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Prairie Mountain Health

Planning and Evaluation

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Introduction from the Medical Officer of Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (World Health Organization, 1948).

The Community Health Assessment (CHA) is a fundamental tool for both supporting what currently makes us healthy and outlining ways to improve our health. The CHA allows us to begin to understand ourselves: who we are, our strengths, our challenges; the CHA also allows us to understand our health system’s response to our needs. From this understanding, the CHA provides the opportunity for discussions and collaborative planning as a way to further support how we are currently healthy and to consider options on how our health can be improved. These inter-sectoral discussions, led by the CHA, can lead to priority setting and action planning; and this is where we will see ongoing support to what is making us healthy and also where we will see changes that lead to improvements in our health.

The health of a population is determined by broad factors (determinants of health) such as income, social status, education, working environments, biology, genetics, and health services; also, physical, social, economic and cultural environments contribute to these determinants. The CHA outlines a number of these determinants of health.

What are some things this report tells us about ourselves?

Who are we? The most dramatic population change in Prairie Mountain Health (PMH) over the next 30 years will be seen in a major increase in the population 85 years of age and over – this will have a significant impact on health care services. Certain geographic areas within PMH have seen a significant amount of growth due to immigrants and newcomers joining the communities. Over the next 30 years, it is estimated that the provincial First Nation population will increase.

What some of our strengths? Our socioeconomic status has improved, cancer rates have slightly decreased, premature mortality rates have declined, PMH residents generally report a good perceived mental health state, and there are various health promotion programs and activities within both the community and hospital setting focusing on differing ways to improve well-being (i.e. injury prevention, mental health, chronic disease prevention and treatment).

What are some of our needs and challenges within PMH? The top causes of premature death (before age 75) in PMH are cancer, circulatory and injury and poisoning. PMH’s unintentional injury hospitalizations are higher than the province and have been increasing. The number of clients requiring Inactive and Latent Tuberculosis Surveillance has increased significantly in PMH in recent years. Almost one-third of adult community mental health clients had an alcohol or drug-related diagnosis.

Regarding health services, ongoing staff shortages (EMS, nursing, therapy, diagnostics) and physician resources are a significant challenge for PMH. PMH’s aging population is likely to result in the use of more cancer-related health services. Regarding home-care clients, staff have observed increases in the level of care required.
The health of children is critical for the health of our communities. The early years of childhood are recognized as having a profound influence on the long-term health and development of individuals. Unfortunately, it is noticed that there are higher rates of pre and postnatal psychological distress in the North Zone and Brandon compared to Manitoba as a whole, which can have serious adverse effects on both mother and child. Alcohol consumption during pregnancy (higher than the Manitoba average in the South Zone and Brandon) and smoking during pregnancy (higher in the North Zone and Brandon) have the potential to lead to adverse outcomes for both mother and child. PMH students (grade 7-12) generally felt safe and supported by their community and school, and the majority of students reported positive mental health. Admissions of youth to the Crisis Stabilization Unit have been increasing; but, more supports are being offered through Teen Clinics and Early Intervention Services. PMH childhood immunization rates are higher than the provincial average.

This CHA provides an excellent discussion on health equity within the Introduction section. It is valuable that the differences in health and risk factors across those in PMH be further identified and addressed; because, the health gap has continued to widen, whereby most of the improvement in health status occurred in healthy areas whilst there was a lack of improvement in the least healthy areas. Poverty underlies these unacceptable disparities in health and threatens the health and well-being of many, particularly our children (WRHA Community Health Assessment, 2009). Related to the impact of poverty, housing problems and a variety of social and behavioral risk factors, tuberculosis (TB) surveillance has increased and awareness of STIs, including HIV, has increased. Many of our citizens who face the highest risk to their health also face the most barriers in accessing preventive and health care services (WRHA Community Health Assessment, 2009). Those who experience barriers due to language, culture or low income, persons experiencing homelessness, people living with mental health issues (including addictions), and newcomers are among those facing higher risk of injury, infections, mental health problems and chronic diseases (WRHA Community Health Assessment, 2009).

