-2005/06 | |
| Fort Garry | 2,079 | 11.7 |
| Assiniboine South | 1,237 | 12.4 |
| St. Boniface | 1,997 | 14.5 |
| St. Vital | 2,235 | 13.5 |
| Transcona | 1,394 | 15.5 |
| River Heights | 2,230 | 14.9 |
| River East | 3,740 | 14.7 |
| Seven Oaks | 2,126 | 13.1 |
| St. James - Assiniboia | 2,188 | 13.8 |
| Inkster | 1,093 | 12.9 |
| Downtown | 2,596 | 13.3 |
| Point Douglas | 1,716 | 15.1 |
| | | |
| Winnipeg | 24,631 | 13.8 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) |
|---|---|
| | 2004/05-2005/06 |
| Income Not Found | 10.6 |
| Lowest Rural R1 | 4.8 |
| R2 | 5.6 |
| R3 | 5.2 |
| R4 | 7.2 |
| Highest Rural R5 | 9.7 |
| Lowest Urban U1 | 14.9 |
| U2 | 14.1 |
| U3 | 13.9 |
| U4 | 12.9 |
| Highest Urban U5 | 13.6 |

| | |
|---|---|
| linear trend rural T2 | 0.0238 |
| compare rural trends over time | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.61: Pharmaceutical Use

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 34,316 | 63.0 | 38,192 | 63.3 |
| Central | 62,643 | 64.7 | 65,253 | 64.5 |
| Assiniboine | 49,669 | 69.4 | 48,435 | 70.7 |
| Brandon | 33,912 | 71.6 | 36,147 | 73.4 |
| Winnipeg | 453,430 | 69.9 | 459,919 | 69.4 |
| Interlake | 51,982 | 69.4 | 53,494 | 69.6 |
| North Eastman | 25,342 | 64.4 | 26,841 | 67.1 |
| Parkland | 32,109 | 73.1 | 31,118 | 73.8 |
| Churchill | 734 | 72.8 | 671 | 70.1 |
| Nor-Man | 16,246 | 64.4 | 16,007 | 65.7 |
| Burntwood | 24,614 | 54.6 | 26,306 | 57.0 |
| | | | | |
| Rural South | 146,628 | 65.8 | 151,880 | 66.0 |
| Mid | 109,433 | 69.2 | 111,453 | 70.1 |
| North | 41,594 | 58.3 | 42,984 | 60.1 |
| | | | | |
| Manitoba | 787,034 | 68.3 | 804,438 | 68.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 41,503 | 67.1 | 44,037 | 66.9 |
| Assiniboine South | 25,306 | 69.2 | 25,877 | 70.1 |
| St. Boniface | 32,808 | 69.8 | 34,959 | 68.8 |
| St. Vital | 42,666 | 70.5 | 42,946 | 69.9 |
| Transcona | 23,008 | 69.2 | 23,054 | 69.4 |
| River Heights | 39,852 | 70.8 | 38,823 | 69.9 |
| River East | 63,713 | 69.0 | 65,524 | 69.5 |
| Seven Oaks | 40,942 | 71.0 | 41,845 | 69.5 |
| St. James - Assiniboia | 42,461 | 71.3 | 41,450 | 70.9 |
| Inkster | 21,989 | 70.4 | 21,483 | 68.3 |
| Downtown | 49,664 | 68.8 | 49,966 | 69.3 |
| Point Douglas | 29,518 | 72.7 | 29,955 | 71.0 |
| | | | | |
| Winnipeg | 453,430 | 69.9 | 459,919 | 69.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 59.1 | 48.1 |
| Lowest Rural R1 | 65.3 | 67.0 |
| R2 | 66.4 | 66.2 |
| R3 | 68.5 | 69.3 |
| R4 | 66.7 | 68.0 |
| Highest Rural R5 | 68.8 | 68.9 |
| Lowest Urban U1 | 71.8 | 72.5 |
| U2 | 70.9 | 69.9 |
| U3 | 70.4 | 69.8 |
| U4 | 69.7 | 69.1 |
| Highest Urban U5 | 68.5 | 67.8 |
| linear trend rural T1 | | 0.0012 |
| linear trend rural T2 | | 0.0123 |
| compare rural trends over time | | 0.5927 |
| linear trend urban T1 | | 0.0005 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.4460 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.62: Number of Different Drugs Used

| Regional Health Authority | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 111,826 | 3.27 | 137,976 | 3.61 |
| Central | 211,295 | 3.40 | 244,615 | 3.75 |
| Assiniboine | 194,972 | 3.95 | 206,835 | 4.28 |
| Brandon | 126,573 | 3.74 | 154,348 | 4.26 |
| Winnipeg | 1,627,087 | 3.61 | 1,807,780 | 3.94 |
| Interlake | 193,347 | 3.73 | 227,030 | 4.25 |
| North Eastman | 92,670 | 3.69 | 113,480 | 4.24 |
| Parkland | 141,561 | 4.42 | 155,130 | 4.99 |
| Churchill | 2,838 | 3.90 | 2,986 | 4.48 |
| Nor-Man | 62,231 | 3.85 | 66,485 | 4.17 |
| Burntwood | 93,949 | 3.84 | 113,531 | 4.34 |
| | | | | |
| Rural South | 518,093 | 3.55 | 589,426 | 3.89 |
| Mid | 427,578 | 3.93 | 495,640 | 4.45 |
| North | 159,018 | 3.85 | 183,002 | 4.28 |
| | | | | |
| Manitoba | 2,872,190 | 3.67 | 3,246,183 | 4.04 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE rate per resident | Number Observed per Year | CRUDE rate per resident |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 132,755 | 3.22 | 157,625 | 3.58 |
| Assiniboine South | 85,948 | 3.41 | 98,212 | 3.80 |
| St. Boniface | 113,698 | 3.48 | 131,523 | 3.75 |
| St. Vital | 144,761 | 3.41 | 161,822 | 3.77 |
| Transcona | 73,188 | 3.21 | 82,965 | 3.60 |
| River Heights | 147,594 | 3.73 | 154,406 | 3.98 |
| River East | 220,843 | 3.48 | 252,218 | 3.85 |
| Seven Oaks | 148,985 | 3.66 | 166,139 | 3.97 |
| St. James - Assiniboia | 155,949 | 3.69 | 168,228 | 4.06 |
| Inkster | 74,168 | 3.39 | 80,544 | 3.76 |
| Downtown | 201,407 | 4.06 | 213,671 | 4.30 |
| Point Douglas | 127,791 | 4.34 | 140,427 | 4.70 |
| | | | | |
| Winnipeg | 1,627,087 | 3.61 | 1,807,780 | 3.94 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per resident | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 4.64 | 4.61 |
| Lowest Rural R1 | 4.23 | 4.74 |
| R2 | 3.75 | 4.01 |
| R3 | 3.75 | 4.04 |
| R4 | 3.61 | 3.97 |
| Highest Rural R5 | 3.54 | 3.79 |
| Lowest Urban U1 | 4.26 | 4.53 |
| U2 | 3.67 | 3.90 |
| U3 | 3.52 | 3.77 |
| U4 | 3.39 | 3.63 |
| Highest Urban U5 | 3.28 | 3.51 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0000 |
| compare rural trends over time | | 0.1462 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.6230 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.63: Antidepressant Use

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 2,893 | 5.32 | 4,216 | 6.98 |
| Central | 5,513 | 5.69 | 7,543 | 7.46 |
| Assiniboine | 4,470 | 6.25 | 5,996 | 8.75 |
| Brandon | 3,155 | 6.66 | 4,603 | 9.35 |
| Winnipeg | 40,806 | 6.29 | 52,519 | 7.93 |
| Interlake | 4,178 | 5.57 | 5,867 | 7.64 |
| North Eastman | 2,151 | 5.46 | 2,941 | 7.35 |
| Parkland | 2,428 | 5.53 | 3,136 | 7.43 |
| Churchill | 39 | 3.87 | 63 | 6.58 |
| Nor-Man | 908 | 3.60 | 1,276 | 5.23 |
| Burntwood | 1,248 | 2.77 | 1,914 | 4.15 |
| | | | | |
| Rural South | 12,876 | 5.78 | 17,755 | 7.72 |
| Mid | 8,757 | 5.53 | 11,944 | 7.51 |
| North | 2,195 | 3.08 | 3,253 | 4.55 |
| | | | | |
| Manitoba | 68,253 | 5.93 | 90,712 | 7.72 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 3,452 | 5.58 | 4,398 | 6.68 |
| Assiniboine South | 2,480 | 6.78 | 3,223 | 8.74 |
| St. Boniface | 3,045 | 6.48 | 4,093 | 8.05 |
| St. Vital | 3,870 | 6.39 | 4,966 | 8.08 |
| Transcona | 1,789 | 5.38 | 2,465 | 7.42 |
| River Heights | 4,462 | 7.92 | 5,427 | 9.77 |
| River East | 5,633 | 6.10 | 7,588 | 8.05 |
| Seven Oaks | 3,436 | 5.96 | 4,334 | 7.20 |
| St. James - Assiniboia | 4,212 | 7.07 | 5,119 | 8.75 |
| Inkster | 1,299 | 4.16 | 1,649 | 5.24 |
| Downtown | 4,514 | 6.25 | 5,864 | 8.13 |
| Point Douglas | 2,614 | 6.43 | 3,393 | 8.04 |
| | | | | |
| Winnipeg | 40,806 | 6.29 | 52,519 | 7.93 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 9.86 | 9.14 |
| Lowest Rural R1 | 4.92 | 6.26 |
| R2 | 5.45 | 7.10 |
| R3 | 5.49 | 7.54 |
| R4 | 6.04 | 8.09 |
| Highest Rural R5 | 5.12 | 6.78 |
| Lowest Urban U1 | 6.95 | 8.80 |
| U2 | 5.96 | 7.18 |
| U3 | 5.85 | 7.27 |
| U4 | 5.37 | 6.58 |
| Highest Urban U5 | 5.51 | 6.61 |
| linear trend rural T1 | | 0.1786 |
| linear trend rural T2 | | 0.0285 |
| compare rural trends over time | | 0.5744 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.6210 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.64: Antidepressant Prescription Follow-up

| Regional Health Authority | CRUDE Percent (%) | CRUDE Percent (%) |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| South Eastman | 57.0 | 57.8 |
| Central | 54.0 | 52.3 |
| Assiniboine | 54.3 | 53.2 |
| Brandon | 60.8 | 65.1 |
| Winnipeg | 61.3 | 60.0 |
| Interlake | 54.1 | 54.9 |
| North Eastman | 58.3 | 62.3 |
| Parkland | 58.1 | 57.1 |
| Churchill | 54.5 | |
| Nor-Man | 53.9 | 56.3 |
| Burntwood | 43.8 | 38.5 |
| | | |
| Rural South | 54.8 | 53.9 |
| Mid | 56.3 | 57.5 |
| North | 48.4 | 45.9 |
| | | |
| Manitoba | 58.8 | 58.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE Percent (%) | CRUDE Percent (%) |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| Fort Garry | 60.2 | 61.6 |
| Assiniboine South | 61.9 | 59.9 |
| St. Boniface | 64.6 | 58.0 |
| St. Vital | 60.9 | 58.0 |
| Transcona | 58.1 | 55.2 |
| River Heights | 63.2 | 59.8 |
| River East | 59.0 | 57.6 |
| Seven Oaks | 63.1 | 64.1 |
| St. James - Assiniboia | 60.7 | 59.8 |
| Inkster | 60.9 | 59.8 |
| Downtown | 62.0 | 62.1 |
| Point Douglas | 62.0 | 63.7 |
| | | |
| Winnipeg | 61.3 | 60.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1998/99-2000/01 | 2003/04-2005/06 |
| Income Not Found | 75.1 | 78.2 |
| Lowest Rural R1 | 53.1 | 48.5 |
| R2 | 54.5 | 54.6 |
| R3 | 55.2 | 54.6 |
| R4 | 56.0 | 54.0 |
| Highest Rural R5 | 54.2 | 57.8 |
| Lowest Urban U1 | 62.0 | 62.9 |
| U2 | 61.6 | 59.9 |
| U3 | 60.7 | 60.0 |
| U4 | 61.1 | 58.9 |
| Highest Urban U5 | 59.1 | 58.5 |
| linear trend rural T1 | | 0.4583 |
| linear trend rural T2 | | 0.0004 |
| compare rural trends over time | | 0.0000 |
| linear trend urban T1 | | 0.0894 |
| linear trend urban T2 | | 0.0070 |
| compare urban trends over time | | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.65: Asthma Care

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 574 | 66.2 | 653 | 67.3 |
| Central | 1,097 | 62.8 | 1,194 | 62.4 |
| Assiniboine | 974 | 64.0 | 937 | 66.5 |
| Brandon | 747 | 60.6 | 726 | 61.8 |
| Winnipeg | 9,899 | 61.2 | 10,957 | 64.3 |
| Interlake | 1,013 | 61.1 | 1,216 | 62.6 |
| North Eastman | 462 | 63.5 | 550 | 67.3 |
| Parkland | 607 | 64.9 | 678 | 66.0 |
| Churchill | 24 | 85.7 | 33 | 84.6 |
| Nor-Man | 343 | 65.8 | 397 | 65.9 |
| Burntwood | 423 | 59.5 | 648 | 66.9 |
| | | | | |
| Rural South | 2,645 | 63.9 | 2,784 | 64.8 |
| Mid | 2,082 | 62.7 | 2,444 | 64.5 |
| North | 790 | 62.7 | 1,078 | 67.0 |
| | | | | |
| Manitoba | 16,191 | 61.8 | 18,019 | 64.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 869 | 66.1 | 892 | 68.9 |
| Assiniboine South | 501 | 65.6 | 512 | 68.4 |
| St. Boniface | 637 | 60.4 | 714 | 59.6 |
| St. Vital | 843 | 62.4 | 907 | 62.3 |
| Transcona | 461 | 61.5 | 463 | 62.0 |
| River Heights | 855 | 59.3 | 869 | 63.3 |
| River East | 1,345 | 61.2 | 1,477 | 66.2 |
| Seven Oaks | 813 | 60.1 | 945 | 66.2 |
| St. James - Assiniboia | 1,017 | 65.0 | 963 | 65.3 |
| Inkster | 470 | 57.2 | 572 | 63.5 |
| Downtown | 1,205 | 58.9 | 1,467 | 62.6 |
| Point Douglas | 883 | 58.0 | 1,176 | 63.4 |
| | | | | |
| Winnipeg | 9,899 | 61.2 | 10,957 | 64.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 38.5 | 56.1 |
| Lowest Rural R1 | 62.4 | 65.7 |
| R2 | 63.7 | 63.8 |
| R3 | 62.5 | 64.6 |
| R4 | 64.8 | 66.2 |
| Highest Rural R5 | 63.5 | 65.2 |
| Lowest Urban U1 | 58.8 | 62.3 |
| U2 | 59.2 | 63.3 |
| U3 | 62.0 | 63.4 |
| U4 | 62.9 | 65.7 |
| Highest Urban U5 | 66.8 | 68.5 |

| | |
|---|---|
| linear trend rural T1 | 0.3799 |
| linear trend rural T2 | 0.7171 |
| compare rural trends over time | 0.0000 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.66: Diabetes Care: Eye Examinations

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| South Eastman | 583 | 30.2 | 907 | 33.4 |
| Central | 1,376 | 34.5 | 1,909 | 37.2 |
| Assiniboine | 1,581 | 38.3 | 2,121 | 42.7 |
| Brandon | 906 | 40.5 | 1,324 | 42.3 |
| Winnipeg | 9,572 | 31.7 | 13,231 | 32.3 |
| Interlake | 1,383 | 33.6 | 1,748 | 32.4 |
| North Eastman | 650 | 31.7 | 948 | 32.4 |
| Parkland | 949 | 32.7 | 1,159 | 33.2 |
| Churchill | 15 | 21.1 | 20 | 23.5 |
| Nor-Man | 556 | 36.9 | 698 | 36.8 |
| Burntwood | 655 | 23.9 | 952 | 25.0 |
| | | | | |
| Rural South | 3,540 | 35.3 | 4,937 | 38.5 |
| Mid | 2,982 | 32.9 | 3,855 | 32.6 |
| North | 1,226 | 28.4 | 1,670 | 28.8 |
| | | | | |
| Manitoba | 18,293 | 32.5 | 25,101 | 33.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|---|---|
| | 2000/01 | | 2005/06 | |
| Fort Garry | 762 | 34.0 | 1,131 | 34.4 |
| Assiniboine South | 435 | 33.3 | 590 | 32.5 |
| St. Boniface | 658 | 33.4 | 984 | 35.1 |
| St. Vital | 829 | 33.8 | 1,172 | 34.7 |
| Transcona | 590 | 38.6 | 707 | 36.1 |
| River Heights | 846 | 33.9 | 1,090 | 34.2 |
| River East | 1,436 | 34.4 | 2,038 | 35.8 |
| Seven Oaks | 940 | 30.6 | 1,381 | 31.1 |
| St. James - Assiniboia | 970 | 32.3 | 1,307 | 33.5 |
| Inkster | 409 | 27.9 | 621 | 29.2 |
| Downtown | 1,056 | 26.7 | 1,335 | 26.3 |
| Point Douglas | 641 | 25.2 | 875 | 26.8 |
| | | | | |
| Winnipeg | 9,572 | 31.7 | 13,231 | 32.3 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 15.4 | 15.0 |
| Lowest Rural R1 | 30.1 | 30.6 |
| R2 | 34.2 | 34.9 |
| R3 | 36.1 | 37.9 |
| R4 | 34.0 | 35.7 |
| Highest Rural R5 | 32.2 | 35.0 |
| Lowest Urban U1 | 29.7 | 30.4 |
| U2 | 32.3 | 32.1 |
| U3 | 35.4 | 36.0 |
| U4 | 33.6 | 34.9 |
| Highest Urban U5 | 34.2 | 35.6 |

| | |
|---|---|
| linear trend rural T1 | 0.0024 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.0000 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.67: Post-AMI Care: Beta-Blocker Prescribing

| Regional Health Authority | CRUDE Percent (%) | CRUDE Percent (%) |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| South Eastman | 68.5 | 79.8 |
| Central | 72.1 | 79.8 |
| Assiniboine | 63.7 | 79.4 |
| Brandon | 74.9 | 82.0 |
| Winnipeg | 69.6 | 81.2 |
| Interlake | 67.5 | 81.5 |
| North Eastman | 69.7 | 80.5 |
| Parkland | 60.0 | 73.7 |
| Churchill | | |
| Nor-Man | 67.6 | 81.0 |
| Burntwood | 55.6 | 68.7 |
| | | |
| Rural South | 68.1 | 79.7 |
| Mid | 65.5 | 78.7 |
| North | 60.0 | 73.8 |
| | | |
| Manitoba | 68.3 | 80.1 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE Percent (%) | CRUDE Percent (%) |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Fort Garry | 72.2 | 79.6 |
| Assiniboine South | 72.2 | 83.6 |
| St. Boniface | 71.1 | 82.2 |
| St. Vital | 74.3 | 84.0 |
| Transcona | 75.6 | 85.0 |
| River Heights | 67.3 | 81.5 |
| River East | 66.2 | 78.4 |
| Seven Oaks | 68.1 | 82.0 |
| St. James - Assiniboia | 69.7 | 82.9 |
| Inkster | 71.4 | 80.7 |
| Downtown | 68.3 | 79.8 |
| Point Douglas | 66.9 | 78.4 |
| | | |
| Winnipeg | 69.6 | 81.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 1996/97-2000/01 | 2001/02-2005/06 |
| Income Not Found | 0.35 | 0.56 |
| Lowest Rural R1 | 0.62 | 0.73 |
| R2 | 0.63 | 0.79 |
| R3 | 0.66 | 0.80 |
| R4 | 0.69 | 0.80 |
| Highest Rural R5 | 0.75 | 0.83 |
| Lowest Urban U1 | 0.66 | 0.79 |
| U2 | 0.69 | 0.82 |
| U3 | 0.73 | 0.81 |
| U4 | 0.75 | 0.85 |
| Highest Urban U5 | 0.74 | 0.84 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.0000 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0007 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.68: Benzodiazepine Prescribing for Community-Dwelling Seniors

| Regional Health Authority | CRUDE Percent (%) | CRUDE Percent (%) |
|---|---|---|
| | 2000/01 | 2005/06 |
| South Eastman | 22.6 | 21.3 |
| Central | 19.6 | 21.0 |
| Assiniboine | 20.7 | 21.6 |
| Brandon | 20.4 | 22.3 |
| Winnipeg | 18.4 | 18.5 |
| Interlake | 16.9 | 16.7 |
| North Eastman | 14.4 | 15.1 |
| Parkland | 21.3 | 23.9 |
| Churchill | | 0.0 |
| Nor-Man | 13.9 | 13.9 |
| Burntwood | 5.3 | 9.6 |
| | | |
| South | 20.6 | 21.3 |
| Mid | 18.2 | 19.1 |
| North | 10.6 | 12.1 |
| | | |
| Manitoba | 18.7 | 19.2 |
| Public Trustee | 11.6 | 12.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE Percent (%) | CRUDE Percent (%) |
|---|---|---|
| | 2000/01 | 2005/06 |
| Fort Garry | 17.5 | 16.5 |
| Assiniboine South | 18.5 | 19.1 |
| St. Boniface | 23.3 | 22.2 |
| St. Vital | 19.3 | 19.9 |
| Transcona | 18.5 | 16.9 |
| River Heights | 19.2 | 18.7 |
| River East | 18.9 | 19.1 |
| Seven Oaks | 19.8 | 20.2 |
| St. James - Assiniboia | 17.8 | 18.3 |
| Inkster | 13.0 | 12.8 |
| Downtown | 15.5 | 16.7 |
| Point Douglas | 16.2 | 16.4 |
| | | |
| Winnipeg | 18.4 | 18.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED Percent (%) | |
|---|---|---|
| | 2000/01 | 2005/06 |
| Income Not Found | 16.7 | 17.3 |
| Lowest Rural R1 | 19.0 | 20.6 |
| R2 | 19.4 | 20.5 |
| R3 | 19.2 | 20.2 |
| R4 | 20.4 | 20.5 |
| Highest Rural R5 | 16.7 | 17.2 |
| Lowest Urban U1 | 21.0 | 21.8 |
| U2 | 18.1 | 18.0 |
| U3 | 17.6 | 17.9 |
| U4 | 16.4 | 17.1 |
| Highest Urban U5 | 17.2 | 17.2 |

| | |
|---|---|
| linear trend rural T1 | 0.3111 |
| linear trend rural T2 | 0.0017 |
| compare rural trends over time | 0.0000 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.69: Benzodiazepine Prescribing for Residents of Personal Care Homes (PCH)

| Region | Benzodiazepine use in PCH Seniors | | | |
|---|---|---|---|---|
| | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
| | 2000/01 | | 2005/06 | |
| South Eastman | 128 | 40.13 | 120 | 34.88 |
| Central | 137 | 27.79 | 79 | 35.43 |
| Assiniboine | 257 | 37.79 | 379 | 43.46 |
| Brandon | 167 | 34.29 | 237 | 42.17 |
| Winnipeg | 1,566 | 32.17 | 1,593 | 31.99 |
| Interlake | 144 | 26.04 | 109 | 19.09 |
| North Eastman | 34 | 18.99 | 51 | 24.17 |
| Parkland | 83 | 36.24 | 205 | 43.90 |
| Churchill | | | | |
| Nor-Man | | | | |
| Burntwood | | | 11 | 29.73 |
| | | | | |
| Rural South | 522 | 34.99 | 578 | 40.17 |
| Mid | 261 | 27.16 | 365 | 29.22 |
| North | | | 11 | 26.83 |
| | | | | |
| Manitoba | 2,693 | 31.31 | 2,953 | 32.97 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Region | Benzodiazepine use in PCH Seniors | | | |
|---|---|---|---|---|
| | Number Observed per Year | CRUDE Percent (%) | Number Observed per Year | CRUDE Percent (%) |
| | 2000/01 | | 2005/06 | |
| Fort Garry | 59 | 25.21 | 74 | 23.13 |
| Assiniboine South | 131 | 27.07 | 181 | 37.01 |
| St. Boniface | 67 | 25.77 | 83 | 28.72 |
| St. Vital | 137 | 33.33 | 130 | 30.02 |
| Transcona | 47 | 37.30 | 62 | 44.93 |
| River Heights | 81 | 20.56 | 120 | 29.56 |
| River East | 294 | 41.70 | 241 | 33.38 |
| Seven Oaks | 203 | 36.84 | 240 | 40.54 |
| St. James - Assiniboia | 150 | 30.86 | 159 | 32.19 |
| Inkster | 36 | 26.28 | 51 | 36.69 |
| Downtown | 172 | 29.76 | 131 | 23.48 |
| Point Douglas | 189 | 37.65 | 121 | 30.33 |
| | | | | |
| Winnipeg | 1,566 | 32.17 | 1,593 | 31.99 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.70: Crude Rates of Self-Rated Health, aged 12+

Combined CCHS Cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Area | Excellent | Very Good | Good | Fair/Poor |
|---|---|---|---|---|
| South Eastman | 21.7% | 39.5% | 28.1% | 10.6% |
| Central | 22.3% | 38.8% | 28.0% | 10.9% |
| Assiniboine | **17.3%** | **43.2%** | 28.6% | 10.9% |
| Brandon | 20.3% | 38.3% | 30.0% | 11.4% |
| Winnipeg | **23.5%** | 38.6% | **26.5%** | 11.4% |
| Interlake | **18.3%** | 40.4% | 29.6% | 11.7% |
| North Eastman | 19.3% | 38.2% | 29.7% | 12.7% |
| Parkland | 19.0% | **33.7%** | 31.2% | **16.1%** |
| Churchill (s) | | | | |
| Nor-Man | **17.6%** | 40.3% | 30.5% | 11.5% |
| Burntwood | **17.6%** | 34.3% | **35.0%** | 13.0% |
| | | | | |
| Rural South | 20.6% | 40.4% | 28.2% | 10.8% |
| Mid | **18.8%** | 38.2% | 30.0% | 13.0% |
| North | **17.6%** | 37.4% | **32.7%** | 12.3% |
| | | | | |
| Manitoba | 22.0% | 38.8% | 27.7% | 11.5% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.71: Crude Rates of SF-36 Perfect Physical Functioning, aged 12+

Combined CCHS Cycles 2.1 (2003) and 3.1 (2005)

| Area | Less than perfect physical functioning | Perfect physical functioning |
|---|---|---|
| South Eastman | 45.9% | 54.1% |
| Central | 42.9% | 57.1% |
| Assiniboine | 46.0% | 54.0% |
| Brandon | 48.6% | 51.4% |
| Winnipeg | 42.7% | 57.3% |
| Interlake | 44.4% | 55.6% |
| North Eastman | 49.7% | 50.3% |
| Parkland | 47.1% | 52.9% |
| Churchill (s) | | |
| Nor-Man | 40.4% | 59.6% |
| Burntwood | 43.1% | 56.9% |
| | | |
| Rural South | 44.7% | 55.3% |
| Mid | 46.4% | 53.6% |
| North | 41.8% | 58.2% |
| | | |
| Manitoba | 43.8% | 56.2% |

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.72: Crude Rates of SF-36 General Mental Health Scale, aged 12+

CCHS 2.1 and 3.1 Combined

| Area | Low (0-79) | Medium (80-91) | High (92-100) |
|---|---|---|---|
| South Eastman | 21.8% | 35.6% | 42.6% |
| Central | **20.3%** | 37.2% | 42.5% |
| Assiniboine | 21.6% | 31.2% | **47.2%** |
| Brandon | 22.8% | 33.6% | 43.6% |
| Winnipeg | **27.0%** | 35.0% | **38.0%** |
| Interlake | 26.7% | 36.7% | 36.6% |
| North Eastman | 26.3% | 31.6% | 42.1% |
| Parkland | 27.3% | **26.4%** | **46.3%** |
| Churchill (s) | | | |
| Nor-Man | **19.2%** | 33.2% | **47.5%** |
| Burntwood | 26.8% | 33.2% | 40.1% |
| | | | |
| Rural South | **21.1%** | 34.9% | **44.0%** |
| Mid | 26.8% | 33.0% | 40.3% |
| North | 23.0% | 33.1% | 43.9% |
| | | | |
| Manitoba | 25.5% | 34.6% | 39.9% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.73: Crude Rates of Self-Perceived Work Stress, aged 15-75

CCHS 1.1, 2.1 and 3.1 Combined

| Area | Low | Medium | High |
|---|---|---|---|
| South Eastman | 32.6% | 45.8% | **21.6%** |
| Central | 31.8% | 45.7% | **22.5%** |
| Assiniboine | 32.9% | 44.2% | **22.9%** |
| Brandon | 32.0% | 43.3% | 24.7% |
| Winnipeg | **28.3%** | 41.4% | **30.3%** |
| Interlake | 29.4% | 40.3% | 30.3% |
| North Eastman | 30.2% | 42.2% | 27.6% |
| Parkland | 35.0% | 43.5% | **21.5%** |
| Churchill (s) | | | |
| Nor-Man | 34.6% | 43.6% | **21.8%** |
| Burntwood | 34.1% | 42.8% | **23.0%** |
| | | | |
| Rural South | 32.4% | **45.3%** | **22.3%** |
| Mid | 30.9% | 41.5% | 27.6% |
| North | **34.6%** | 43.1% | **22.4%** |
| | | | |
| Manitoba | 29.8% | 42.3% | 27.9% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.74: Crude Rates of Self-Perceived Life Stress, aged 15+

CCHS 1.1, 2.1, and 3.1 Combined

| Area | Low | Medium | High |
|---|---|---|---|
| South Eastman | 34.8% | 45.1% | 20.1% |
| Central | 34.8% | 44.8% | 20.3% |
| Assiniboine | **40.2%** | 40.8% | 19.0% |
| Brandon | 37.7% | 41.8% | 20.4% |
| Winnipeg | 33.8% | 44.7% | 21.5% |
| Interlake | 32.2% | 44.3% | 23.5% |
| North Eastman | 36.6% | 39.1% | 24.3% |
| Parkland | 36.7% | 45.1% | 18.2% |
| Churchill (s) | | | |
| Nor-Man | 39.5% | 44.2% | **16.3%** |
| Burntwood | 38.2% | 43.1% | 18.6% |
| | | | |
| Rural South | 36.5% | 43.6% | 19.8% |
| Mid | 34.4% | 43.1% | 22.4% |
| North | **38.9%** | 43.7% | **17.4%** |
| | | | |
| Manitoba | 34.8% | 44.1% | 21.1% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.75: Crude Rates of Life Satisfaction, aged 12+

CCHS 2.1 and 3.1 Combined

| Area | Very Satisfied | Others |
|---|---|---|
| South Eastman | 41.4% | 58.6% |
| Central | 38.4% | 61.6% |
| Assiniboine | 38.3% | 61.7% |
| Brandon | 41.9% | 58.1% |
| Winnipeg | 36.9% | 63.1% |
| Interlake | 37.4% | 62.6% |
| North Eastman | 43.0% | 57.0% |
| Parkland | **32.2%** | **67.8%** |
| Churchill (s) | | |
| Nor-Man | **46.2%** | **53.8%** |
| Burntwood | 36.5% | 63.5% |
| | | |
| South | 39.2% | 60.8% |
| Mid | 37.7% | 62.3% |
| North | 41.5% | 58.5% |
| | | |
| Manitoba | 37.8% | 62.2% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.76: Crude Rates of Tobacco Smoking, aged 12+

CCHS 1.1, 2.1, and 3.1 Combined

| Area | Current Smoker | Former Smoker | Non-Smoker |
|---|---|---|---|
| South Eastman | 21.6% | 39.3% | 39.1% |
| Central | 21.6% | 38.6% | 39.8% |
| Assiniboine | **18.1%** | 40.5% | 41.4% |
| Brandon | 24.1% | 42.1% | **33.8%** |
| Winnipeg | 22.4% | 38.9% | 38.7% |
| Interlake | 24.5% | 41.0% | 34.5% |
| North Eastman | 22.7% | 41.9% | 35.4% |
| Parkland | 25.8% | 39.5% | 34.7% |
| Churchill (s) | | | |
| Nor-Man | **28.1%** | **44.6%** | **27.4%** |
| Burntwood | **40.4%** | **31.8%** | **27.8%** |
| | | | |
| Rural South | **20.5%** | 39.4% | 40.1% |
| Mid | 24.3% | 40.9% | **34.8%** |
| North | **34.3%** | 38.0% | **27.7%** |
| | | | |
| Manitoba | 22.7% | 39.4% | 37.9% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.77: Crude Rates of Exposure to Second-Hand Smoke at Home, aged 12+

CCHS 2.1 and 3.1 Combined

| Area | Yes | No |
|---|---|---|
| South Eastman | 14.9% | 85.1% |
| Central | 15.5% | 84.5% |
| Assiniboine | 15.3% | 84.7% |
| Brandon | 16.0% | 84.0% |
| Winnipeg | 17.7% | 82.3% |
| Interlake | 17.4% | 82.6% |
| North Eastman | 17.9% | 82.1% |
| Parkland | 16.7% | 83.3% |
| Churchill (s) | | |
| Nor-Man | **24.4%** | **75.6%** |
| Burntwood | **35.4%** | **64.6%** |
| | | |
| Rural South | 15.3% | 84.7% |
| Mid | 17.3% | 82.7% |
| North | **29.8%** | **70.2%** |
| | | |
| Manitoba | 17.5% | 82.5% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.78: Crude Rates of Binge Drinking, aged 12+

CCHS 1.1, 2.1 and 3.1 Combined

| Area | Had 5 or more drinks on one occasion, once per month or more | Had 5 or more drinks on one occasion, less than once per month | Never |
|---|---|---|---|
| South Eastman | **14.2%** | 18.8% | **66.9%** |
| Central | **14.3%** | **16.6%** | **69.1%** |
| Assiniboine | 18.7% | 19.7% | 61.6% |
| Brandon | **22.4%** | 23.0% | **54.6%** |
| Winnipeg | 17.4% | 21.0% | 61.6% |
| Interlake | 18.5% | 20.7% | 60.8% |
| North Eastman | 19.2% | 20.3% | 60.5% |
| Parkland | 14.8% | 19.2% | 66.0% |
| Churchill (s) | | | |
| Nor-Man | **24.1%** | **25.4%** | **50.5%** |
| Burntwood | **25.7%** | 24.0% | **50.2%** |
| | | | |
| Rural South | **15.7%** | **18.2%** | **66.2%** |
| Mid | 17.8% | 20.2% | 62.0% |
| North | **25.1%** | **24.6%** | **50.3%** |
| | | | |
| Manitoba | 17.6% | 20.6% | 61.9% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.79: Crude Rates of Body Mass Index (BMI), aged 18+

CCHS 1.1, 2.1, and 3.1 Combined

| Area | Underweight / Normal | Overweight | Obese |
|---|---|---|---|
| South Eastman | 41.0% | 37.9% | 21.0% |
| Central | **39.5%** | 34.4% | **26.1%** |
| Assiniboine | **37.9%** | 36.8% | 25.3% |
| Brandon | 44.4% | 35.6% | 20.0% |
| Winnipeg | **47.6%** | 34.0% | **18.3%** |
| Interlake | **34.2%** | 38.6% | **27.3%** |
| North Eastman | 39.5% | 38.9% | 21.6% |
| Parkland | **36.4%** | 39.0% | 24.6% |
| Churchill (s) | | | |
| Nor-Man | **37.3%** | 34.1% | **28.6%** |
| Burntwood | **33.1%** | 38.0% | **28.9%** |
| | | | |
| Rural South | **39.4%** | 36.1% | **24.5%** |
| Mid | **36.0%** | **38.7%** | **25.3%** |
| North | **35.3%** | 36.1% | **28.7%** |
| | | | |
| Manitoba | 44.0% | 35.2% | 20.9% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.80: Crude Rates of Total Activity Level (Work + Leisure + Travel), aged 15-75

CCHS 1.1, 2.1, and 3.1 Combined

| Area | Active | Moderate | Inactive |
|---|---|---|---|
| South Eastman | 33.1% | 34.2% | 32.8% |
| Central | **39.5%** | **27.1%** | 33.4% |
| Assiniboine | **42.5%** | 30.1% | **27.4%** |
| Brandon | **36.2%** | 32.1% | 31.7% |
| Winnipeg | **26.3%** | **35.7%** | **37.9%** |
| Interlake | 35.5% | 34.1% | 30.4% |
| North Eastman | 33.3% | 34.9% | 31.8% |
| Parkland | 34.3% | 33.7% | 32.0% |
| Churchill (s) | | | |
| Nor-Man | 36.1% | 36.4% | **27.5%** |
| Burntwood | 36.1% | 32.0% | 31.9% |
| | | | |
| Rural South | **38.7%** | **30.0%** | **31.3%** |
| Mid | **34.6%** | 34.2% | **31.1%** |
| North | **36.2%** | 34.0% | **29.8%** |
| | | | |
| Manitoba | 30.5% | 34.2% | 35.2% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.81: Crude Rates of Activity Limitations, aged 12+

CCHS 2.1 and 3.1 Combined

| Area | Has Limitations | Has No Limitations |
|---|---|---|
| South Eastman | 28.3% | 71.7% |
| Central | 30.6% | 69.4% |
| Assiniboine | 33.4% | 66.6% |
| Brandon | 34.4% | 65.6% |
| Winnipeg | 31.3% | 68.7% |
| Interlake | 33.9% | 66.1% |
| North Eastman | 36.1% | 63.9% |
| Parkland | 36.0% | 64.0% |
| Churchill (s) | | |
| Nor-Man | 27.5% | 72.5% |
| Burntwood | 33.1% | 66.9% |
| | | |
| Rural South | 30.9% | 69.1% |
| Mid | 35.0% | 65.0% |
| North | 30.4% | 69.6% |
| | | |
| Manitoba | 31.8% | 68.2% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.82: Crude Rates of Average Daily Consumption of Fruits and Vegetables, aged 12+

CCHS 1.1 and 2.1 Combined

| Area | 0-4 Servings | 5+ Servings |
|---|---|---|
| South Eastman | **72.7%** | **27.3%** |
| Central | 68.3% | 31.7% |
| Assiniboine | 64.1% | 35.9% |
| Brandon | 67.8% | 32.2% |
| Winnipeg | 65.9% | 34.1% |
| Interlake | 68.8% | 31.2% |
| North Eastman | 63.2% | 36.8% |
| Parkland | 68.4% | 31.6% |
| Churchill (s) | | |
| Nor-Man | 65.0% | 35.0% |
| Burntwood | 70.3% | 29.7% |
| | | |
| Rural South | 68.1% | 31.9% |
| Mid | 67.2% | 32.8% |
| North | 67.7% | 32.3% |
| | | |
| Manitoba | 66.6% | 33.4% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.83: Crude Rates of Self-Rated Health by Income Quintile, aged 12+

CCHS 1.1, 2.1, and 3.1 Combined

| Income Quintile | Excellent | Very Good | Good | Fair/Poor |
|---|---|---|---|---|
| Lowest Rural R1 | 20.4% | 35.3% | 30.0% | 14.3% |
| R2 | **17.6%** | 37.6% | **31.2%** | 13.6% |
| R3 | **16.9%** | 39.2% | **31.6%** | 12.2% |
| R4 | 19.5% | 40.2% | 28.5% | 11.9% |
| Highest Rural R5 | 22.7% | 42.3% | 25.9% | **9.1%** |
| | | | | |
| Lowest Urban U1 | 21.1% | **34.0%** | 28.1% | **16.8%** |
| U2 | 23.0% | 36.3% | 27.3% | 13.3% |
| U3 | 21.2% | 37.3% | 30.2% | 11.3% |
| U4 | 25.4% | 41.7% | 25.0% | **8.0%** |
| Highest Urban U5 | 25.8% | 42.8% | **23.1%** | **8.3%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.84: Crude Rates of SF-36 Perfect Physical Functioning by Income Quintile, aged 12+

CCHS 2.1 and 3.1Combined

| Income Quintile | Less than perfect physical functioning | Perfect physical functioning |
|---|---|---|
| Lowest Rural R1 | 46.8% | 53.2% |
| R2 | 47.4% | 52.6% |
| R3 | 47.1% | 52.9% |
| R4 | 46.6% | 53.4% |
| Highest Rural R5 | 40.3% | 59.7% |
| | | |
| Lowest Urban U1 | **50.2%** | **49.8%** |
| U2 | 41.8% | 58.2% |
| U3 | 45.6% | 54.4% |
| U4 | 38.3% | 61.7% |
| Highest Urban U5 | 40.3% | 59.7% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.85: Crude Rates of SF-36 General Mental Health Scale by Income Quintile, aged 12+

CCHS 2.1 and 3.1 Combined

| Income Quintile | Low (0-79) | Medium (80-91) | High (92-100) |
|---|---|---|---|
| Lowest Rural R1 | 22.0% | 35.0% | 43.0% |
| R2 | 22.4% | **30.2%** | **47.4%** |
| R3 | 24.0% | 34.1% | 41.9% |
| R4 | 21.6% | 35.0% | 43.4% |
| Highest Rural R5 | 25.4% | 35.0% | 39.6% |
| | | | |
| Lowest Urban U1 | **34.4%** | 30.4% | 35.2% |
| U2 | 29.2% | 33.2% | 37.5% |
| U3 | 23.6% | 35.6% | 40.8% |
| U4 | 23.5% | 36.0% | 40.5% |
| Highest Urban U5 | 24.8% | 37.9% | 37.3% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.86: Crude Rates of Self-Perceived Work Stress by Income Quintile, aged 15-75

CCHS 1.1, 2.1 and 3.1 Combined

| Income Quintile | Low | Medium | High |
|---|---|---|---|
| Lowest Rural R1 | 36.3% | 42.1% | **21.6%** |
| R2 | 32.5% | 43.4% | 24.1% |
| R3 | 32.8% | 45.7% | **21.4%** |
| R4 | 30.8% | 45.2% | 24.0% |
| Highest Rural R5 | 30.9% | 41.8% | 27.3% |
| | | | |
| Lowest Urban U1 | 30.8% | 39.8% | 29.4% |
| U2 | 30.9% | 42.1% | 27.0% |
| U3 | 27.8% | 44.1% | 28.1% |
| U4 | 29.3% | 39.9% | 30.8% |
| Highest Urban U5 | **24.4%** | 41.4% | **34.2%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.87: Crude Rates of Self-Perceived Life Stress by Income Quintile, aged 15+

CCHS 1.1, 2.1, and 3.1 Combined

| Income Quintile | Low | Medium | High |
|---|---|---|---|
| Lowest Rural R1 | 35.6% | 64.4% | 20.1% |
| R2 | 34.3% | 65.7% | 20.0% |
| R3 | 33.9% | 66.1% | 19.5% |
| R4 | 32.7% | 67.3% | 20.3% |
| Highest Rural R5 | 28.5% | 71.5% | 21.8% |
| | | | |
| Lowest Urban U1 | **40.0%** | **60.0%** | 21.5% |
| U2 | 31.7% | 68.3% | 21.7% |
| U3 | 31.7% | 68.3% | 19.7% |
| U4 | 28.9% | 71.1% | 21.9% |
| Highest Urban U5 | **26.6%** | **73.4%** | 23.1% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.88: Crude Rates of Life Satisfaction by Income Quintile, aged 12+

CCHS 2.1 and 3.1 Combined

| Income Quintile | Very Satisfied | Others |
|---|---|---|
| Lowest Rural R1 | 38.9% | 61.1% |
| R2 | 33.9% | 66.1% |
| R3 | 36.3% | 63.7% |
| R4 | 41.6% | 58.4% |
| Highest Rural R5 | 42.3% | 57.7% |
| | | |
| Lowest Urban U1 | **28.6%** | **71.4%** |
| U2 | 33.9% | 66.1% |
| U3 | **32.5%** | **67.5%** |
| U4 | 41.8% | 58.2% |
| Highest Urban U5 | **47.2%** | **52.8%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.89: Crude Rates of Tobacco Smoking by Income Quintile, aged 12+

CCHS 1.1, 2.1, and 3.1 Combined

| Income Quintile | Current Smoker | Former Smoker | Non-Smoker |
|---|---|---|---|
| Lowest Rural R1 | 26.6% | 37.1% | 36.3% |
| R2 | 21.3% | 39.4% | 39.3% |
| R3 | 24.9% | 41.3% | **33.8%** |
| R4 | 22.9% | 41.3% | 35.8% |
| Highest Rural R5 | 21.9% | 39.8% | 38.3% |
| | | | |
| Lowest Urban U1 | **30.1%** | **34.9%** | 35.0% |
| U2 | **26.8%** | 37.6% | 35.6% |
| U3 | 21.1% | 42.5% | 36.4% |
| U4 | 19.4% | 40.0% | 40.6% |
| Highest Urban U5 | **15.7%** | 40.0% | **44.3%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.90: Crude Rates of Exposure to Second-Hand Smoke at Home, aged 12+

CCHS 2.1 and 3.1 Combined

| Income Quintile | Yes | No |
|---|---|---|
| Lowest Rural R1 | 19.8% | 80.2% |
| R2 | 16.2% | 83.8% |
| R3 | 19.4% | 80.6% |
| R4 | 17.6% | 82.4% |
| Highest Rural R5 | 15.4% | 84.6% |
| | | |
| Lowest Urban U1 | **24.9%** | **75.1%** |
| U2 | **22.8%** | **77.2%** |
| U3 | 18.1% | 81.9% |
| U4 | 13.6% | 86.4% |
| Highest Urban U5 | **10.2%** | **89.8%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.91: Crude Rates of Binge Drinking by Income Quintile, aged 12+

CCHS 1.1, 2.1 and 3.1 Combined

| Income Quintile | Had 5 or more drinks on one occasion, once per month or more | Had 5 or more drinks on one occasion, once per month | Never |
|---|---|---|---|
| Lowest Rural R1 | 15.2% | 84.8% | **69.1%** |
| R2 | 16.1% | 83.9% | 61.6% |
| R3 | 18.5% | 81.5% | **54.6%** |
| R4 | 16.1% | 83.9% | 61.6% |
| Highest Rural R5 | 19.2% | 80.8% | 60.8% |
| | | | |
| Lowest Urban U1 | 18.1% | 81.9% | 60.5% |
| U2 | 20.2% | 79.8% | 66.0% |
| U3 | 17.1% | 82.9% | |
| U4 | 17.8% | 82.2% | **50.5%** |
| Highest Urban U5 | 15.4% | 84.6% | **50.2%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

blank cells= suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.92: Crude Rates of Body Mass Index (BMI) by Income Quintile, aged 18+

CCHS 1.1, 2.1, and 3.1 Combined

| Income Quintile | Underweight / Normal | Overweight | Obese |
|---|---|---|---|
| Lowest Rural R1 | **35.0%** | 36.9% | **28.1%** |
| R2 | **37.8%** | 35.4% | **26.8%** |
| R3 | **35.1%** | 39.1% | **25.7%** |
| R4 | **38.7%** | 36.5% | **24.8%** |
| Highest Rural R5 | 40.7% | 37.0% | 22.4% |
| | | | |
| Lowest Urban U1 | 46.3% | 32.4% | 21.3% |
| U2 | 48.5% | 34.1% | **17.4%** |
| U3 | 46.0% | 33.8% | 20.2% |
| U4 | 48.2% | 33.1% | 18.7% |
| Highest Urban U5 | 47.3% | 37.3% | **15.4%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.93: Crude Rates of Physical Activity Levels (Work + Leisure + Travel) by Income Quintile, aged 15-75

CCHS 1.1, 2.1, and 3.1 Combined

| Income Quintile | Active | Moderate | Inactive |
|---|---|---|---|
| Lowest Rural R1 | **41.6%** | **26.4%** | 32.0% |
| R2 | **39.9%** | 33.8% | **26.3%** |
| R3 | **38.8%** | 32.0% | **29.2%** |
| R4 | **35.6%** | 32.7% | 31.7% |
| Highest Rural R5 | 32.8% | 32.1% | 35.1% |
| | | | |
| Lowest Urban U1 | 33.6% | 33.1% | 33.3% |
| U2 | 33.0% | 31.6% | 35.4% |
| U3 | 29.9% | 34.9% | 35.2% |
| U4 | **24.4%** | 38.9% | 36.7% |
| Highest Urban U5 | **17.4%** | 37.1% | **45.6%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.94: Crude Rates of Activity Limitations by Income Quintile, aged 12+

CCHS 2.1 and 3.1 Combined

| Income Quintile | Has Limitations | Has No Limations |
|---|---|---|
| Lowest Rural R1 | 35.6% | 64.4% |
| R2 | 34.3% | 65.7% |
| R3 | 33.9% | 66.1% |
| R4 | 32.7% | 67.3% |
| Highest Rural R5 | 28.5% | 71.5% |
| | | |
| Lowest Urban U1 | **40.0%** | **60.0%** |
| U2 | 31.7% | 68.3% |
| U3 | 31.7% | 68.3% |
| U4 | 28.9% | 71.1% |
| Highest Urban U5 | **26.6%** | **73.4%** |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 2.95: Crude Rates of Average Daily Consumption of Fruits and Vegetables by Income Quintile, aged 12+

CCHS 1.1 and 2.1Combined

| Income Quintile | 0-4 Servings | 5+ Servings |
|---|---|---|
| Lowest Rural R1 | 64.7% | 35.3% |
| R2 | 69.2% | 30.8% |
| R3 | 67.8% | 32.2% |
| R4 | 68.5% | 31.5% |
| Highest Rural R5 | 66.6% | 33.4% |
| | | |
| Lowest Urban U1 | 69.3% | 30.7% |
| U2 | 64.8% | 35.2% |
| U3 | 64.4% | 35.6% |
| U4 | 69.3% | 30.7% |
| Highest Urban U5 | 63.0% | 37.0% |

**bold** - indicates area's rate was statistically different from Manitoba average

*italics* - indicates a warning - the area's rate is highly variable and should be interpreted with caution

Source: Manitoba Centre for Health Policy, 2009

# Appendix Three: Selected Crude Rate Tables by Sex

## Appendix Table 3.1: Male Injury Mortality

| Regional Health Authority | CRUDE rate per 1,000 1996-2000 | CRUDE rate per 1,000 2001-2005 |
|---|---|---|
| South Eastman | 0.56 | 0.45 |
| Central | 0.61 | 0.61 |
| Assiniboine | 0.81 | 0.88 |
| Brandon | 0.60 | 0.53 |
| Winnipeg | 0.54 | 0.57 |
| Interlake | 0.77 | 0.70 |
| North Eastman | 1.01 | 1.01 |
| Parkland | 0.83 | 0.83 |
| Churchill | | |
| Nor-Man | 1.04 | 0.84 |
| Burntwood | 1.31 | 1.48 |
| | | |
| Rural South | 0.66 | 0.65 |
| Mid | 0.85 | 0.81 |
| North | 1.21 | 1.24 |
| | | |
| Manitoba | 0.66 | 0.67 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 1996-2000 | CRUDE rate per 1,000 2001-2005 |
|---|---|---|
| Fort Garry | 0.31 | 0.30 |
| Assiniboine South | 0.45 | 0.33 |
| St. Boniface | 0.44 | 0.42 |
| St. Vital | 0.41 | 0.45 |
| Transcona | 0.43 | 0.39 |
| River Heights | 0.49 | 0.56 |
| River East | 0.49 | 0.44 |
| Seven Oaks | 0.43 | 0.53 |
| St. James - Assiniboia | 0.57 | 0.55 |
| Inkster | 0.44 | 0.49 |
| Downtown | 0.91 | 1.10 |
| Point Douglas | 0.95 | 1.19 |
| | | |
| Winnipeg | 0.54 | 0.57 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1996-2000 | ADJUSTED rate per 1,000 2001-2005 |
|---|---|---|
| Income Not Found | 1.99 | 1.79 |
| Lowest Rural R1 | 1.19 | 1.29 |
| R2 | 0.74 | 0.63 |
| R3 | 0.69 | 0.84 |
| R4 | 0.61 | 0.52 |
| Highest Rural R5 | 0.53 | 0.41 |
| Lowest Urban U1 | 0.85 | 0.96 |
| U2 | 0.59 | 0.52 |
| U3 | 0.41 | 0.46 |
| U4 | 0.32 | 0.27 |
| Highest Urban U5 | 0.28 | 0.31 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.1313 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.7232 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.2: Female Injury Mortality

| Regional Health Authority | CRUDE rate per 1,000 1996-2000 | CRUDE rate per 1,000 2001-2005 |
|---|---|---|
| South Eastman | 0.24 | 0.23 |
| Central | 0.34 | 0.34 |
| Assiniboine | 0.50 | 0.50 |
| Brandon | 0.35 | 0.28 |
| Winnipeg | 0.31 | 0.37 |
| Interlake | 0.31 | 0.28 |
| North Eastman | 0.50 | 0.43 |
| Parkland | 0.42 | 0.55 |
| Churchill | | |
| Nor-Man | 0.45 | 0.42 |
| Burntwood | 0.48 | 0.50 |
| | | |
| Rural South | 0.37 | 0.36 |
| Mid | 0.39 | 0.39 |
| North | 0.46 | 0.48 |
| | | |
| Manitoba | 0.35 | 0.38 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE rate per 1,000 1996-2000 | CRUDE rate per 1,000 2001-2005 |
|---|---|---|
| Fort Garry | 0.15 | 0.22 |
| Assiniboine South | 0.33 | 0.29 |
| St. Boniface | 0.32 | 0.28 |
| St. Vital | 0.25 | 0.26 |
| Transcona | 0.20 | 0.23 |
| River Heights | 0.45 | 0.49 |
| River East | 0.22 | 0.35 |
| Seven Oaks | 0.22 | 0.38 |
| St. James - Assiniboia | 0.27 | 0.36 |
| Inkster | 0.24 | 0.22 |
| Downtown | 0.60 | 0.61 |
| Point Douglas | 0.49 | 0.64 |
| | | |
| Winnipeg | 0.31 | 0.37 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED rate per 1,000 1996-2000 | ADJUSTED rate per 1,000 2001-2005 |
|---|---|---|
| Income Not Found | 0.89 | 0.99 |
| Lowest Rural R1 | 0.61 | 0.70 |
| R2 | 0.37 | 0.30 |
| R3 | 0.40 | 0.32 |
| R4 | 0.32 | 0.31 |
| Highest Rural R5 | 0.21 | 0.24 |
| Lowest Urban U1 | 0.47 | 0.55 |
| U2 | 0.28 | 0.29 |
| U3 | 0.25 | 0.27 |
| U4 | 0.19 | 0.19 |
| Highest Urban U5 | 0.16 | 0.20 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.7399 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.7636 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.3: Osteoporosis Prevalence in Males

| Regional Health Authority | CRUDE Percent (%) 1998/99-2000/01 | CRUDE Percent (%) 2003/04-2005/06 |
|---|---|---|
| South Eastman | 3.62 | 4.46 |
| Central | 3.88 | 4.06 |
| Assiniboine | 4.49 | 5.60 |
| Brandon | 4.76 | 6.04 |
| Winnipeg | 4.06 | 4.74 |
| Interlake | 3.57 | 4.90 |
| North Eastman | 3.51 | 3.44 |
| Parkland | 4.47 | 5.20 |
| Churchill | 6.86 | |
| Nor-Man | 3.30 | 5.00 |
| Burntwood | 3.82 | 4.65 |
| | | |
| Rural South | 4.06 | 4.72 |
| Mid | 3.83 | 4.63 |
| North | 3.64 | 4.81 |
| | | |
| Manitoba | 4.11 | 4.84 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE Percent (%) 1998/99-2000/01 | CRUDE Percent (%) 2003/04-2005/06 |
|---|---|---|
| Fort Garry | 3.44 | 4.26 |
| Assiniboine South | 3.64 | 4.45 |
| St. Boniface | 3.64 | 4.16 |
| St. Vital | 3.87 | 4.61 |
| Transcona | 2.98 | 3.08 |
| River Heights | 4.61 | 5.47 |
| River East | 4.02 | 4.59 |
| Seven Oaks | 3.99 | 4.51 |
| St. James - Assiniboia | 4.29 | 5.56 |
| Inkster | 2.97 | 3.80 |
| Downtown | 4.79 | 5.96 |
| Point Douglas | 5.70 | 4.96 |
| | | |
| Winnipeg | 4.06 | 4.74 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) 1998/99-2000/01 | ADJUSTED percent (%) 2003/04-2005/06 |
|---|---|---|
| Income Not Found | 8.76 | 8.28 |
| Lowest Rural R1 | 4.48 | 5.02 |
| R2 | 3.89 | 4.59 |
| R3 | 3.74 | 4.77 |
| R4 | 3.59 | 4.56 |
| Highest Rural R5 | 3.42 | 4.41 |
| Lowest Urban U1 | 5.02 | 5.81 |
| U2 | 4.17 | 4.64 |
| U3 | 3.77 | 4.82 |
| U4 | 3.93 | 4.59 |
| Highest Urban U5 | 3.51 | 4.44 |

| | |
|---|---|
| linear trend rural T1 | 0.0001 |
| linear trend rural T2 | 0.0615 |
| compare rural trends over time | 0.0869 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.1589 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.4: Osteoporosis Prevalence in Females

| Regional Health Authority | Number Observed 1998/99-2000/01 | CRUDE Percent (%) 1998/99-2000/01 | Number Observed 2003/04-2005/06 | CRUDE Percent (%) 2003/04-2005/06 |
|---|---|---|---|---|
| South Eastman | 878 | 13.3 | 1,257 | 17.0 |
| Central | 1,922 | 14.0 | 2,495 | 17.2 |
| Assiniboine | 2,131 | 15.8 | 2,811 | 20.7 |
| Brandon | 1,349 | 18.3 | 1,918 | 24.4 |
| Winnipeg | 16,850 | 16.4 | 22,109 | 20.0 |
| Interlake | 1,531 | 13.2 | 2,332 | 18.3 |
| North Eastman | 664 | 12.1 | 1,017 | 16.4 |
| Parkland | 1,112 | 13.9 | 1,366 | 16.9 |
| Churchill | 14 | 15.6 | 9 | 9.7 |
| Nor-Man | 321 | 12.5 | 555 | 19.9 |
| Burntwood | 298 | 11.0 | 479 | 16.3 |
| | | | | |
| Rural South | 4,931 | 14.6 | 6,563 | 18.5 |
| Mid | 3,307 | 13.2 | 4,715 | 17.5 |
| North | 633 | 11.8 | 1,043 | 17.9 |
| | | | | |
| Manitoba | 27,332 | 15.6 | 36,621 | 19.5 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed 1998/99-2000/01 | CRUDE Percent (%) 1998/99-2000/01 | Number Observed 2003/04-2005/06 | CRUDE Percent (%) 2003/04-2005/06 |
|---|---|---|---|---|
| Fort Garry | 1,357 | 15.6 | 2,093 | 20.8 |
| Assiniboine South | 1,094 | 18.1 | 1,595 | 22.7 |
| St. Boniface | 1,193 | 15.6 | 1,572 | 19.1 |
| St. Vital | 1,521 | 16.3 | 2,073 | 19.8 |
| Transcona | 556 | 12.9 | 754 | 16.2 |
| River Heights | 2,169 | 20.0 | 2,616 | 23.9 |
| River East | 2,393 | 16.0 | 3,121 | 19.1 |
| Seven Oaks | 1,591 | 16.4 | 2,036 | 19.1 |
| St. James - Assiniboia | 2,091 | 17.8 | 2,704 | 22.8 |
| Inkster | 405 | 11.1 | 546 | 13.6 |
| Downtown | 1,581 | 16.2 | 1,941 | 19.2 |
| Point Douglas | 899 | 14.8 | 1,058 | 17.7 |
| | | | | |
| Winnipeg | 16,850 | 16.4 | 22,109 | 20.0 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) 1998/99-2000/01 | ADJUSTED percent (%) 2003/04-2005/06 |
|---|---|---|
| Income Not Found | 18.6 | 18.6 |
| Lowest Rural R1 | 13.3 | 16.7 |
| R2 | 14.2 | 17.8 |
| R3 | 13.8 | 19.0 |
| R4 | 13.6 | 18.7 |
| Highest Rural R5 | 13.7 | 19.8 |
| Lowest Urban U1 | 16.0 | 20.2 |
| U2 | 15.4 | 19.6 |
| U3 | 16.3 | 20.6 |
| U4 | 16.8 | 20.6 |
| Highest Urban U5 | 17.5 | 22.6 |

| | |
|---|---|
| linear trend rural T1 | 0.8 |
| linear trend rural T2 | 0.0 |
| compare rural trends over time | 0.0 |
| linear trend urban T1 | 0.0 |
| linear trend urban T2 | 0.0 |
| compare urban trends over time | 0.9 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.5: Five-Year Mortality for Males With and Without Hypertension, 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Hypertension | | w/o Hypertension | |
| South Eastman | 468 | 15.68 | 357 | 2.45 |
| Central | 1105 | 19.08 | 826 | 3.31 |
| Assiniboine | 1143 | 21.44 | 878 | 4.65 |
| Brandon | 521 | 18.36 | 397 | 3.43 |
| Winnipeg | 6565 | 16.80 | 5645 | 3.29 |
| Interlake | 938 | 17.47 | 763 | 3.71 |
| North Eastman | 402 | 15.19 | 385 | 3.59 |
| Parkland | 706 | 21.25 | 597 | 5.25 |
| Churchill | 9 | 14.06 | 9 | 3.73 |
| Nor-Man | 186 | 17.21 | 217 | 3.47 |
| Burntwood | 215 | 13.06 | 321 | 3.10 |
| | | | | |
| Rural South | 2716 | 19.25 | 2061 | 3.53 |
| Mid | 2046 | 18.05 | 1745 | 4.09 |
| North | 410 | 14.69 | 547 | 3.25 |
| | | | | |
| Manitoba | 12454 | 17.67 | 10750 | 3.55 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Hypertension | | w/o Hypertension | |
| Fort Garry | 464 | 13.84 | 392 | 2.47 |
| Assiniboine South | 338 | 14.66 | 261 | 2.78 |
| St. Boniface | 467 | 15.18 | 382 | 2.96 |
| St. Vital | 521 | 14.34 | 421 | 2.67 |
| Transcona | 291 | 15.69 | 212 | 2.29 |
| River Heights | 672 | 19.72 | 530 | 3.58 |
| River East | 940 | 16.37 | 770 | 3.10 |
| Seven Oaks | 660 | 16.70 | 488 | 3.22 |
| St. James - Assiniboia | 758 | 17.92 | 597 | 3.82 |
| Inkster | 227 | 13.76 | 218 | 2.69 |
| Downtown | 749 | 20.99 | 874 | 4.52 |
| Point Douglas | 478 | 20.82 | 500 | 4.69 |
| | | | | |
| Winnipeg | 6565 | 16.80 | 5645 | 3.29 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with Hyper-tension | w/o Hyper-tension |
| Income Not Found | 12.62 | 5.72 |
| Lowest Rural R1 | 6.25 | 3.96 |
| R2 | 5.05 | 3.64 |
| R3 | 5.19 | 3.60 |
| R4 | 4.70 | 3.20 |
| Highest Rural R5 | 3.90 | 3.20 |
| Lowest Urban U1 | 7.26 | 4.55 |
| U2 | 5.04 | 3.52 |
| U3 | 4.60 | 3.41 |
| U4 | 3.54 | 2.91 |
| Highest Urban U5 | 3.22 | 2.73 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.0150 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.6: Five-Year Mortality for Females With and Without Hypertension, 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with Hyper-tension | CRUDE percent (%) w/o Hyper-tension |
|---|---|---|
| South Eastman | 14.09 | 1.64 |
| Central | 16.34 | 2.56 |
| Assiniboine | 17.47 | 3.64 |
| Brandon | 16.44 | 2.67 |
| Winnipeg | 16.09 | 2.88 |
| Interlake | 13.78 | 2.43 |
| North Eastman | 13.03 | 2.18 |
| Parkland | 17.70 | 3.85 |
| Churchill | | 2.67 |
| Nor-Man | 13.60 | 2.95 |
| Burntwood | 10.21 | 1.66 |
| | | |
| Rural South | 16.34 | 2.68 |
| Mid | 14.82 | 2.76 |
| North | 11.57 | 2.16 |
| | | |
| Manitoba | 16.02 | 2.90 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with Hyper-tension | CRUDE percent (%) w/o Hyper-tension |
|---|---|---|
| Fort Garry | 12.27 | 2.09 |
| Assiniboine South | 17.64 | 2.70 |
| St. Boniface | 14.35 | 2.49 |
| St. Vital | 15.38 | 2.21 |
| Transcona | 11.78 | 1.95 |
| River Heights | 17.53 | 3.88 |
| River East | 16.30 | 2.63 |
| Seven Oaks | 15.74 | 2.95 |
| St. James - Assiniboia | 16.33 | 3.48 |
| Inkster | 12.34 | 2.21 |
| Downtown | 19.16 | 3.61 |
| Point Douglas | 19.87 | 4.05 |
| | | |
| Winnipeg | 16.09 | 2.88 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with Hyper-tension | ADJUSTED percent (%) w/o Hyper-tension |
|---|---|---|
| Income Not Found | 10.19 | 4.95 |
| Lowest Rural R1 | 4.44 | 3.28 |
| R2 | 3.80 | 2.64 |
| R3 | 3.75 | 2.85 |
| R4 | 3.53 | 2.62 |
| Highest Rural R5 | 3.35 | 2.57 |
| Lowest Urban U1 | 4.99 | 3.18 |
| U2 | 3.93 | 2.80 |
| U3 | 3.42 | 2.60 |
| U4 | 3.03 | 2.28 |
| Highest Urban U5 | 2.86 | 2.28 |

| | |
|---|---|
| linear trend rural T1 | 0.0001 |
| linear trend rural T2 | 0.0003 |
| compare rural trends over time | 0.5006 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0043 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.7: Five-Year Mortality for Males With and Without Arthritis, 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with Arthritis | CRUDE percent (%) w/o Arthritis |
|---|---|---|
| South Eastman | 8.76 | 3.90 |
| Central | 11.86 | 5.18 |
| Assiniboine | 13.36 | 7.21 |
| Brandon | 11.37 | 5.24 |
| Winnipeg | 10.31 | 4.79 |
| Interlake | 11.03 | 5.60 |
| North Eastman | 9.30 | 5.12 |
| Parkland | 14.36 | 7.32 |
| Churchill | | 5.58 |
| Nor-Man | 9.19 | 4.52 |
| Burntwood | 7.63 | 3.92 |
| | | |
| Rural South | 11.68 | 5.54 |
| Mid | 11.66 | 5.93 |
| North | 8.33 | 4.16 |
| | | |
| Manitoba | 10.87 | 5.20 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with Arthritis | CRUDE percent (%) w/o Arthritis |
|---|---|---|
| Fort Garry | 8.77 | 3.58 |
| Assiniboine South | 8.26 | 4.38 |
| St. Boniface | 9.20 | 4.55 |
| St. Vital | 9.02 | 3.97 |
| Transcona | 7.85 | 3.86 |
| River Heights | 12.35 | 5.28 |
| River East | 10.66 | 4.51 |
| Seven Oaks | 10.48 | 4.97 |
| St. James - Assiniboia | 12.10 | 5.57 |
| Inkster | 6.89 | 4.04 |
| Downtown | 11.60 | 6.06 |
| Point Douglas | 12.24 | 6.32 |
| | | |
| Winnipeg | 10.31 | 4.79 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with Arthritis | ADJUSTED percent (%) w/o Arthritis |
|---|---|---|
| Income Not Found | 12.83 | 8.95 |
| Lowest Rural R1 | 7.25 | 6.04 |
| R2 | 6.12 | 5.30 |
| R3 | 6.29 | 5.14 |
| R4 | 5.68 | 4.60 |
| Highest Rural R5 | 5.16 | 4.25 |
| Lowest Urban U1 | 8.23 | 7.05 |
| U2 | 6.01 | 5.23 |
| U3 | 5.72 | 4.96 |
| U4 | 4.49 | 4.26 |
| Highest Urban U5 | 4.29 | 3.56 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.6617 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.8910 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.8: Five-Year Mortality for Females With and Without Arthritis, 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with Arthritis | CRUDE percent (%) w/o Arthritis |
|---|---|---|
| South Eastman | 8.42 | 3.16 |
| Central | 10.73 | 4.30 |
| Assiniboine | 12.58 | 6.06 |
| Brandon | 10.02 | 4.57 |
| Winnipeg | 10.63 | 4.44 |
| Interlake | 8.59 | 4.34 |
| North Eastman | 8.11 | 3.63 |
| Parkland | 11.51 | 6.20 |
| Churchill | | |
| Nor-Man | 9.16 | 3.72 |
| Burntwood | 6.18 | 2.33 |
| | | |
| Rural South | 10.90 | 4.61 |
| Mid | 9.45 | 4.65 |
| North | 7.45 | 2.84 |
| | | |
| Manitoba | 10.55 | 4.55 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with Arthritis | CRUDE percent (%) w/o Arthritis |
|---|---|---|
| Fort Garry | 7.81 | 3.06 |
| Assiniboine South | 11.22 | 4.19 |
| St. Boniface | 9.30 | 3.88 |
| St. Vital | 9.12 | 3.95 |
| Transcona | 7.12 | 3.03 |
| River Heights | 12.70 | 5.33 |
| River East | 10.95 | 4.28 |
| Seven Oaks | 11.13 | 4.43 |
| St. James - Assiniboia | 12.06 | 5.02 |
| Inkster | 6.78 | 3.57 |
| Downtown | 12.08 | 5.70 |
| Point Douglas | 12.37 | 6.41 |
| | | |
| Winnipeg | 10.63 | 4.44 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with Arthritis | ADJUSTED percent (%) w/o Arthritis |
|---|---|---|
| Income Not Found | 12.88 | 7.74 |
| Lowest Rural R1 | 6.64 | 5.08 |
| R2 | 5.57 | 4.07 |
| R3 | 5.66 | 4.40 |
| R4 | 5.24 | 4.06 |
| Highest Rural R5 | 4.98 | 3.98 |
| Lowest Urban U1 | 6.85 | 5.09 |
| U2 | 5.80 | 4.27 |
| U3 | 5.05 | 4.00 |
| U4 | 4.63 | 3.32 |
| Highest Urban U5 | 4.25 | 3.43 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0026 |
| compare rural trends over time | 0.4938 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.4309 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.9: Five-Year Mortality for Males With and Without Total Respiratory Morbidity (TRM), 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with TRM | CRUDE percent (%) w/o TRM |
|---|---|---|
| South Eastman | 10.77 | 4.07 |
| Central | 14.27 | 5.51 |
| Assiniboine | 17.92 | 7.20 |
| Brandon | 13.22 | 5.40 |
| Winnipeg | 12.00 | 5.00 |
| Interlake | 13.92 | 5.74 |
| North Eastman | 11.34 | 5.28 |
| Parkland | 17.19 | 7.50 |
| Churchill | | 5.02 |
| Nor-Man | 10.69 | 5.00 |
| Burntwood | 9.22 | 4.11 |
| | | |
| Rural South | 14.79 | 5.72 |
| Mid | 14.47 | 6.09 |
| North | 9.96 | 4.45 |
| | | |
| Manitoba | 13.09 | 5.39 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with TRM | CRUDE percent (%) w/o TRM |
|---|---|---|
| Fort Garry | 9.22 | 3.93 |
| Assiniboine South | 12.38 | 4.21 |
| St. Boniface | 11.01 | 4.75 |
| St. Vital | 11.26 | 4.13 |
| Transcona | 8.79 | 3.94 |
| River Heights | 13.51 | 5.76 |
| River East | 12.66 | 4.74 |
| Seven Oaks | 11.49 | 5.24 |
| St. James - Assiniboia | 13.23 | 5.88 |
| Inkster | 8.91 | 4.01 |
| Downtown | 14.49 | 6.03 |
| Point Douglas | 12.63 | 6.70 |
| | | |
| Winnipeg | 12.00 | 5.00 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with TRM | ADJUSTED percent (%) w/o TRM |
|---|---|---|
| Income Not Found | 16.52 | 8.29 |
| Lowest Rural R1 | 9.34 | 5.82 |
| R2 | 7.81 | 5.48 |
| R3 | 7.97 | 5.35 |
| R4 | 7.05 | 5.17 |
| Highest Rural R5 | 6.37 | 4.96 |
| Lowest Urban U1 | 10.57 | 6.87 |
| U2 | 7.58 | 5.52 |
| U3 | 7.09 | 5.51 |
| U4 | 5.72 | 4.66 |
| Highest Urban U5 | 5.39 | 3.97 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0488 |
| compare rural trends over time | 0.0261 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0591 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.10: Five-Year Mortality for Females With and Without Total Respiratory Morbidity (TRM), 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with TRM | CRUDE percent (%) w/o TRM |
|---|---|---|
| South Eastman | 6.68 | 3.93 |
| Central | 8.69 | 5.36 |
| Assiniboine | 10.57 | 7.19 |
| Brandon | 8.41 | 5.28 |
| Winnipeg | 9.43 | 5.26 |
| Interlake | 8.15 | 4.85 |
| North Eastman | 6.48 | 4.41 |
| Parkland | 9.97 | 7.21 |
| Churchill | | 2.73 |
| Nor-Man | 9.02 | 4.64 |
| Burntwood | 5.50 | 2.87 |
| | | |
| Rural South | 8.93 | 5.64 |
| Mid | 8.40 | 5.38 |
| North | 7.02 | 3.53 |
| | | |
| Manitoba | 9.30 | 5.40 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with TRM | CRUDE percent (%) w/o TRM |
|---|---|---|
| Fort Garry | 8.18 | 3.49 |
| Assiniboine South | 10.35 | 5.15 |
| St. Boniface | 9.73 | 4.43 |
| St. Vital | 8.64 | 4.54 |
| Transcona | 5.11 | 3.62 |
| River Heights | 11.04 | 6.47 |
| River East | 8.80 | 5.27 |
| Seven Oaks | 9.17 | 5.50 |
| St. James - Assiniboia | 11.16 | 5.91 |
| Inkster | 6.68 | 3.84 |
| Downtown | 11.34 | 6.49 |
| Point Douglas | 9.59 | 7.65 |
| | | |
| Winnipeg | 9.43 | 5.26 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with TRM | ADJUSTED percent (%) w/o TRM |
|---|---|---|
| Income Not Found | 18.15 | 7.95 |
| Lowest Rural R1 | 9.57 | 6.05 |
| R2 | 7.87 | 4.91 |
| R3 | 8.29 | 5.01 |
| R4 | 7.72 | 4.63 |
| Highest Rural R5 | 7.29 | 4.83 |
| Lowest Urban U1 | 9.45 | 6.49 |
| U2 | 8.18 | 5.17 |
| U3 | 7.33 | 4.62 |
| U4 | 6.52 | 3.98 |
| Highest Urban U5 | 6.11 | 4.37 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0249 |
| compare rural trends over time | 0.8249 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.8130 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.11: Five-Year Mortality for Males With and Without Diabetes, 2001/02-2005/06

| Regional Health Authority | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Diabetes | | w/o Diabetes | |
| South Eastman | 313 | 19.32 | 1231 | 3.78 |
| Central | 723 | 21.61 | 2991 | 5.14 |
| Assiniboine | 752 | 21.81 | 3154 | 7.00 |
| Brandon | 348 | 18.24 | 1513 | 5.34 |
| Winnipeg | 4760 | 18.72 | 20871 | 5.11 |
| Interlake | 618 | 17.26 | 2430 | 5.10 |
| North Eastman | 293 | 16.30 | 1092 | 4.51 |
| Parkland | 514 | 21.24 | 1929 | 7.18 |
| Churchill | 11 | 19.30 | 16 | 3.16 |
| Nor-Man | 208 | 17.20 | 557 | 4.27 |
| Burntwood | 296 | 12.09 | 593 | 2.86 |
| | | | | |
| Rural South | 1788 | 21.25 | 7376 | 5.43 |
| Mid | 1425 | 18.27 | 5451 | 5.52 |
| North | 515 | 13.87 | 1166 | 3.40 |
| | | | | |
| Manitoba | 9053 | 19.01 | 37390 | 5.28 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed | CRUDE percent (%) | Number Observed | CRUDE percent (%) |
|---|---|---|---|---|
| | with Diabetes | | w/o Diabetes | |
| Fort Garry | 326 | 17.34 | 1352 | 3.62 |
| Assiniboine South | 210 | 18.31 | 1146 | 4.95 |
| St. Boniface | 300 | 18.09 | 1405 | 4.54 |
| St. Vital | 382 | 17.90 | 1669 | 4.30 |
| Transcona | 208 | 15.70 | 741 | 3.49 |
| River Heights | 408 | 20.28 | 2336 | 6.28 |
| River East | 707 | 19.62 | 2942 | 4.91 |
| Seven Oaks | 520 | 19.28 | 1928 | 5.15 |
| St. James - Assiniboia | 461 | 18.20 | 2406 | 6.14 |
| Inkster | 193 | 15.20 | 683 | 3.71 |
| Downtown | 616 | 19.79 | 2639 | 6.43 |
| Point Douglas | 429 | 20.88 | 1624 | 6.81 |
| | | | | |
| Winnipeg | 4760 | 18.72 | 20871 | 5.11 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with Diabetes | w/o Diabetes |
| Income Not Found | 22.53 | 8.39 |
| Lowest Rural R1 | 12.05 | 6.00 |
| R2 | 10.44 | 5.10 |
| R3 | 10.55 | 5.18 |
| R4 | 9.42 | 5.00 |
| Highest Rural R5 | 8.57 | 4.55 |
| Lowest Urban U1 | 14.32 | 6.33 |
| U2 | 10.06 | 5.22 |
| U3 | 9.73 | 4.74 |
| U4 | 7.68 | 4.22 |
| Highest Urban U5 | 7.20 | 3.93 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.0040 |
| compare rural trends over time | | 0.3630 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.0248 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.12: Five-Year Mortality for Females With and Without Diabetes, 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) | CRUDE percent (%) |
|---|---|---|
| | with Diabetes | w/o Diabetes |
| South Eastman | 19.97 | 3.53 |
| Central | 21.49 | 4.88 |
| Assiniboine | 19.94 | 6.78 |
| Brandon | 17.09 | 5.21 |
| Winnipeg | 18.11 | 5.21 |
| Interlake | 15.65 | 4.53 |
| North Eastman | 14.74 | 3.93 |
| Parkland | 20.27 | 6.67 |
| Churchill | | |
| Nor-Man | 14.60 | 4.20 |
| Burntwood | 9.72 | 2.17 |
| | | |
| Rural South | 20.56 | 5.20 |
| Mid | 16.87 | 4.98 |
| North | 11.30 | 2.96 |
| | | |
| Manitoba | 18.02 | 5.21 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) | CRUDE percent (%) |
|---|---|---|
| | with Diabetes | w/o Diabetes |
| Fort Garry | 15.49 | 3.57 |
| Assiniboine South | 21.24 | 5.30 |
| St. Boniface | 15.78 | 4.60 |
| St. Vital | 17.84 | 4.46 |
| Transcona | 15.59 | 3.18 |
| River Heights | 19.08 | 6.61 |
| River East | 19.12 | 5.04 |
| Seven Oaks | 20.25 | 5.18 |
| St. James - Assiniboia | 16.95 | 6.23 |
| Inkster | 13.06 | 3.70 |
| Downtown | 18.21 | 6.56 |
| Point Douglas | 20.74 | 6.97 |
| | | |
| Winnipeg | 18.11 | 5.21 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) | |
|---|---|---|
| | with Diabetes | w/o Diabetes |
| Income Not Found | 25.74 | 7.23 |
| Lowest Rural R1 | 12.10 | 5.96 |
| R2 | 10.63 | 4.58 |
| R3 | 11.17 | 4.61 |
| R4 | 10.06 | 4.93 |
| Highest Rural R5 | 9.72 | 4.74 |
| Lowest Urban U1 | 13.63 | 5.42 |
| U2 | 11.29 | 4.78 |
| U3 | 10.03 | 4.36 |
| U4 | 8.93 | 3.94 |
| Highest Urban U5 | 8.53 | 4.06 |
| linear trend rural T1 | | 0.0001 |
| linear trend rural T2 | | 0.0764 |
| compare rural trends over time | | 0.6686 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0001 |
| compare urban trends over time | | 0.0776 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.13: Five-Year Mortality for Males With and Without Ischemic Heart Disease (IHD), 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with IHD | CRUDE percent (%) w/o IHD |
|---|---|---|
| South Eastman | 22.14 | 3.37 |
| Central | 26.73 | 4.63 |
| Assiniboine | 28.55 | 6.51 |
| Brandon | 25.82 | 4.87 |
| Winnipeg | 24.60 | 4.24 |
| Interlake | 25.06 | 4.97 |
| North Eastman | 20.98 | 4.70 |
| Parkland | 27.83 | 6.48 |
| Churchill | | 5.09 |
| Nor-Man | 22.17 | 4.55 |
| Burntwood | 20.54 | 3.71 |
| | | |
| Rural South | 26.38 | 4.95 |
| Mid | 25.18 | 5.30 |
| North | 21.31 | 4.04 |
| | | |
| Manitoba | 25.22 | 4.66 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with IHD | CRUDE percent (%) w/o IHD |
|---|---|---|
| Fort Garry | 20.99 | 3.31 |
| Assiniboine South | 19.93 | 3.62 |
| St. Boniface | 20.75 | 4.03 |
| St. Vital | 21.09 | 3.45 |
| Transcona | 21.32 | 3.36 |
| River Heights | 29.72 | 4.51 |
| River East | 25.34 | 3.96 |
| Seven Oaks | 25.81 | 4.20 |
| St. James - Assiniboia | 24.36 | 4.67 |
| Inkster | 22.14 | 3.54 |
| Downtown | 31.08 | 5.83 |
| Point Douglas | 28.36 | 5.90 |
| | | |
| Winnipeg | 24.60 | 4.24 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with IHD | ADJUSTED percent (%) w/o IHD |
|---|---|---|
| Income Not Found | 16.74 | 6.91 |
| Lowest Rural R1 | 8.74 | 5.20 |
| R2 | 7.40 | 4.62 |
| R3 | 7.47 | 4.58 |
| R4 | 6.62 | 4.30 |
| Highest Rural R5 | 5.87 | 4.25 |
| Lowest Urban U1 | 10.15 | 5.52 |
| U2 | 7.06 | 4.59 |
| U3 | 6.70 | 4.39 |
| U4 | 5.26 | 3.77 |
| Highest Urban U5 | 4.71 | 3.63 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0050 |
| compare rural trends over time | 0.0369 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0000 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.14: Five-Year Mortality for Females With and Without Ischemic Heart Disease (IHD), 2001/02- 2005/06

| Regional Health Authority | CRUDE percent (%) with IHD | CRUDE percent (%) w/o IHD |
|---|---|---|
| South Eastman | 23.57 | 3.15 |
| Central | 27.97 | 4.33 |
| Assiniboine | 27.69 | 6.25 |
| Brandon | 28.70 | 4.62 |
| Winnipeg | 26.71 | 4.45 |
| Interlake | 22.84 | 4.14 |
| North Eastman | 19.53 | 3.89 |
| Parkland | 27.07 | 5.55 |
| Churchill | | 2.82 |
| Nor-Man | 25.99 | 4.07 |
| Burntwood | 18.18 | 2.54 |
| | | |
| Rural South | 26.94 | 4.70 |
| Mid | 23.97 | 4.46 |
| North | 21.45 | 3.12 |
| | | |
| Manitoba | 26.59 | 4.57 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with IHD | CRUDE percent (%) w/o IHD |
|---|---|---|
| Fort Garry | 22.51 | 3.18 |
| Assiniboine South | 27.49 | 4.34 |
| St. Boniface | 24.68 | 3.79 |
| St. Vital | 24.83 | 3.89 |
| Transcona | 21.81 | 2.96 |
| River Heights | 29.47 | 5.27 |
| River East | 26.71 | 4.29 |
| Seven Oaks | 26.76 | 4.57 |
| St. James - Assiniboia | 23.27 | 5.14 |
| Inkster | 26.44 | 3.30 |
| Downtown | 32.39 | 5.74 |
| Point Douglas | 30.90 | 6.23 |
| | | |
| Winnipeg | 26.71 | 4.45 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with IHD | ADJUSTED percent (%) w/o IHD |
|---|---|---|
| Income Not Found | 17.84 | 6.42 |
| Lowest Rural R1 | 8.57 | 4.90 |
| R2 | 7.08 | 4.07 |
| R3 | 7.45 | 4.27 |
| R4 | 6.64 | 4.26 |
| Highest Rural R5 | 6.36 | 4.05 |
| Lowest Urban U1 | 9.08 | 4.64 |
| U2 | 7.37 | 4.15 |
| U3 | 6.52 | 3.82 |
| U4 | 5.56 | 3.79 |
| Highest Urban U5 | 5.50 | 3.42 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0954 |
| compare rural trends over time | 0.1675 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.0031 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.15: Five-Year Mortality for Males With and Without Osteoporosis, 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with Osteoporosis | CRUDE percent (%) w/o Osteoporosis |
|---|---|---|
| South Eastman | 23.30 | 11.39 |
| Central | 28.09 | 13.98 |
| Assiniboine | 35.25 | 15.60 |
| Brandon | 35.58 | 13.62 |
| Winnipeg | 29.81 | 13.13 |
| Interlake | 30.21 | 13.44 |
| North Eastman | 24.56 | 12.01 |
| Parkland | 23.30 | 16.83 |
| Churchill | | 14.44 |
| Nor-Man | 26.03 | 12.85 |
| Burntwood | 20.95 | 12.90 |
| | | |
| Rural South | 30.07 | 14.05 |
| Mid | 26.55 | 14.11 |
| North | 22.95 | 12.90 |
| | | |
| Manitoba | 30.10 | 13.72 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with Osteoporosis | CRUDE percent (%) w/o Osteoporosis |
|---|---|---|
| Fort Garry | 23.70 | 10.13 |
| Assiniboine South | 29.82 | 9.93 |
| St. Boniface | 29.32 | 11.88 |
| St. Vital | 26.67 | 11.07 |
| Transcona | 19.79 | 11.91 |
| River Heights | 31.95 | 14.89 |
| River East | 30.10 | 12.79 |
| Seven Oaks | 27.84 | 13.25 |
| St. James - Assiniboia | 33.99 | 13.91 |
| Inkster | 29.17 | 12.26 |
| Downtown | 34.15 | 17.40 |
| Point Douglas | 30.88 | 18.10 |
| | | |
| Winnipeg | 29.81 | 13.13 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with Osteoporosis | ADJUSTED percent (%) w/o Osteoporosis |
|---|---|---|
| Income Not Found | 39.55 | 18.09 |
| Lowest Rural R1 | 22.09 | 12.53 |
| R2 | 20.17 | 13.16 |
| R3 | 20.58 | 11.76 |
| R4 | 18.56 | 11.96 |
| Highest Rural R5 | 17.37 | 12.25 |
| Lowest Urban U1 | 26.01 | 16.51 |
| U2 | 20.37 | 14.21 |
| U3 | 18.92 | 14.08 |
| U4 | 15.92 | 11.58 |
| Highest Urban U5 | 14.55 | 10.55 |
| linear trend rural T1 | | 0.0000 |
| linear trend rural T2 | | 0.6790 |
| compare rural trends over time | | 0.2342 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0001 |
| compare urban trends over time | | 0.2875 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.16: Five-Year Mortality for Female With and Without Osteoporosis, 2001/02-2005/06

| Regional Health Authority | Number Observed with Osteoporosis | CRUDE percent (%) with Osteoporosis | Number Observed w/o Osteoporosis | CRUDE percent (%) w/o Osteoporosis |
|---|---|---|---|---|
| South Eastman | 147 | 18.75 | 527 | 9.19 |
| Central | 392 | 23.57 | 1324 | 11.17 |
| Assiniboine | 452 | 24.65 | 1383 | 12.31 |
| Brandon | 255 | 21.57 | 669 | 11.28 |
| Winnipeg | 3095 | 20.87 | 9687 | 11.44 |
| Interlake | 237 | 16.95 | 1035 | 10.24 |
| North Eastman | 119 | 19.64 | 422 | 8.75 |
| Parkland | 221 | 22.41 | 875 | 13.13 |
| Churchill | 0 | 0.00 | 7 | 11.67 |
| Nor-Man | 69 | 24.38 | 262 | 12.17 |
| Burntwood | 55 | 20.68 | 215 | 9.41 |
| | | | | |
| Rural South | 991 | 23.15 | 3234 | 11.22 |
| Mid | 577 | 19.30 | 2332 | 10.80 |
| North | 124 | 22.02 | 484 | 10.76 |
| | | | | |
| Manitoba | 5192 | 21.55 | 16913 | 11.54 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed with Osteoporosis | CRUDE percent (%) with Osteoporosis | Number Observed w/o Osteoporosis | CRUDE percent (%) w/o Osteoporosis |
|---|---|---|---|---|
| Fort Garry | 178 | 14.88 | 611 | 8.46 |
| Assiniboine South | 230 | 22.91 | 512 | 10.18 |
| St. Boniface | 209 | 19.90 | 608 | 9.58 |
| St. Vital | 263 | 19.32 | 810 | 10.40 |
| Transcona | 80 | 15.94 | 326 | 8.65 |
| River Heights | 386 | 20.99 | 1098 | 13.15 |
| River East | 448 | 20.81 | 1399 | 11.13 |
| Seven Oaks | 300 | 20.38 | 941 | 11.59 |
| St. James - Assiniboia | 390 | 21.78 | 1076 | 11.40 |
| Inkster | 62 | 18.08 | 342 | 10.60 |
| Downtown | 372 | 27.43 | 1148 | 14.54 |
| Point Douglas | 177 | 23.14 | 816 | 16.50 |
| | | | | |
| Winnipeg | 3095 | 20.87 | 9687 | 11.44 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with Osteoporosis | ADJUSTED percent (%) w/o Osteoporosis |
|---|---|---|
| Income Not Found | 28.43 | 17.72 |
| Lowest Rural R1 | 14.83 | 12.39 |
| R2 | 13.03 | 11.33 |
| R3 | 13.78 | 11.93 |
| R4 | 12.67 | 10.79 |
| Highest Rural R5 | 12.36 | 10.52 |
| Lowest Urban U1 | 15.28 | 12.13 |
| U2 | 13.76 | 10.79 |
| U3 | 12.38 | 10.20 |
| U4 | 11.39 | 8.37 |
| Highest Urban U5 | 10.81 | 9.04 |
| linear trend rural T1 | | 0.0011 |
| linear trend rural T2 | | 0.0977 |
| compare rural trends over time | | 0.9470 |
| linear trend urban T1 | | 0.0000 |
| linear trend urban T2 | | 0.0000 |
| compare urban trends over time | | 0.8373 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.17: Five-Year Mortality for Males With and Without Cumulative Mental Illness (CMI), 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with CMI | CRUDE percent (%) w/o CMI |
|---|---|---|
| South Eastman | 7.75 | 4.22 |
| Central | 10.86 | 5.62 |
| Assiniboine | 14.86 | 7.43 |
| Brandon | 9.38 | 5.89 |
| Winnipeg | 8.74 | 5.21 |
| Interlake | 10.24 | 5.94 |
| North Eastman | 7.62 | 5.61 |
| Parkland | 12.49 | 8.39 |
| Churchill | | 6.05 |
| Nor-Man | 6.30 | 5.36 |
| Burntwood | 6.31 | 3.96 |
| | | |
| Rural South | 11.34 | 5.90 |
| Mid | 10.14 | 6.53 |
| North | 6.32 | 4.53 |
| | | |
| Manitoba | 9.55 | 5.61 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with CMI | CRUDE percent (%) w/o CMI |
|---|---|---|
| Fort Garry | 7.29 | 4.07 |
| Assiniboine South | 8.62 | 4.41 |
| St. Boniface | 8.02 | 4.69 |
| St. Vital | 7.60 | 4.30 |
| Transcona | 6.73 | 4.02 |
| River Heights | 9.09 | 6.20 |
| River East | 8.69 | 5.02 |
| Seven Oaks | 9.12 | 5.40 |
| St. James - Assiniboia | 10.64 | 6.04 |
| Inkster | 5.82 | 4.38 |
| Downtown | 9.87 | 6.57 |
| Point Douglas | 9.96 | 7.00 |
| | | |
| Winnipeg | 8.74 | 5.21 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with CMI | ADJUSTED percent (%) w/o CMI |
|---|---|---|
| Income Not Found | 20.59 | 8.63 |
| Lowest Rural R1 | 12.86 | 6.40 |
| R2 | 10.72 | 5.62 |
| R3 | 10.79 | 5.57 |
| R4 | 9.86 | 4.80 |
| Highest Rural R5 | 8.98 | 4.46 |
| Lowest Urban U1 | 13.48 | 7.25 |
| U2 | 10.49 | 5.11 |
| U3 | 9.80 | 5.17 |
| U4 | 8.00 | 4.21 |
| Highest Urban U5 | 7.25 | 4.08 |

| | |
|---|---|
| linear trend rural T1 | 0.0000 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.7235 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.3782 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.18: Five-Year Mortality for Females With and Without Cumulative Mental Illness (CMI), 2001/02-2005/06

| Regional Health Authority | CRUDE percent (%) with CMI | CRUDE percent (%) w/o CMI |
|---|---|---|
| South Eastman | 5.28 | 3.95 |
| Central | 8.23 | 4.97 |
| Assiniboine | 10.20 | 6.90 |
| Brandon | 6.96 | 5.52 |
| Winnipeg | 7.07 | 5.51 |
| Interlake | 5.84 | 5.12 |
| North Eastman | 5.54 | 4.41 |
| Parkland | 9.02 | 7.40 |
| Churchill | | 3.91 |
| Nor-Man | 4.82 | 5.38 |
| Burntwood | 3.51 | 2.91 |
| | | |
| Rural South | 8.15 | 5.39 |
| Mid | 6.63 | 5.59 |
| North | 3.96 | 3.90 |
| | | |
| Manitoba | 7.25 | 5.53 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | CRUDE percent (%) with CMI | CRUDE percent (%) w/o CMI |
|---|---|---|
| Fort Garry | 5.25 | 3.75 |
| Assiniboine South | 8.33 | 4.88 |
| St. Boniface | 6.34 | 4.59 |
| St. Vital | 6.19 | 4.68 |
| Transcona | 4.21 | 3.73 |
| River Heights | 8.65 | 6.58 |
| River East | 6.74 | 5.46 |
| Seven Oaks | 7.50 | 5.54 |
| St. James - Assiniboia | 7.63 | 6.50 |
| Inkster | 4.65 | 4.24 |
| Downtown | 8.42 | 7.28 |
| Point Douglas | 8.64 | 8.07 |
| | | |
| Winnipeg | 7.07 | 5.51 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Income Quintile | ADJUSTED percent (%) with CMI | ADJUSTED percent (%) w/o CMI |
|---|---|---|
| Income Not Found | 18.64 | 9.10 |
| Lowest Rural R1 | 9.92 | 6.80 |
| R2 | 8.59 | 4.96 |
| R3 | 8.79 | 5.44 |
| R4 | 7.94 | 5.24 |
| Highest Rural R5 | 8.02 | 4.53 |
| Lowest Urban U1 | 10.32 | 6.29 |
| U2 | 8.86 | 5.27 |
| U3 | 8.02 | 4.60 |
| U4 | 7.10 | 4.15 |
| Highest Urban U5 | 6.73 | 3.99 |

| | |
|---|---|
| linear trend rural T1 | 0.0001 |
| linear trend rural T2 | 0.0000 |
| compare rural trends over time | 0.2414 |
| linear trend urban T1 | 0.0000 |
| linear trend urban T2 | 0.0000 |
| compare urban trends over time | 0.6892 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.19: Median Length of Stay (in years) by Level of Care at Admission for Males aged 75+ by RHA, closed cases only

"00" reflects 1999/00-2000/01; "05" reflects 2004/05-2005/06

| | Level 1 | Level 2 | Level 3 | Level 4 | Total |
|---|---|---|---|---|---|
| South Eastman 00 | 0 | 33 | 24 | 4 | 61 |
| South Eastman 05 | 0 | 21 | 27 | 5 | 53 |
| Central 00 | 0 | 55 | 56 | 20 | 131 |
| Central 05 | 0 | 37 | 100 | 10 | 147 |
| Assiniboine 00 | 9 | 76 | 57 | 12 | 154 |
| Assiniboine 05 | 4 | 112 | 54 | 18 | 188 |
| Brandon 00 | 1 | 36 | 17 | 14 | 68 |
| Brandon 05 | 4 | 35 | 26 | 11 | 76 |
| Winnipeg 00 | 7 | 309 | 277 | 121 | 714 |
| Winnipeg 05 | 2 | 368 | 395 | 104 | 869 |
| Interlake 00 | 2 | 31 | 51 | 20 | 104 |
| Interlake 05 | 0 | 26 | 59 | 23 | 108 |
| North Eastman 00 | 0 | 10 | 17 | 5 | 32 |
| North Eastman 05 | 0 | 11 | 18 | 6 | 35 |
| Parkland 00 | 0 | 38 | 43 | 12 | 93 |
| Parkland 05 | 0 | 28 | 53 | 17 | 98 |
| Churchill 00 | 0 | 0 | 0 | 0 | 0 |
| Churchill 05 | 0 | 0 | 0 | 0 | 0 |
| Nor-Man 00 | 0 | 8 | 3 | 2 | 13 |
| Nor-Man 05 | 1 | 4 | 12 | 2 | 19 |
| Burntwood 00 | 0 | | 2 | 1 | 3 |
| Burntwood 05 | 0 | 2 | 5 | 3 | 10 |
| South 00 | 9 | 164 | 137 | 36 | 346 |
| South 05 | 4 | 170 | 181 | 33 | 388 |
| Mid 00 | 2 | 79 | 111 | 37 | 229 |
| Mid 05 | 0 | 65 | 130 | 46 | 241 |
| North 00 | 0 | 8 | 5 | 3 | 16 |
| North 05 | 1 | 6 | 17 | 5 | 29 |
| Manitoba 00 | 20 | 657 | 588 | 219 | 1484 |
| Manitoba 05 | 11 | 704 | 791 | 214 | 1720 |

## Appendix Table 3.20: Median Length of Stay (in years) by Level of Care at Admission for Females aged 75+ by RHA, closed cases only

"00" reflects 1999/00-2000/01; "05" reflects 2004/05-2005/06

| | Level 1 | Level 2 | Level 3 | Level 4 | Total |
|---|---|---|---|---|---|
| South Eastman 00 | 2 | 54 | 24 | 10 | 90 |
| South Eastman 05 | 0 | 41 | 37 | 11 | 89 |
| Central 00 | 3 | 140 | 109 | 22 | 274 |
| Central 05 | 0 | 80 | 152 | 21 | 253 |
| Assiniboine 00 | 25 | 188 | 61 | 13 | 287 |
| Assiniboine 05 | 9 | 247 | 90 | 10 | 356 |
| Brandon 00 | 2 | 88 | 34 | 15 | 139 |
| Brandon 05 | 1 | 106 | 44 | 15 | 166 |
| Winnipeg 00 | 25 | 809 | 514 | 151 | 1499 |
| Winnipeg 05 | 7 | 1093 | 949 | 210 | 2259 |
| Interlake 00 | 1 | 64 | 72 | 3 | 140 |
| Interlake 05 | 0 | 89 | 90 | 19 | 198 |
| North Eastman 00 | 1 | 24 | 27 | 2 | 54 |
| North Eastman 05 | 1 | 24 | 39 | 7 | 71 |
| Parkland 00 | 2 | 80 | 68 | 19 | 169 |
| Parkland 05 | 0 | 61 | 98 | 21 | 180 |
| Churchill 00 | 0 | 0 | 0 | 0 | 0 |
| Churchill 05 | 0 | 0 | 0 | 0 | 0 |
| Nor-Man 00 | 1 | 10 | 7 | 4 | 22 |
| Nor-Man 05 | 0 | 11 | 21 | 5 | 37 |
| Burntwood 00 | 0 | 3 | 1 | 1 | 5 |
| Burntwood 05 | 0 | 3 | 10 | 6 | 19 |
| South 00 | 30 | 382 | 194 | 45 | 651 |
| South 05 | 9 | 368 | 279 | 42 | 698 |
| Mid 00 | 4 | 168 | 167 | 24 | 363 |
| Mid 05 | 1 | 174 | 227 | 47 | 449 |
| North 00 | 1 | 13 | 8 | 5 | 27 |
| North 05 | 0 | 14 | 31 | 11 | 56 |
| Manitoba 00 | 65 | 1570 | 979 | 255 | 2869 |
| Manitoba 05 | 20 | 1857 | 1599 | 348 | 3824 |

## Appendix Table 3.21: Median Length of Stay (in years) by Level of Care at Admission for Males aged 75+ by Winnpeg Neighbourhood Clusters, closed cases only

"00" reflects 1999/00-2000/01; "05" reflects 2004/05-2005/06

| | Level 1 | Level 2 | Level 3 | Level 4 | Total |
|---|---|---|---|---|---|
| Fort Garry 00 | 0 | 12 | 11 | 4 | 27 |
| Fort Garry 05 | 0 | 26 | 28 | 3 | 57 |
| Assiniboine South 00 | 0 | 24 | 22 | 11 | 57 |
| Assiniboine South 05 | 0 | 27 | 36 | 7 | 70 |
| St. Boniface 00 | 0 | 18 | 8 | 3 | 29 |
| St. Boniface 05 | 0 | 16 | 23 | 2 | 41 |
| St. Vital 00 | 0 | 28 | 23 | 8 | 59 |
| St. Vital 05 | 0 | 30 | 38 | 8 | 76 |
| Transcona 00 | 0 | 7 | 5 | 5 | 17 |
| Transcona 05 | 0 | 9 | 10 | 2 | 21 |
| River Heights 00 | 1 | 33 | 39 | 17 | 90 |
| River Heights 05 | 0 | 42 | 36 | 8 | 86 |
| River East 00 | 1 | 33 | 36 | 16 | 86 |
| River East 05 | 0 | 47 | 55 | 26 | 128 |
| Seven Oaks 00 | 1 | 32 | 27 | 17 | 77 |
| Seven Oaks 05 | 0 | 35 | 46 | 13 | 94 |
| St. James - Assiniboia 00 | 1 | 67 | 43 | 14 | 125 |
| St. James - Assiniboia 05 | 1 | 62 | 60 | 19 | 142 |
| Inkster 00 | 0 | 5 | 7 | 6 | 18 |
| Inkster 05 | 0 | 12 | 11 | | 23 |
| Downtown 00 | 2 | 18 | 26 | 13 | 59 |
| Downtown 05 | 0 | 35 | 33 | 10 | 78 |
| Point Douglas 00 | 1 | 32 | 30 | 7 | 70 |
| Point Douglas 05 | 1 | 27 | 19 | 6 | 53 |

## Appendix Table 3.22: Median Length of Stay (in years) by Level of Care at Admission for Females aged 75+ by Winnpeg Neighbourhood Clusters, closed cases only

"00" reflects 1999/00-2000/01; "05" reflects 2004/05-2005/06

| | Level 1 | Level 2 | Level 3 | Level 4 | Total |
|---|---|---|---|---|---|
| Fort Garry 00 | 0 | 35 | 39 | 8 | 82 |
| Fort Garry 05 | 0 | 89 | 72 | 18 | 179 |
| Assiniboine South 00 | 1 | 84 | 48 | 13 | 146 |
| Assiniboine South 05 | 0 | 122 | 108 | 10 | 240 |
| St. Boniface 00 | 0 | 38 | 12 | 7 | 57 |
| St. Boniface 05 | 0 | 51 | 36 | 6 | 93 |
| St. Vital 00 | 3 | 74 | 41 | 9 | 127 |
| St. Vital 05 | 0 | 75 | 83 | 10 | 168 |
| Transcona 00 | 0 | 25 | 8 | | 33 |
| Transcona 05 | 0 | 29 | 24 | 4 | 57 |
| River Heights 00 | 1 | 86 | 69 | 16 | 172 |
| River Heights 05 | 0 | 104 | 111 | 18 | 233 |
| River East 00 | 1 | 113 | 60 | 20 | 194 |
| River East 05 | 0 | 139 | 143 | 27 | 309 |
| Seven Oaks 00 | 4 | 104 | 66 | 18 | 192 |
| Seven Oaks 05 | 0 | 129 | 112 | 33 | 274 |
| St. James - Assiniboia 00 | 4 | 108 | 72 | 15 | 199 |
| St. James - Assiniboia 05 | 3 | 135 | 106 | 31 | 275 |
| Inkster 00 | 1 | 10 | 14 | 5 | 30 |
| Inkster 05 | 2 | 25 | 23 | 3 | 53 |
| Downtown 00 | 3 | 75 | 45 | 19 | 142 |
| Downtown 05 | 2 | 122 | 69 | 24 | 217 |
| Point Douglas 00 | 7 | 57 | 40 | 21 | 125 |
| Point Douglas 05 | 0 | 73 | 62 | 26 | 161 |

## Appendix Table 3.23: Median Waiting Times for PCH Admission for Males

| Regional Health Authority | Number Observed per Year | Median number of weeks | Number Observed per Year | Median number of weeks |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| South Eastman | 56 | 7.2 | 59 | 15.7 |
| Central | 158 | 9.4 | 146 | 12.0 |
| Assiniboine | 152 | 4.5 | 167 | 3.7 |
| Brandon | 62 | 10.9 | 81 | 9.0 |
| Winnipeg | 734 | 6.7 | 806 | 3.7 |
| Interlake | 96 | 6.6 | 97 | 10.0 |
| North Eastman | 41 | 17.9 | 24 | 14.1 |
| Parkland | 74 | 7.5 | 100 | 7.2 |
| Churchill | * | * | * | * |
| Nor-Man | 16 | 31.0 | 16 | 1.5 |
| Burntwood | 3 | 3.3 | 9 | 1.0 |
| | | | | |
| Rural South | 366 | 7.1 | 372 | 9.1 |
| Mid | 211 | 7.9 | 221 | 9.0 |
| North | 19 | 21.9 | 25 | 1.3 |
| | | | | |
| Manitoba | 1,520.0 | 7.2 | 1,589 | 6.0 |

blank cells = suppressed

* = no data available

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Areas | Number Observed per Year | Median number of weeks | Number Observed per Year | Median number of weeks |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| Fort Garry | 34 | 3.7 | 50 | 3.8 |
| Assiniboine South | 68 | 1.3 | 65 | 1.7 |
| St. Boniface | 33 | 15.1 | 43 | 19.7 |
| St. Vital | 49 | 17.9 | 77 | 8.3 |
| Transcona | 23 | 14.3 | 19 | 4.9 |
| River Heights | 79 | 4.7 | 76 | 1.9 |
| River East | 101 | 10.1 | 106 | 11.2 |
| Seven Oaks | 80 | 6.0 | 95 | 1.9 |
| St. James - Assiniboia | 119 | 2.0 | 130 | 3.9 |
| Inkster | 17 | 32.9 | 18 | 5.6 |
| Downtown | 80 | 6.3 | 82 | 1.2 |
| Point Douglas | 51 | 17.9 | 45 | 3.0 |
| | | | | |
| Winnipeg | 734 | 6.7 | 806 | 3.7 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.24: Median Waiting Times for PCH Admission for Females

| Regional Health Authority | Number Observed per Year | Median number of weeks | Number Observed per Year | Median number of weeks |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| South Eastman | 83 | 8.4 | 104 | 26.2 |
| Central | 259 | 11.4 | 252 | 13.6 |
| Assiniboine | 323 | 5.9 | 343 | 7.6 |
| Brandon | 146 | 20.7 | 171 | 10.9 |
| Winnipeg | 1,727 | 9.0 | 1,795 | 4.4 |
| Interlake | 164 | 12.1 | 161 | 10.4 |
| North Eastman | 63 | 25.1 | 59 | 23.1 |
| Parkland | 148 | 9.1 | 183 | 8.9 |
| Churchill | * | * | * | * |
| Nor-Man | 26 | 58.1 | 36 | 4.6 |
| Burntwood | 8 | 0.5 | 12 | 0.4 |
| | | | | |
| Rural South | 665 | 8.3 | 699 | 11.4 |
| Mid | 375 | 11.9 | 403 | 10.4 |
| North | 34 | 34.1 | 48 | 2.4 |
| | | | | |
| Manitoba | 3,141.0 | 9.9 | 3,220 | 7.4 |

blank cells = suppressed

* = no data available

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Areas | Number Observed per Year | Median number of weeks | Number Observed per Year | Median number of weeks |
|---|---|---|---|---|
| | 1999/00-2000/01 | | 2004/05-2005/06 | |
| Fort Garry | 113 | 6.3 | 109 | 2.6 |
| Assiniboine South | 157 | 2.0 | 185 | 2.1 |
| St. Boniface | 68 | 10.9 | 98 | 15.7 |
| St. Vital | 133 | 23.6 | 127 | 20.4 |
| Transcona | 42 | 15.2 | 55 | 14.4 |
| River Heights | 162 | 6.1 | 195 | 3.3 |
| River East | 234 | 19.0 | 213 | 21.7 |
| Seven Oaks | 191 | 9.0 | 217 | 2.7 |
| St. James - Assiniboia | 181 | 2.0 | 227 | 0.9 |
| Inkster | 33 | 26.4 | 36 | 23.2 |
| Downtown | 300 | 6.1 | 207 | 7.6 |
| Point Douglas | 113 | 26.9 | 126 | 5.4 |
| | | | | |
| Winnipeg | 1,727 | 9.0 | 1,795 | 4.4 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.25: Healthlinks Contacts by Males

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|
| | 2004/05-2005/06 | |
| South Eastman | 662 | 8.0 |
| Central | 628 | 4.6 |
| Assiniboine | 187 | 2.0 |
| Brandon | 417 | 6.5 |
| Winnipeg | 8,006 | 9.2 |
| Interlake | 670 | 6.4 |
| North Eastman | 244 | 4.4 |
| Parkland | 127 | 2.2 |
| Churchill | 11 | 8.0 |
| Nor-Man | 109 | 3.3 |
| Burntwood | 138 | 2.2 |
| | | |
| Rural South | 1,478 | 4.7 |
| Mid | 1,041 | 4.8 |
| North | 257 | 2.6 |
| | | |
| Manitoba | 11,207 | 7.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|
| | 2004/05-2005/06 | |
| Fort Garry | 677 | 7.8 |
| Assiniboine South | 414 | 8.6 |
| St. Boniface | 651 | 9.7 |
| St. Vital | 715 | 9.0 |
| Transcona | 456 | 10.3 |
| River Heights | 737 | 10.5 |
| River East | 1,215 | 9.8 |
| Seven Oaks | 686 | 8.7 |
| St. James - Assiniboia | 705 | 9.4 |
| Inkster | 352 | 8.3 |
| Downtown | 852 | 8.6 |
| Point Douglas | 545 | 9.5 |
| | | |
| Winnipeg | 8,006 | 9.2 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.26: Healthlinks Contacts by Females

| Regional Health Authority | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|
| | 2004/05-2005/06 | |
| South Eastman | 1,360.8 | 16.8 |
| Central | 1,368.4 | 10.0 |
| Assiniboine | 448.1 | 4.8 |
| Brandon | 867.8 | 12.5 |
| Winnipeg | 16,613.0 | 18.1 |
| Interlake | 1,463.5 | 14.2 |
| North Eastman | 522.7 | 9.8 |
| Parkland | 318.1 | 5.6 |
| Churchill | 25.1 | 19.8 |
| Nor-Man | 268.6 | 8.3 |
| Burntwood | 296.2 | 4.8 |
| | | |
| Rural South | 3,177.3 | 10.2 |
| Mid | 2,304.3 | 10.8 |
| North | 590.0 | 6.2 |
| | | |
| Manitoba | 23,564.3 | 14.6 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

| Winnipeg Community Area | Number Observed per Year | CRUDE Percent (%) |
|---|---|---|
| | 2004/05-2005/06 | |
| Fort Garry | 1,401.6 | 15.3 |
| Assiniboine South | 821.4 | 15.9 |
| St. Boniface | 1,344.3 | 19.0 |
| St. Vital | 1,517.8 | 17.6 |
| Transcona | 937.0 | 20.6 |
| River Heights | 1,492.2 | 18.7 |
| River East | 2,524.3 | 19.3 |
| Seven Oaks | 1,439.2 | 17.1 |
| St. James - Assiniboia | 1,481.1 | 17.9 |
| Inkster | 739.7 | 17.3 |
| Downtown | 1,744.3 | 18.1 |
| Point Douglas | 1,170.0 | 20.7 |
| | | |
| Winnipeg | 16,613.0 | 18.1 |

blank cells = suppressed

Source: Manitoba Centre for Health Policy, 2009

## Appendix Table 3.27: Self-Rated Health

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | | |
|---|---|---|---|---|---|
| | | Excellent | Very Good | Good | Fair/Poor |
| South Eastman | male | 22.8 | 37.2 | 29.2 | 10.8 |
| | female | 19.4 | 40.1 | 27.9 | 12.6 |
| Central | male | 22.2 | 38.4 | 27.9 | 11.5 |
| | female | 22.3 | 39.1 | 28.0 | 10.5 |
| Assiniboine | male | 19.1 | 44.5 | 27.7 | 8.7 |
| | female | 18.6 | 43.4 | 27.8 | 10.2 |
| Brandon | male | 21.0 | 38.4 | 27.6 | 13.0 |
| | female | 19.4 | 39.1 | 31.8 | 9.6 |
| Winnipeg | male | 23.7 | 39.2 | 25.5 | 11.5 |
| | female | 22.8 | 37.8 | 27.6 | 11.8 |
| Interlake | male | 19.4 | 41.7 | 27.9 | 11.0 |
| | female | 17.1 | 40.8 | 30.2 | 12.0 |
| North Eastman | male | **23.5** | 34.8 | 30.3 | 11.3 |
| | female | **16.7** | 41.5 | 28.0 | 13.7 |
| Parkland | male | 21.8 | 33.6 | 29.9 | 14.7 |
| | female | 18.6 | 36.6 | 31.2 | 13.5 |
| Churchill | male | s | s | s | s |
| | female | s | s | s | s |
| Nor-Man | male | 15.0 | 39.2 | 32.3 | 13.4 |
| | female | 19.6 | 40.0 | 28.8 | 11.6 |
| Burntwood | male | 19.8 | 33.5 | 31.2 | 15.5 |
| | female | 14.1 | 28.9 | 37.7 | 19.3 |
| South | male | 21.4 | 40.0 | 28.3 | 10.3 |
| | female | 20.3 | 40.9 | 27.9 | 10.9 |
| Mid | male | **21.1** | 38.2 | 28.9 | 11.8 |
| | female | **17.4** | 39.8 | 29.9 | 13.0 |
| North | male | 16.9 | 37.4 | 32.2 | 13.5 |
| | female | 16.8 | 35.3 | 33.1 | 14.8 |
| Manitoba | male | 22.6 | 39.0 | 26.9 | 11.5 |
| | female | 21.2 | 38.6 | 28.4 | 11.8 |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.28: SF-36 Physical Functioning Scale

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 2.1 (2003) and 3.1 (2005)

| Region | Sex | Response | |
|---|---|---|---|
| | | Less than perfect physical functioning | Perfect physical functioning |
| South Eastman | male | 45.1 | 54.9 |
| | female | 51.9 | 48.1 |
| Central | male | **38.4** | **61.6** |
| | female | **49.0** | **51.0** |
| Assiniboine | male | **35.2** | **64.8** |
| | female | **51.1** | **48.9** |
| Brandon | male | **41.1** | **58.9** |
| | female | **56.1** | **43.9** |
| Winnipeg | male | **38.9** | **61.1** |
| | female | **49.0** | **51.0** |
| Interlake | male | **34.9** | **65.1** |
| | female | **50.5** | **49.5** |
| North Eastman | male | **42.2** | **57.8** |
| | female | **54.5** | **45.5** |
| Parkland | male | **36.5** | **63.5** |
| | female | **52.1** | **47.9** |
| Churchill | male | s | s |
| | female | s | s |
| Nor-Man | male | 37.9 | 62.1 |
| | female | 46.2 | 53.8 |
| Burntwood | male | **42.2** | **57.8** |
| | female | **57.1** | **42.9** |
| South | male | **39.5** | **60.5** |
| | female | **50.4** | **49.6** |
| Mid | male | **37.2** | **62.8** |
| | female | **51.9** | **48.1** |
| North | male | **40.0** | **60.0** |
| | female | **51.2** | **48.8** |
| Manitoba | male | **38.9** | **61.1** |
| | female | **49.8** | **50.2** |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.29: SF-36 General Mental Health Scale Tertiles

Age- and sex-adjusted percent of weighted sample aged 12+ within each tertile
from combined CCHS combined CCHS cycles 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | |
|---|---|---|---|---|
| | | Low | Medium | High |
| South Eastman | male | **17.0** | 36.6 | 46.4 |
| | female | **26.8** | 32.6 | 40.6 |
| Central | male | **16.7** | 39.6 | 43.7 |
| | female | **24.1** | 34.4 | 41.5 |
| Assiniboine | male | **15.7** | 32.1 | **52.2** |
| | female | **27.9** | 31.2 | **40.9** |
| Brandon | male | 21.5 | 31.6 | 46.9 |
| | female | 24.8 | 35.2 | 40.0 |
| Winnipeg | male | **23.1** | 32.9 | **44.0** |
| | female | **30.2** | 36.6 | **33.2** |
| Interlake | male | **23.2** | 38.2 | 38.6 |
| | female | **33.3** | 34.4 | 32.3 |
| North Eastman | male | **20.8** | 30.5 | **48.7** |
| | female | **32.1** | 33.7 | **34.2** |
| Parkland | male | 25.7 | **21.1** | **53.2** |
| | female | 29.4 | **29.7** | **41.0** |
| Churchill | male | s | s | s |
| | female | s | s | s |
| Nor-Man | male | **14.5** | *37.2* | 48.2 |
| | female | **23.8** | 29.0 | 47.2 |
| Burntwood | male | **19.0** | 30.4 | **50.6** |
| | female | **37.1** | 33.9 | **29.0** |
| South | male | **16.4** | 36.5 | **47.1** |
| | female | **26.0** | 33.2 | **40.8** |
| Mid | male | **23.1** | 32.4 | **44.5** |
| | female | **31.7** | 33.3 | **35.0** |
| North | male | **16.6** | 33.6 | **49.8** |
| | female | **28.0** | 31.1 | **40.9** |
| Manitoba | male | **21.4** | 33.7 | **44.9** |
| | female | **29.3** | 35.4 | **35.3** |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

interpretation: a high score is consistent with a positive general mental health status.

## Appendix Table 3.30: Self-Perceived Work Stress

Age- and sex-adjusted percent of weighted sample aged 15-75
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | |
|---|---|---|---|---|
| | | None/Low | Medium | High |
| South Eastman | male | 34.1 | 41.5 | 24.4 |
| | female | 34.0 | 47.1 | 18.9 |
| Central | male | 33.2 | 44.5 | 22.3 |
| | female | 31.9 | 43.9 | 24.3 |
| Assiniboine | male | 33.4 | 44.4 | 22.3 |
| | female | 33.8 | 43.9 | 22.3 |
| Brandon | male | 36.3 | 41.8 | 21.9 |
| | female | 30.3 | 41.7 | 28.0 |
| Winnipeg | male | 31.4 | 40.7 | 27.9 |
| | female | 28.8 | 39.4 | 31.8 |
| Interlake | male | 31.6 | 40.7 | 27.8 |
| | female | 30.5 | 34.7 | 34.8 |
| North Eastman | male | 33.9 | 42.6 | **23.5** |
| | female | 28.0 | 39.0 | **33.1** |
| Parkland | male | 38.7 | 41.9 | 19.4 |
| | female | 31.4 | 46.1 | 22.5 |
| Churchill | male | s | s | s |
| | female | s | s | s |
| Nor-Man | male | **39.6** | 40.3 | *20.1* |
| | female | **28.9** | 47.4 | 23.7 |
| Burntwood | male | 37.4 | 41.6 | 20.9 |
| | female | 33.5 | 43.3 | 23.2 |
| South | male | 33.4 | 43.9 | 22.7 |
| | female | 33.0 | 45.0 | 22.0 |
| Mid | male | 33.9 | 41.3 | **24.8** |
| | female | 29.9 | 38.7 | **31.3** |
| North | male | 38.6 | 40.9 | 20.5 |
| | female | 32.3 | 44.3 | 23.4 |
| Manitoba | male | 32.6 | 41.5 | **25.8** |
| | female | 30.0 | 40.6 | **29.4** |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.31: Self-Perceived Life Stress

Age- and sex-adjusted percent of weighted sample aged 15+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | |
|---|---|---|---|---|
| | | None/Low | Medium | High |
| South Eastman | male | 36.0 | 44.1 | 19.9 |
| | female | 34.8 | 45.5 | 19.7 |
| Central | male | 35.6 | 44.1 | 20.3 |
| | female | 32.9 | 45.9 | 21.2 |
| Assiniboine | male | 41.4 | 39.2 | 19.4 |
| | female | 36.7 | 43.8 | 19.6 |
| Brandon | male | 38.8 | 40.1 | 21.1 |
| | female | 35.9 | 43.8 | 20.3 |
| Winnipeg | male | **37.2** | **42.3** | 20.5 |
| | female | **31.5** | **46.5** | 21.9 |
| Interlake | male | 32.4 | 46.0 | 21.7 |
| | female | 30.4 | 43.5 | 26.1 |
| North Eastman | male | 38.8 | 41.7 | **19.4** |
| | female | 33.2 | 37.0 | **29.8** |
| Parkland | male | 36.4 | 44.9 | 18.7 |
| | female | 35.0 | 46.8 | 18.2 |
| Churchill | male | s | s | s |
| | female | s | s | s |
| Nor-Man | male | 43.2 | 45.3 | **11.5** |
| | female | 38.1 | 41.6 | **20.3** |
| Burntwood | male | 43.9 | 42.1 | 14.0 |
| | female | 40.8 | 40.0 | 19.2 |
| South | male | 37.3 | 42.7 | 20.0 |
| | female | 34.6 | 45.2 | 20.2 |
| Mid | male | 35.0 | 44.6 | **20.4** |
| | female | 32.1 | 42.7 | **25.2** |
| North | male | 43.4 | 43.9 | **12.7** |
| | female | 39.9 | 40.6 | **19.5** |
| Manitoba | male | **37.2** | **42.7** | 20.1 |
| | female | **32.7** | **45.5** | 21.8 |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.32: Life Satisfaction

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | |
|---|---|---|---|
| | | Very Satisfied | Satisfied/Neutral/Unsatisfied |
| South Eastman | male | 37.5 | 62.5 |
| | female | 44.7 | 55.3 |
| Central | male | **34.3** | **65.7** |
| | female | **42.4** | **57.6** |
| Assiniboine | male | 38.1 | 61.9 |
| | female | 39.6 | 60.4 |
| Brandon | male | 42.1 | 57.9 |
| | female | 42.4 | 57.6 |
| Winnipeg | male | 38.1 | 61.9 |
| | female | 36.1 | 63.9 |
| Interlake | male | 39.9 | 60.1 |
| | female | 33.9 | 66.1 |
| North Eastman | male | 43.4 | 56.6 |
| | female | 42.1 | 57.9 |
| Parkland | male | 29.0 | 71.0 |
| | female | 35.5 | 64.5 |
| Churchill | male | s | s |
| | female | s | s |
| Nor-Man | male | **40.7** | **59.3** |
| | female | **50.7** | **49.3** |
| Burntwood | male | 38.9 | 61.1 |
| | female | 31.7 | 68.3 |
| South | male | **36.2** | **63.8** |
| | female | **42.3** | **57.7** |
| Mid | male | 38.5 | 61.5 |
| | female | 36.7 | 63.3 |
| North | male | 40.4 | 59.6 |
| | female | 41.7 | 58.3 |
| Manitoba | male | 38.0 | 62.0 |
| | female | 37.6 | 62.4 |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.33: Tobacco Smoking Rates

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | |
|---|---|---|---|---|
| | | Current Smoker | Former Smoker | Non-Smoker |
| South Eastman | male | **24.3** | **45.7** | **29.9** |
| | female | **18.2** | **35.6** | **46.2** |
| Central | male | **25.2** | **46.5** | **28.3** |
| | female | **18.3** | **32.4** | **49.2** |
| Assiniboine | male | **21.9** | 40.8 | **37.3** |
| | female | **16.6** | 37.7 | **45.7** |
| Brandon | male | 23.7 | 44.2 | 32.1 |
| | female | 24.8 | 39.7 | 35.5 |
| Winnipeg | male | 22.7 | **41.9** | **35.4** |
| | female | 21.5 | **35.8** | **42.7** |
| Interlake | male | 27.5 | 40.0 | 32.4 |
| | female | 23.5 | 38.3 | 38.2 |
| North Eastman | male | 25.7 | **44.3** | **30.0** |
| | female | 19.9 | **37.0** | **43.2** |
| Parkland | male | 28.9 | 38.6 | 32.5 |
| | female | 28.0 | 36.9 | 35.1 |
| Churchill | male | s | s | s |
| | female | s | s | s |
| Nor-Man | male | 28.0 | **49.4** | **22.6** |
| | female | 26.5 | **41.1** | **32.4** |
| Burntwood | male | 37.4 | 35.9 | 26.7 |
| | female | 36.6 | 33.3 | 30.1 |
| South | male | **24.0** | **44.4** | **31.6** |
| | female | **17.8** | **35.2** | **47.0** |
| Mid | male | **27.5** | 40.7 | **31.8** |
| | female | **23.4** | 37.7 | **38.9** |
| North | male | 32.5 | **43.7** | **23.9** |
| | female | 32.0 | **37.2** | **30.7** |
| Manitoba | male | **23.9** | **42.4** | **33.6** |
| | female | **21.5** | **36.3** | **42.2** |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.34: Exposure to Smoke at Home

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | |
|---|---|---|---|
| | | Yes | No |
| South Eastman | male | 12.1 | 87.9 |
| | female | 17.0 | 83.0 |
| Central | male | 13.5 | 86.5 |
| | female | 17.1 | 82.9 |
| Assiniboine | male | 16.4 | 83.6 |
| | female | 15.6 | 84.4 |
| Brandon | male | 16.2 | 83.8 |
| | female | 15.8 | 84.2 |
| Winnipeg | male | 16.6 | 83.4 |
| | female | 18.4 | 81.6 |
| Interlake | male | 15.4 | 84.6 |
| | female | 18.5 | 81.5 |
| North Eastman | male | 18.0 | 82.0 |
| | female | 18.7 | 81.3 |
| Parkland | male | 15.3 | 84.7 |
| | female | 18.0 | 82.0 |
| Churchill | male | s | s |
| | female | s | s |
| Nor-Man | male | 24.9 | 75.1 |
| | female | 22.1 | 77.9 |
| Burntwood | male | 34.8 | 65.2 |
| | female | 32.2 | 67.8 |
| South | male | 13.9 | 86.1 |
| | female | 16.6 | 83.4 |
| Mid | male | 16.2 | 83.8 |
| | female | 18.3 | 81.7 |
| North | male | 29.5 | 70.5 |
| | female | 27.3 | 72.7 |
| Manitoba | male | 16.5 | 83.5 |
| | female | 18.2 | 81.8 |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.35: Binge Drinking

Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | |
|---|---|---|---|---|
| | | At least once/month | Less than once/month | Never/Light drinker |
| South Eastman | male | **21.0** | **22.0** | **57.0** |
| | female | **6.1** | **14.0** | **79.9** |
| Central | male | **21.4** | **19.7** | **58.9** |
| | female | ***6.7*** | **14.3** | **79.0** |
| Assiniboine | male | **29.8** | 22.2 | **48.0** |
| | female | **10.7** | 21.1 | **68.2** |
| Brandon | male | **30.4** | 24.4 | **45.2** |
| | female | **14.8** | 22.3 | **62.9** |
| Winnipeg | male | **24.2** | **22.1** | **53.7** |
| | female | **9.9** | **19.0** | **71.1** |
| Interlake | male | **26.2** | 23.1 | **50.7** |
| | female | **13.6** | 19.4 | **67.0** |
| North Eastman | male | **29.3** | 22.5 | **48.2** |
| | female | **10.3** | 19.4 | **70.3** |
| Parkland | male | **23.7** | 22.5 | **53.8** |
| | female | **10.0** | 19.8 | **70.2** |
| Churchill | male | s | s | s |
| | female | s | s | s |
| Nor-Man | male | **32.6** | 25.0 | **42.3** |
| | female | **13.4** | 24.4 | **62.2** |
| Burntwood | male | **32.7** | 21.5 | **45.9** |
| | female | **13.2** | 20.8 | **66.1** |
| South | male | **23.7** | **21.3** | **55.1** |
| | female | **7.8** | **16.2** | **76.1** |
| Mid | male | **26.5** | 22.8 | **50.6** |
| | female | **11.8** | 19.5 | **68.7** |
| North | male | **33.1** | 23.3 | **43.7** |
| | female | **13.2** | 22.3 | **64.5** |
| Manitoba | male | **25.0** | **22.1** | **52.9** |
| | female | **10.1** | **18.8** | **71.1** |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.36: Body Mass Index (BMI)

Age- and sex-adjusted percent of weighted sample aged 18+
from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | |
|---|---|---|---|---|
| | | Normal/Underweight | Overweight | Obese |
| South Eastman | male | **35.2** | **43.3** | 21.5 |
| | female | **48.5** | **31.8** | 19.7 |
| Central | male | **34.5** | **39.8** | 25.7 |
| | female | **46.1** | **28.3** | 25.6 |
| Assiniboine | male | **34.4** | 38.7 | 26.8 |
| | female | **44.8** | 32.2 | 23.0 |
| Brandon | male | **35.2** | **41.5** | 23.3 |
| | female | **50.8** | **30.7** | 18.5 |
| Winnipeg | male | **40.2** | **41.0** | 18.8 |
| | female | **54.5** | **27.4** | 18.1 |
| Interlake | male | **29.6** | 41.8 | 28.6 |
| | female | **40.7** | 34.2 | 25.1 |
| North Eastman | male | 37.5 | 41.9 | 20.6 |
| | female | 44.4 | 34.4 | 21.2 |
| Parkland | male | 33.4 | **43.7** | 22.9 |
| | female | 41.2 | **33.4** | 25.4 |
| Churchill | male | s | s | s |
| | female | s | s | s |
| Nor-Man | male | **31.1** | **40.8** | 28.1 |
| | female | **43.0** | **28.4** | 28.6 |
| Burntwood | male | **24.5** | 39.6 | **35.9** |
| | female | **40.2** | 36.2 | **23.6** |
| South | male | **34.4** | **40.5** | 25.1 |
| | female | **46.3** | **30.5** | 23.2 |
| Mid | male | **32.8** | **42.1** | 25.2 |
| | female | **41.8** | **34.0** | 24.2 |
| North | male | **28.9** | **41.5** | 29.7 |
| | female | **42.5** | **31.4** | 26.1 |
| Manitoba | male | **37.4** | **41.1** | 21.6 |
| | female | **50.8** | **29.1** | 20.1 |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.37: Total Activity (Work + Leisure + Travel)

Age- and sex-adjusted percent of weighted sample aged 15-75 who were physically active, from combined CCHS cycles 1.1 (2001), 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | | |
|---|---|---|---|---|
| | | Active | Moderate | Inactive |
| South Eastman | male | **43.0** | 32.0 | **24.9** |
| | female | **15.9** | 39.1 | **45.0** |
| Central | male | **53.6** | 26.0 | **20.3** |
| | female | **21.2** | 27.1 | **51.7** |
| Assiniboine | male | **52.5** | 29.6 | **17.8** |
| | female | **29.6** | 30.3 | **40.1** |
| Brandon | male | **42.5** | 31.9 | **25.6** |
| | female | **24.3** | 32.6 | **43.2** |
| Winnipeg | male | **32.1** | 35.8 | **32.1** |
| | female | **18.5** | 35.5 | **46.1** |
| Interlake | male | **47.0** | **26.9** | **26.1** |
| | female | **22.3** | **40.9** | **36.8** |
| North Eastman | male | **44.3** | 32.1 | **23.7** |
| | female | **19.3** | 37.5 | **43.2** |
| Parkland | male | **49.0** | **28.2** | **22.8** |
| | female | **18.0** | **37.9** | **44.1** |
| Churchill | male | s | s | s |
| | female | s | s | s |
| Nor-Man | male | **41.3** | 37.0 | **21.7** |
| | female | **25.2** | 38.0 | **36.8** |
| Burntwood | male | **49.2** | **24.4** | **26.4** |
| | female | ***19.9*** | **37.9** | **42.3** |
| South | male | **50.7** | 28.7 | **20.7** |
| | female | **22.6** | 31.3 | **46.2** |
| Mid | male | **46.8** | **28.6** | **24.6** |
| | female | **20.4** | **39.4** | **40.3** |
| North | male | **44.9** | 31.7 | **23.3** |
| | female | **22.0** | 37.7 | **40.3** |
| Manitoba | male | **39.1** | 32.8 | **28.1** |
| | female | **19.8** | 35.2 | **45.1** |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.38: Limitations of Activities

Age- and sex-adjusted percent of weighted sample aged 12+ who are restricted in their activities due to physical and/or mental health problems, from combined CCHS cycles 2.1 (2003), and 3.1 (2005)

| Region | Sex | Response | |
|---|---|---|---|
| | | Has Limitations | Has No Limitations |
| South Eastman | male | 29.5 | 70.5 |
| | female | 31.0 | 69.0 |
| Central | male | 28.8 | 71.2 |
| | female | 32.2 | 67.8 |
| Assiniboine | male | 28.6 | 71.4 |
| | female | 31.8 | 68.2 |
| Brandon | male | 31.4 | 68.6 |
| | female | 37.1 | 62.9 |
| Winnipeg | male | 30.3 | 69.7 |
| | female | 33.3 | 66.7 |
| Interlake | male | 29.8 | 70.2 |
| | female | 33.8 | 66.2 |
| North Eastman | male | 32.8 | 67.2 |
| | female | 37.8 | 62.2 |
| Parkland | male | 30.3 | 69.7 |
| | female | 35.9 | 64.1 |
| Churchill | male | s | s |
| | female | s | s |
| Nor-Man | male | 26.9 | 73.1 |
| | female | 29.4 | 70.6 |
| Burntwood | male | 36.6 | 63.4 |
| | female | 40.5 | 59.5 |
| South | male | 28.9 | 71.1 |
| | female | 32.0 | 68.0 |
| Mid | male | **30.8** | **69.2** |
| | female | **35.5** | **64.5** |
| North | male | 31.6 | 68.4 |
| | female | 33.7 | 66.3 |
| Manitoba | male | **30.4** | **69.6** |
| | female | **33.5** | **66.5** |

Source: Manitoba Centre for Health Policy, 2009

**bold** = significant difference between males and females
*italics* = warning
s = suppressed

## Appendix Table 3.39: Average Daily Consumption of Fruits and Vegetables

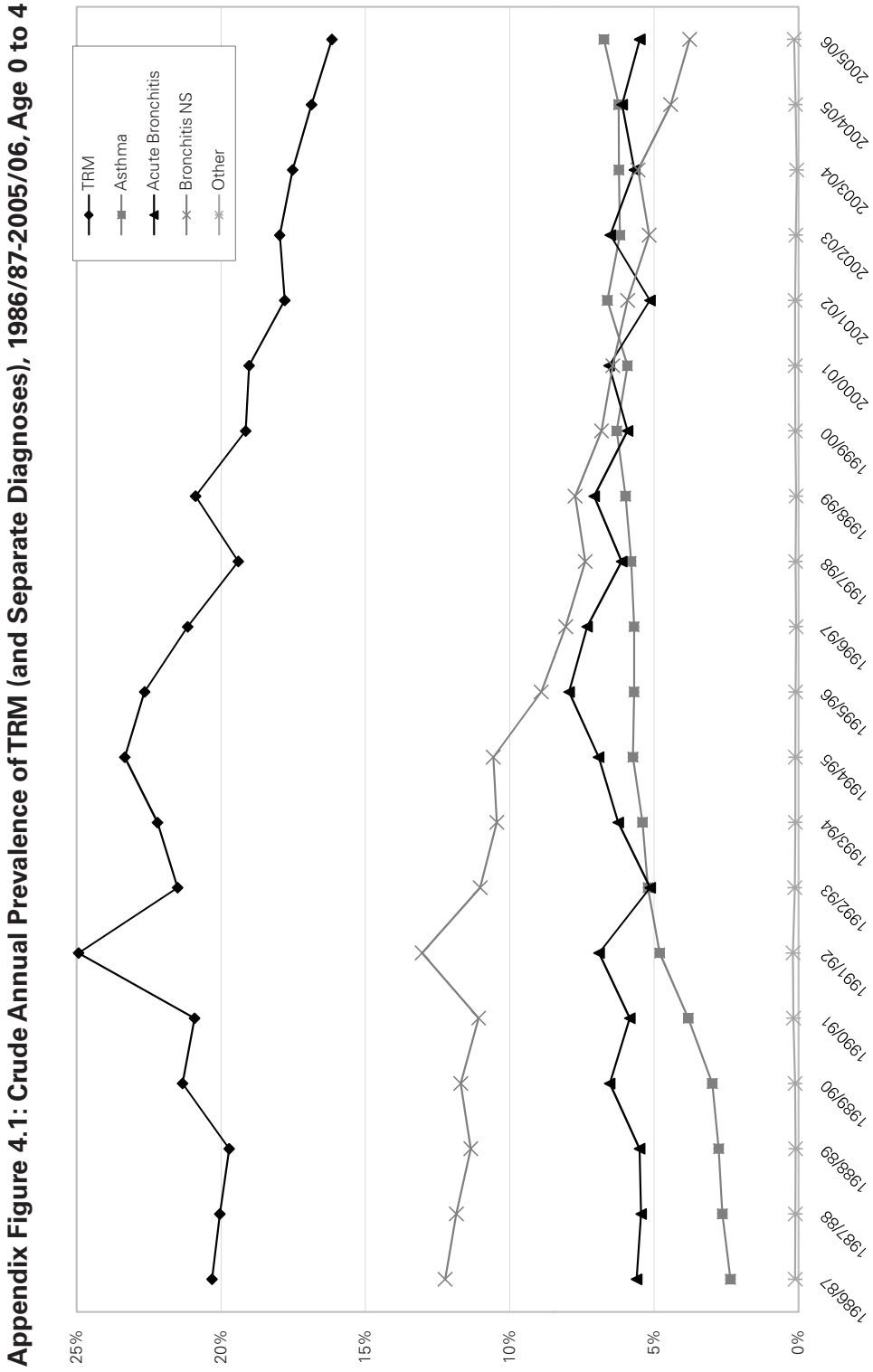
Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 1.1 (2001) and 2.1 (2003)

| Region | Sex | Response | |
|---|---|---|---|
| | | 5+ servings | 0-4 servings |
| South Eastman | male | **21.5** | **78.5** |
| | female | **32.8** | **67.2** |
| Central | male | **21.9** | **78.1** |
| | female | **41.0** | **59.0** |
| Assiniboine | male | **27.3** | **72.7** |
| | female | **43.2** | **56.8** |
| Brandon | male | **24.5** | **75.5** |
| | female | **39.6** | **60.4** |
| Winnipeg | male | **27.9** | **72.1** |
| | female | **40.7** | **59.3** |
| Interlake | male | **23.7** | **76.3** |
| | female | **39.7** | **60.3** |
| North Eastman | male | 35.0 | 65.0 |
| | female | 39.9 | 60.1 |
| Parkland | male | **25.7** | **74.3** |
| | female | **35.1** | **64.9** |
| Churchill | male | s | s |
| | female | s | s |
| Nor-Man | male | **29.7** | **70.3** |
| | female | **42.0** | **58.0** |
| Burntwood | male | 34.8 | 65.2 |
| | female | 30.4 | 69.6 |
| South | male | **23.6** | **76.4** |
| | female | **39.8** | **60.2** |
| Mid | male | **27.2** | **72.8** |
| | female | **38.7** | **61.3** |
| North | male | 31.3 | 68.7 |
| | female | 36.0 | 64.0 |
| Manitoba | male | **26.8** | **73.2** |
| | female | **40.0** | **60.0** |

Source: Manitoba Centre for Health Policy, 2009

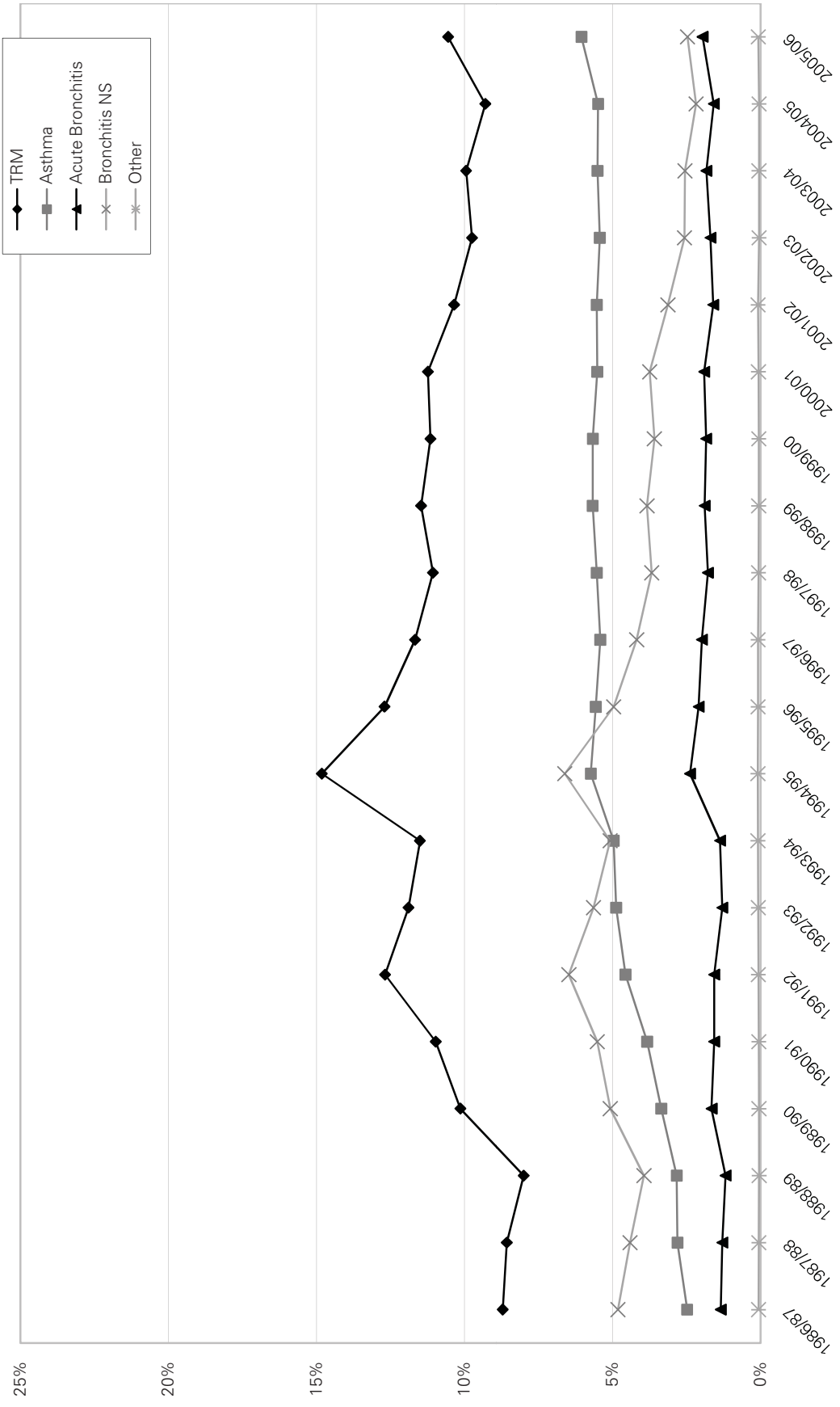
**bold** = significant difference between males and females
*italics* = warning
s = suppressed

# Appendix Four: Crude Annual Prevalence of Total Respiratory Morbidity by Age Group

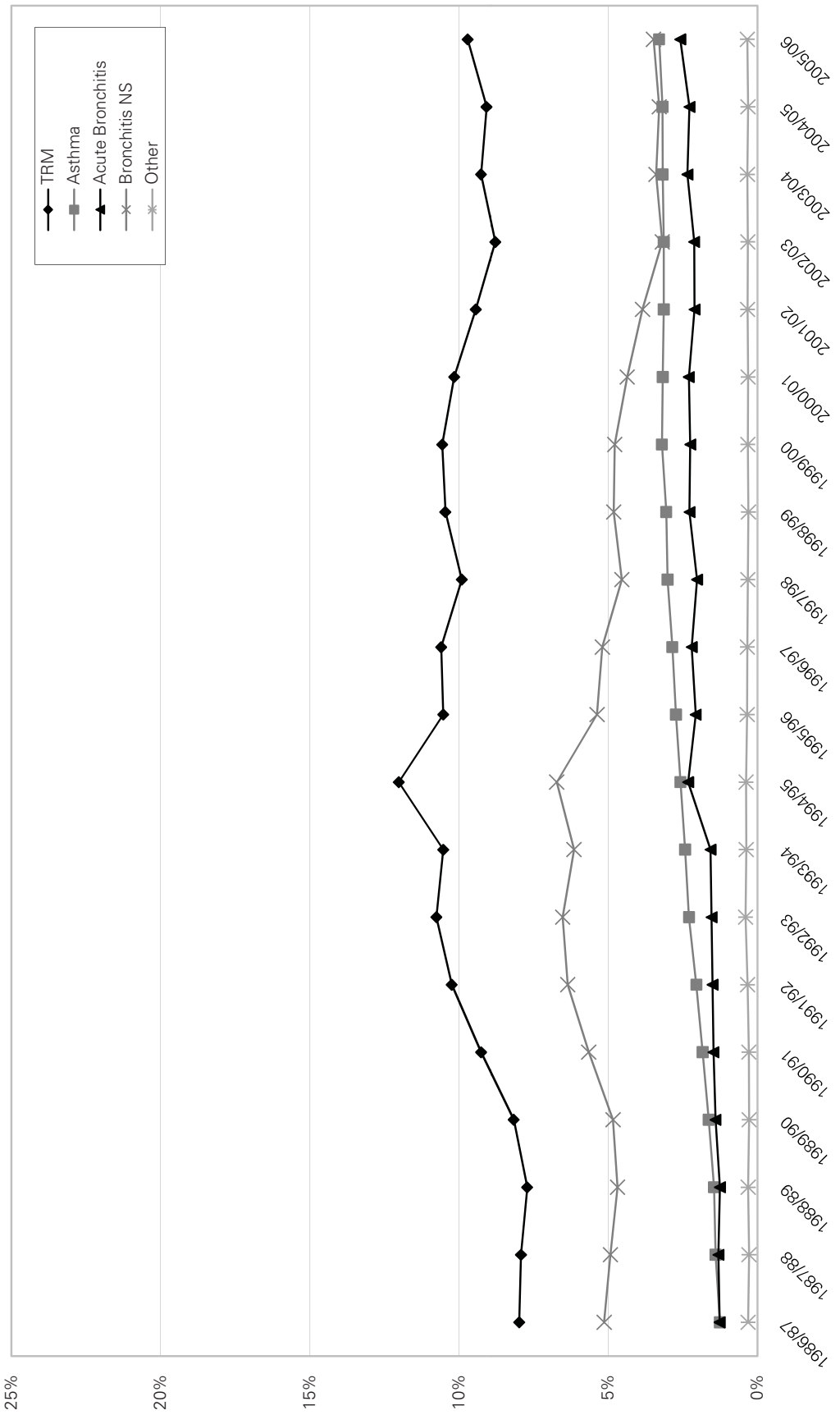



**Appendix Figure 4.1: Crude Annual Prevalence of TRM (and Separate Diagnoses), 1986/87-2005/06, Age 0 to 4**

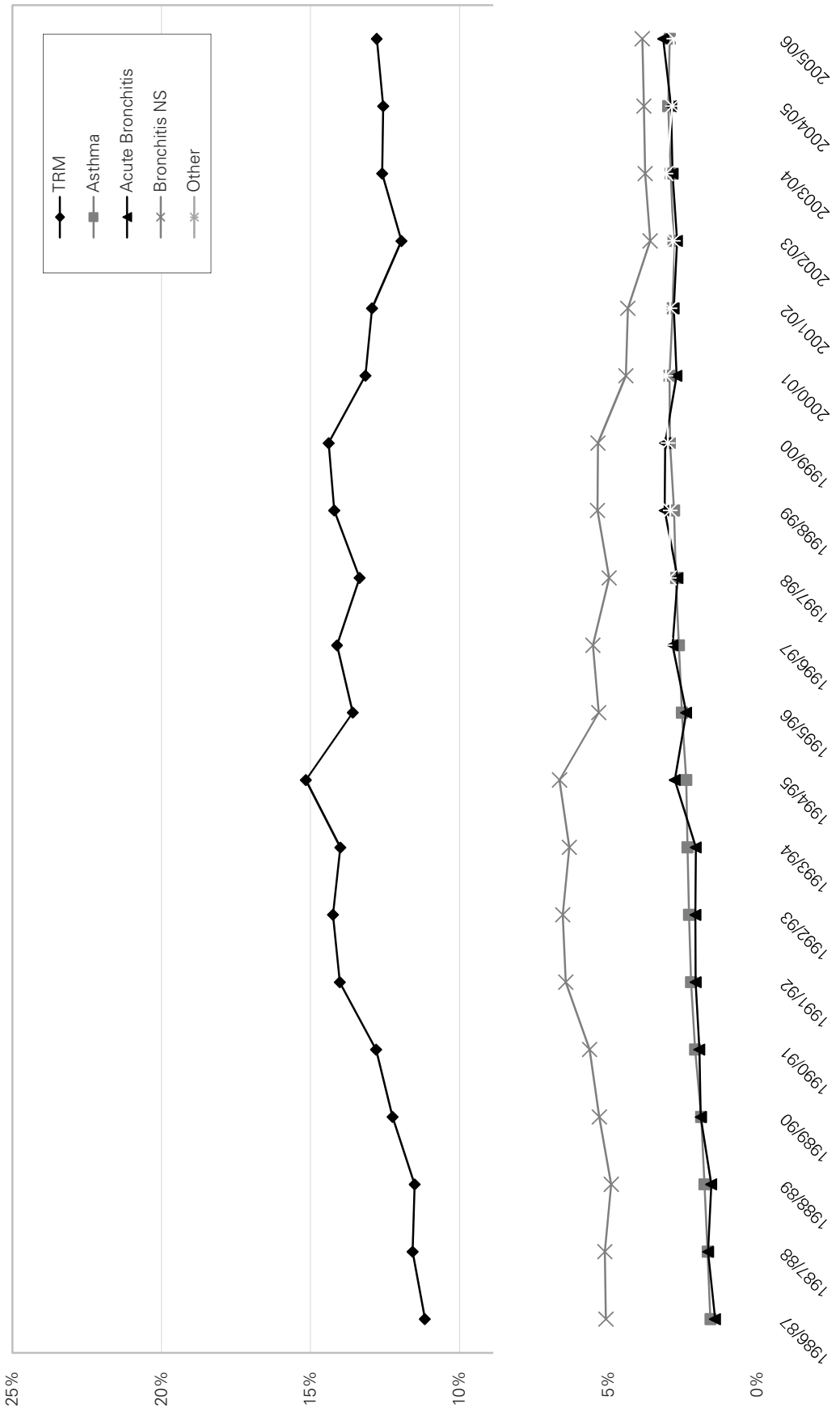
**Appendix Figure 4.2: Crude Annual Prevalence of TRM (and Separate Diagnoses), 1986/87-2005/06, Age 5 to 19**



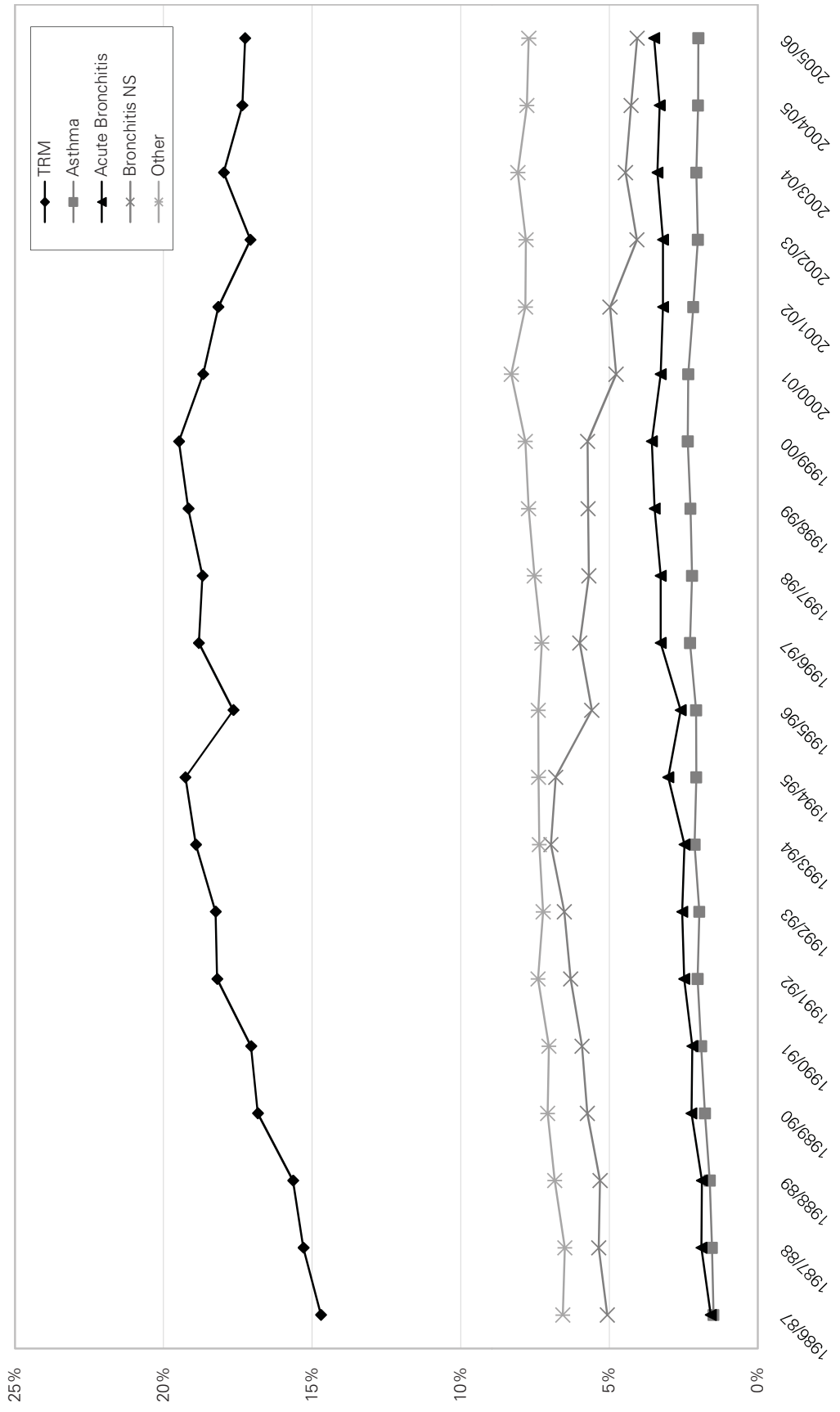
**Appendix Figure 4.3: Crude Annual Prevalence of TRM (and Separate Diagnoses), 1986/87-2005/06, Age 20 to 49**



**Appendix Figure 4.4: Crude Annual Prevalence of TRM (and Separate Diagnoses), 1986/87-2005/06, Age 50 to 74**



**Appendix Figure 4.5: Crude Annual Prevalence of TRM (and Separate Diagnoses), 1986/87-2005/06, Age 75+**



# APPENDIX FIVE: DIABETES PREVALENCE VALUES USING NDSS CASE DEFINITION

In Chapter 4 of this RHA Atlas report, diabetes prevalence values are presented using the case definition currently used by the Manitoba Centre for Health Policy (MCHP). This definition differs from that used by the National Diabetes Surveillance System (NDSS) in the following ways:

1) 3 years versus 2 years

2) the MCHP definition is not cumulative over time

3) includes drug use only -> higher

4) does not exclude pregnant women -> slightly higher

**Appendix Table 5.1: Prevalence of Diabetes by RHA (Age 1+)**
Source: National Diabetes Surveillance System (NDSS)

| RHA | 1998/99-2000/01 | | | | 2003/04-2005/06 | | | |
|---|---|---|---|---|---|---|---|---|
| | Population | Number Observed | Crude Percent | Adjusted Percent | Population | Number Observed | Crude Percent | Adjusted Percent |
| South Eastman | 36,760 | 1,769 | 4.81 | 5.10 | 40,115 | 2,426 | 6.05 | 6.30 |
| Central | 66,419 | 3,663 | 5.51 | 5.36 | 69,302 | 4,636 | 6.69 | 6.48 |
| Assiniboine | 53,331 | 3,776 | 7.08 | 5.89 | 51,812 | 4,407 | 8.51 | 6.97 |
| Brandon | 34,472 | 2,070 | 6.00 | 5.93 | 36,075 | 2,787 | 7.73 | 7.60 |
| Winnipeg | 487,787 | 28,080 | 5.76 | 5.75 | 501,533 | 37,626 | 7.50 | 7.37 |
| Interlake | 54,350 | 3,717 | 6.84 | 6.41 | 56,294 | 4,831 | 8.58 | 7.70 |
| North Eastman | 27,772 | 1,912 | 6.88 | 6.77 | 28,725 | 2,622 | 9.13 | 8.59 |
| Parkland | 32,459 | 2,678 | 8.25 | 7.05 | 31,616 | 3,191 | 10.09 | 8.45 |
| Churchill | 713 | 69 | 9.68 | 12.76 | 682 | 65 | 9.53 | 11.89 |
| Nor-Man | 16,732 | 1,371 | 8.19 | 9.71 | 16,529 | 1,658 | 10.03 | 11.26 |
| Burntwood | 26,002 | 2,547 | 9.80 | 15.11 | 26,127 | 3,209 | 12.28 | 18.27 |
| South | 156,510 | 9,208 | 5.88 | 5.56 | 161,229 | 11,469 | 7.11 | 6.68 |
| Mid | 114,581 | 8,307 | 7.25 | 6.80 | 116,635 | 10,644 | 9.13 | 8.26 |
| North | 43,447 | 3,987 | 9.18 | 12.69 | 43,338 | 4,932 | 11.38 | 15.11 |
| Manitoba | 839,927 | 51,982 | 6.19 | 6.19 | 862,100 | 67,911 | 7.88 | 7.74 |

## Appendix Table 5.2: Prevalence of Diabetes by District (Age 1+)

Source: National Diabetes Surveillance System (NDSS)

| District | 1998/99-2000/01 | | | | 2003/04-2005/06 | | | |
|---|---|---|---|---|---|---|---|---|
| | Population | Number Observed | Crude Percent | Adjusted Percent | Population | Number Observed | Crude Percent | Adjusted Percent |
| SE Northern | 10,682 | 519 | 4.86 | 5.43 | 11,155 | 704 | 6.31 | 6.72 |
| SE Central | 14,519 | 620 | 4.27 | 4.73 | 16,612 | 890 | 5.36 | 5.83 |
| SE Western | 7,286 | 289 | 3.97 | 4.42 | 7,950 | 433 | 5.45 | 5.88 |
| SE Southern | 4,273 | 341 | 7.98 | 6.44 | 4,398 | 399 | 9.07 | 7.45 |
| Cent Altona | 5,665 | 203 | 3.58 | 3.62 | 5,795 | 271 | 4.68 | 4.72 |
| Cent Cartier/SFX | 4,184 | 188 | 4.49 | 5.02 | 4,693 | 253 | 5.39 | 5.95 |
| Cent Louise/Pembina | 3,577 | 214 | 5.98 | 4.82 | 3,401 | 265 | 7.79 | 6.16 |
| Cent Morden/Winkler | 13,347 | 641 | 4.80 | 4.64 | 15,050 | 869 | 5.77 | 5.80 |
| Cent Carman | 7,330 | 385 | 5.25 | 4.54 | 7,344 | 498 | 6.78 | 5.80 |
| Cent Red River | 8,511 | 404 | 4.75 | 4.81 | 8,955 | 540 | 6.03 | 6.07 |
| Cent Swan Lake | 2,481 | 158 | 6.37 | 5.87 | 2,490 | 195 | 7.83 | 6.99 |
| Cent Portage | 17,669 | 1,077 | 6.10 | 5.99 | 17,996 | 1,301 | 7.23 | 6.91 |
| Cent Seven Regions | 3,655 | 393 | 10.75 | 11.38 | 3,578 | 444 | 12.41 | 13.05 |
| Assin East 2 | 9,937 | 593 | 5.97 | 4.85 | 9,609 | 650 | 6.76 | 5.39 |
| Assin West 1 | 6,949 | 527 | 7.58 | 6.11 | 6,842 | 736 | 10.76 | 8.33 |
| Assin North 1 | 9,891 | 726 | 7.34 | 6.10 | 9,463 | 815 | 8.61 | 7.05 |
| Assin West 2 | 11,020 | 809 | 7.34 | 6.42 | 10,572 | 911 | 8.62 | 7.42 |
| Assin East 1 | 7,884 | 575 | 7.29 | 6.14 | 7,862 | 651 | 8.28 | 7.03 |
| Assin North 2 | 7,650 | 546 | 7.14 | 5.87 | 7,464 | 644 | 8.63 | 7.05 |
| Bdn Rural | 3,450 | 180 | 5.22 | 5.60 | 3,324 | 227 | 6.83 | 7.14 |
| Bdn Southeast | 2,936 | 150 | 5.11 | 5.72 | 2,888 | 226 | 7.83 | 8.72 |
| Bdn West | 8,855 | 499 | 5.64 | 5.21 | 8,838 | 639 | 7.23 | 6.53 |
| Bdn Southwest | 4,197 | 222 | 5.29 | 5.16 | 4,975 | 367 | 7.38 | 6.89 |
| Bdn North End | 3,744 | 198 | 5.29 | 5.77 | 4,339 | 313 | 7.21 | 7.50 |
| Bdn East | 4,338 | 287 | 6.62 | 6.28 | 4,477 | 354 | 7.91 | 7.64 |
| Bdn Central | 6,952 | 534 | 7.68 | 7.55 | 7,234 | 661 | 9.14 | 9.49 |
| IL Southwest | 13,700 | 767 | 5.60 | 5.39 | 14,274 | 1,102 | 7.72 | 7.17 |
| IL Northeast | 12,645 | 1,055 | 8.34 | 7.42 | 13,260 | 1,284 | 9.68 | 8.07 |
| IL Southeast | 21,543 | 1,250 | 5.80 | 5.58 | 22,223 | 1,615 | 7.27 | 6.71 |
| IL Northwest | 6,462 | 645 | 9.98 | 9.62 | 6,537 | 830 | 12.70 | 11.81 |
| Iron Rose | 2,388 | 151 | 6.32 | 5.49 | 2,289 | 190 | 8.30 | 6.85 |
| Springfield | 8,572 | 348 | 4.06 | 4.38 | 8,866 | 444 | 5.01 | 5.04 |
| Winnipeg River | 4,392 | 242 | 5.51 | 4.48 | 4,619 | 357 | 7.73 | 5.87 |
| Brokenhead | 5,209 | 354 | 6.80 | 6.03 | 5,595 | 476 | 8.51 | 7.45 |
| Blue Water | 5,431 | 580 | 10.68 | 10.90 | 5,469 | 753 | 13.77 | 13.61 |
| Northern Remote | 1,780 | 237 | 13.31 | 20.58 | 1,887 | 402 | 21.30 | 31.86 |
| PL West | 4,519 | 338 | 7.48 | 5.86 | 4,389 | 438 | 9.98 | 7.60 |
| PL East | 5,715 | 539 | 9.43 | 8.79 | 5,561 | 614 | 11.04 | 10.01 |
| PL Central | 11,295 | 844 | 7.47 | 5.74 | 11,063 | 988 | 8.93 | 6.91 |
| PL North | 10,930 | 957 | 8.76 | 8.36 | 10,603 | 1,151 | 10.86 | 10.00 |
| F Flon/Snow L/Cran | 6,396 | 430 | 6.72 | 6.96 | 6,163 | 523 | 8.49 | 8.24 |
| The Pas/OCN/Kelsey | 7,450 | 653 | 8.77 | 10.93 | 7,325 | 790 | 10.78 | 12.44 |
| Nor-Man Other | 2,886 | 288 | 9.98 | 14.67 | 3,041 | 345 | 11.34 | 16.07 |
| Thompson | 9,310 | 524 | 5.63 | 8.16 | 9,288 | 661 | 7.12 | 9.88 |
| Gillam/Fox Lake | 945 | 92 | 9.74 | 15.05 | 814 | 94 | 11.55 | 17.37 |
| Lynn/Leaf/SIL | 2,092 | 140 | 6.69 | 9.63 | 1,356 | 135 | 9.96 | 12.22 |
| Thick Por/Pik/Wab | 604 | 80 | 13.25 | 17.55 | 571 | 86 | 15.06 | 18.72 |
| Oxford H & Gods | 1,730 | 178 | 10.29 | 16.00 | 1,856 | 261 | 14.06 | 20.85 |
| Cross Lake | 2,020 | 266 | 13.17 | 20.09 | 2,256 | 416 | 18.44 | 27.47 |
| Tad/Broch/Lac Br | 853 | 25 | 2.93 | 4.36 | 871 | 37 | 4.25 | 6.26 |
| Norway House | 2,461 | 341 | 13.86 | 21.37 | 2,665 | 365 | 13.70 | 20.10 |
| Island Lake | 3,350 | 583 | 17.40 | 30.38 | 3,555 | 725 | 20.39 | 35.87 |
| Sha/York/Split/War | 1,580 | 238 | 15.06 | 24.44 | 1,742 | 302 | 17.34 | 26.35 |
| Nelson House | 1,057 | 80 | 7.57 | 12.44 | 1,153 | 127 | 11.01 | 15.76 |

## Appendix Table 5.3: Prevalence of Diabetes by Winnipeg Neighborhood Cluster (Age 1+)

Source: National Diabetes Surveillance System (NDSS)

| Winnipeg Neighbourhood Cluster | 1998/99-2000/01 | | | | 2003/04-2005/06 | | | |
|---|---|---|---|---|---|---|---|---|
| | Population | Number Observed | Crude Percent | Adjusted Percent | Population | Number Observed | Crude Percent | Adjusted Percent |
| Fort Garry S | 26,249 | 1,158 | 4.41 | 4.96 | 26,886 | 1,639 | 6.10 | 6.52 |
| Fort Garry N | 19,720 | 920 | 4.67 | 4.58 | 21,728 | 1,333 | 6.13 | 5.87 |
| Assiniboine South | 27,148 | 1,215 | 4.48 | 4.30 | 28,285 | 1,669 | 5.90 | 5.36 |
| St. Boniface E | 23,239 | 1,096 | 4.72 | 4.77 | 25,535 | 1,664 | 6.52 | 6.50 |
| St. Boniface W | 12,387 | 747 | 6.03 | 5.49 | 12,416 | 941 | 7.58 | 6.83 |
| St. Vital South | 23,871 | 993 | 4.16 | 4.75 | 25,217 | 1,468 | 5.82 | 5.97 |
| St. Vital North | 21,369 | 1,308 | 6.12 | 5.60 | 21,266 | 1,652 | 7.77 | 6.98 |
| Transcona | 24,372 | 1,445 | 5.93 | 6.50 | 24,541 | 1,819 | 7.41 | 7.91 |
| River Heights W | 28,159 | 1,404 | 4.99 | 4.63 | 28,021 | 1,753 | 6.26 | 5.75 |
| River Heights E | 17,664 | 899 | 5.09 | 5.07 | 17,694 | 1,146 | 6.48 | 6.39 |
| River East N | 5,579 | 193 | 3.46 | 3.68 | 7,010 | 320 | 4.56 | 4.47 |
| River East E | 19,896 | 997 | 5.01 | 5.70 | 20,589 | 1,409 | 6.84 | 7.31 |
| River East W | 30,246 | 1,913 | 6.32 | 5.36 | 30,680 | 2,470 | 8.05 | 6.59 |
| River East S | 13,154 | 829 | 6.30 | 6.89 | 13,310 | 1,039 | 7.81 | 8.73 |
| Seven Oaks N | 2,969 | 182 | 6.13 | 5.54 | 3,284 | 270 | 8.22 | 7.15 |
| Seven Oaks W | 15,275 | 960 | 6.28 | 6.84 | 16,115 | 1,474 | 9.15 | 9.34 |
| Seven Oaks E | 25,199 | 1,691 | 6.71 | 5.90 | 25,715 | 2,340 | 9.10 | 8.22 |
| St. James - Assin. W | 25,559 | 1,469 | 5.75 | 5.35 | 25,066 | 1,981 | 7.90 | 6.96 |
| St. James - Assin. E | 21,561 | 1,349 | 6.26 | 5.47 | 21,550 | 1,655 | 7.68 | 6.68 |
| Inkster West | 12,012 | 624 | 5.19 | 6.48 | 12,186 | 936 | 7.68 | 8.87 |
| Inkster East | 9,763 | 708 | 7.25 | 7.37 | 9,905 | 1,001 | 10.11 | 10.44 |
| Downtown W | 28,366 | 1,746 | 6.16 | 6.77 | 28,364 | 2,190 | 7.72 | 8.41 |
| Downtown E | 24,854 | 1,878 | 7.56 | 8.44 | 26,253 | 2,423 | 9.23 | 10.43 |
| Point Douglas N | 19,365 | 1,375 | 7.10 | 7.08 | 19,666 | 1,800 | 9.15 | 9.35 |
| Point Douglas S | 9,811 | 981 | 10.00 | 10.14 | 10,251 | 1,234 | 12.04 | 12.70 |

Note 1: District and Community Area data available on the website

Note 2: The case defintion used to produce these numbers are not exactly the same as that used by the NDCSS

## Appendix Table 5.4: Prevalence of Diabetes by Winnipeg Community Areas (Age 1+)

Source: National Diabetes Surveillance System (NDSS)

| Winnipeg Community Area | 1998/99-2000/01 | | | | 2003/04-2005/06 | | | |
|---|---|---|---|---|---|---|---|---|
| | Population | Number Observed | Crude Percent | Adjusted Percent | Population | Number Observed | Crude Percent | Adjusted Percent |
| Fort Garry | 45,969 | 2,078 | 4.52 | 4.80 | 48,614 | 2,972 | 6.11 | 6.19 |
| Assiniboine South | 27,148 | 1,215 | 4.48 | 4.30 | 28,285 | 1,669 | 5.90 | 5.32 |
| St. Boniface | 35,626 | 1,843 | 5.17 | 5.06 | 37,951 | 2,605 | 6.86 | 6.67 |
| St. Vital | 45,240 | 2,301 | 5.09 | 5.18 | 46,483 | 3,120 | 6.71 | 6.48 |
| Transcona | 24,372 | 1,445 | 5.93 | 6.53 | 24,541 | 1,819 | 7.41 | 7.87 |
| River Heights | 45,823 | 2,303 | 5.03 | 4.80 | 45,715 | 2,899 | 6.34 | 6.04 |
| River East | 68,875 | 3,932 | 5.71 | 5.57 | 71,589 | 5,238 | 7.32 | 6.95 |
| Seven Oaks | 43,443 | 2,833 | 6.52 | 6.24 | 45,114 | 4,084 | 9.05 | 8.48 |
| St. James - Assin. | 47,120 | 2,818 | 5.98 | 5.37 | 46,616 | 3,636 | 7.80 | 6.80 |
| Inkster | 21,775 | 1,332 | 6.12 | 6.98 | 22,091 | 1,937 | 8.77 | 9.73 |
| Downtown | 53,220 | 3,624 | 6.81 | 7.47 | 54,617 | 4,613 | 8.45 | 9.34 |
| Point Douglas | 29,176 | 2,356 | 8.08 | 8.09 | 29,917 | 3,034 | 10.14 | 10.50 |

# Recent MCHP Publications

**2009**

*Composite Measures/Indices of Health and Health System Performance* by Colleen Metge, Dan Chateau, Heather Prior, Ruth-Ann Soodeen, Carolyn De Coster, and Louis Barré.

*The Direct Cost of Hospitalizations in Manitoba, 2005/06* by Greg Finlayson, Julene Reimer, Matthew Stargardter, Kari-Lynne McGowan.

*Physician Resource Projection Models* by Alan Katz, Bogdan Bogdanovic, Oke Ekuma, Ruth-Ann Soodeen, Dan Chateau, and Chris Burnett.

**2008**

*Manitoba Child Health Atlas Update* by Marni Brownell, Carolyn De Coster, Robert Penfold, Shelley Derksen, Wendy Au, Jennifer Schultz, and Matthew Dahl.

*An Initial Analysis of Emergency Departments and Urgent Care in Winnipeg* by Malcolm Doupe, Anita Kozyrskyj, Ruth-Ann Soodeen, Shelley Derksen, Charles Burchill, and Shamima Huq.

*What Works? A First Look at Evaluating Manitoba's Regional Health Programs and Policies at the Population Level* by Patricia Martens, Randy Fransoo, The Need to Know Team, Elaine Burland, Heather Prior, Charles Burchill, Linda Romphf, Dan Chateau, Angela Bailly, and Carole Ouelette.

**2007**

*Next Steps in the Provincial Evaluation of the BabyFirst Program: Measuring Early Impacts on Outcomes Associated with Child Maltreatment* by Marni Brownell, Rob Santos, Anita Kozyrskyj, Noralou Roos, Wendy Au, Natalia Dik, Mariette Chartier, Darlene Gerard, Okechukwu Ekuma, Monica Sirski, Nadine Tonn, and Jennifer Schultz.

*Allocating Funds for Healthcare in Manitoba Regional Health Authorities: A First Step—Population-Based Funding* by Gregory S Finlayson, Evelyn Forget, Okechukwu Ekuma, Shelley Derksen, Ruth Bond, Patricia Martens, and Carolyn De Coster.

*Waiting Times for Surgery, Manitoba: 1999/2000 to 2003/04* by Carolyn De Coster, Dan Chateau, Matt Dahl, Ruth-Ann Soodeen, and Nancy McKeen.

**2006**

*Using Administrative Data to Develop Indicators of Quality Care in Personal Care Homes* by Malcolm Doupe, Marni Brownell, Anita Kozyrskyj, Natalia Dik, Charles Burchill, Matt Dahl, Dan Chateau, Carolyn De Coster, Aynslie Hinds, and Jennifer Bodnarchuk.

*Profiling Primary Care Practice in Manitoba* by Norman Frohlich, Alan Katz, Carolyn De Coster, Natalia Dik, Ruth-Ann Soodeen,Diane Watson and Bogdan Bogdanovic.

*Defining and Validating Chronic Diseases: An Administrative Data Approach* by Lisa Lix, Marina Yogendran, Charles Burchill, Colleen Metge, Nancy McKeen, David Moore and Ruth Bond.

*Application of Patient Safety Indicators in Manitoba: A First Look* by Sharon Bruce, Heather Prior, Alan Katz, Mark Taylor, Steven Latosinsky, Patricia Martens, Carolyn De Coster, Marni Brownell, Ruth-Ann Soodeen and Carmen Steinbach.

**2005**

*Sex Differences in Health Status, Health Care Use, and Quality of Care: A Population-Based Analysis for Manioba's Regional Health Authorities* by Randy Fransoo, Patricia Martens, The Need to Know Team (funded through CIHR), Elaine Burland, Heather Prior, Charles Burchill, Dan Chateau, and Randy Walld.

*High-Cost Users of Pharmaceuticals: Who Are They?* by Anita Kozyrskyj, Lisa Lix, Matthew Dahl and Ruth-Ann Soodeen.

*Primary Prevention: An Examination of Data Capabilities in Manitoba* by Lisa Lix, Greg Finlayson, Marina Yogendran, Ruth Bond, Jennifer Bodnarchuk, and Ruth-Ann Soodeen.

**2004**

*Patterns of Regional Mental Illness Disorder Diagnoses and Service Use in Manitoba: A Population-Based Study* by Patricia Martens, Randy Fransoo, Nancy McKeen, The Need To Know Team (funded through CIHR), Elaine Burland, Laurel Jebamani, Charles Burchill, Carolyn De Coster, Okechukwu Ekuma, Heather Prior, Dan Chateau, Renée Robinson, and Colleen Metge.

*Diagnostic Imaging Data in Manitoba, Assessment and Applications* by Greg Finlayson, Bill Leslie and Leonard MacWilliam with Sandor Demeter, Lisa Lix, Roger Philipp, and Martin Reed.

*How do Educational Outcomes Vary With Socioeconomic Status? Key Findings from the Manitoba ChildHealth Atlas 2004* by Marni Brownell, Noralou Roos, Randy Fransoo, Anne Guèvremont, LeonardMacWilliam, Shelley Derksen, Natalia Dik, Bogdan Bogdanovic, and Monica Sirski.

*Using Administrative Data to Develop Indicators of Quality in Family Practice* by Alan Katz, Carolyn De Coster, Bogdan Bogdanovic, Ruth-Ann Soodeen, and Dan Chateau.

*Patterns of Health Care Use and Cost at the End of Life* by Verena Menec, Lisa Lix, Carmen Steinbach, Okechukwu Ekuma, Monica Sirski, Matt Dahl, and Ruth-Ann Soodeen.

Copies of MCHP publications are available for download at

**http://mchp-appserv.cpe.umanitoba.ca/deliverablesList.html**

Hard copies of our reports are available by contacting us at:

Manitoba Centre for Health Policy

University of Manitoba

4th Floor, Room 408

727 McDermot Avenue

Winnipeg, Manitoba, Canada R3E 3P5

Email: reports@cpe.umanitoba.ca

Phone: 204-789-3819 Fax: 204-789-3910