Newer risks affecting health are also important to continue to assess. Some examples are e-cigarettes, environmental issues (radon, climate change and severe weather events), and the effects on communities from an increase in the development of various industries.

**What can we do to support and improve our health?** We need to continue to assess the health of our communities so that we can further understand the factors that are affecting our health and how our health system can assist in responding to this. We need to understand the health needs of all peoples of our communities. We need to take opportunities to listen and allow dialogue within our communities, schools, industries and homes to understand the realities of our health and our lack of health. We need to foster community participation and partnerships with non-health organizations so that we can support our population’s health and move together towards change in areas that are impeding our health. We need to acknowledge that health services are solely one component of the broad factors that determine our health.

We can strive for health – physical, mental and social well-being, and the absence of disease. We can be encouraged by projects in our region that have promoted overall well-being and have focused on our specific health needs, such as the Westman Immigrant Services, the Families First Home visiting
program, the Parent-Child Coalitions, the Cancer Patient Journey Initiative, the Diabetes and Heart Health Program, the Community Mental Health Program and our Spiritual and Palliative Care Programs. Let us use this tool – the Community Health Assessment – to work together toward health by supporting what currently allows us to be healthy; and, let us use this tool to improve our health by leading change through innovatively responding together to the health needs of our communities and all peoples within these communities.

Dr. Amy Frykoda, MD, CCFP, MSc

Medical Officer of Health
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Executive Summary

This report provides the results of the first ever comprehensive Community Health Assessment (CHA) for Prairie Mountain Health (PMH). Regional health authorities in Manitoba are responsible for assessing the health of the population on a regular basis. This CHA includes analysis of indicators, trends and other information sources that describe the health and burden of illness experienced by PMH residents, as well as the way health services are used. These findings will provide the groundwork for strategic and program planning in PMH.

Prairie Mountain Health has a growing population, which is projected to continue to expand, particularly in the senior populations. The overall population is projected to increase by 21% in the next 30 years and there is an expected population increase in all age groups with the most significant being in the population age 65 and over. This age group is predicted to increase by 62% from 29,800 residents in 2012 to 48,400 by 2042. The most dramatic increase will be seen in the population 85 years and over with an increase of more than 96%. This change in population will have a significant impact on the demand for health care services in PMH; for example, as the population of PMH ages, it is likely that there will be an increased need for cancer-related health services.

Health Status is Improving for Some, But Not All

Throughout the CHA it has been noted that there is inequity in health status across PMH, with some segments of the population suffering a higher burden of illness. There was a strong association between income and health, with individuals living in lower income areas affected more by physical and mental illness. As summarized in the following tables, there are notable differences between PMH’s healthiest districts and the least healthy.

The results in this report show that the health of Prairie Mountain Health residents has improved in a number of indicators of mortality and disease. PMH male life expectancy increased significantly. PMH’s premature mortality rate (PMR) decreased significantly for residents, indicating that fewer people died before the age of 75 years. Similar to the province, the top three causes of death in the region were circulatory disease, cancer and respiratory disease.

Within PMH, the diagnosed prevalence of congestive heart failure (CHF) and osteoporosis decreased, as did heart attack and stroke rates. Prairie Mountain Health had the lowest prevalence of CHF in the province. Similar to the province, hypertension and diabetes prevalence increased within Prairie Mountain Health. However, the incidence of newly diagnosed cases of diabetes and hypertension decreased over time within PMH. If these lower incidence rates are sustained or fall even more, then the prevalence values for these diseases will also eventually decrease. Total respiratory morbidity prevalence increased significantly and the highest rate of respiratory morbidity in Manitoba was found among PMH residents. The increase in Prairie Mountain Health seemed to be largely driven by residents of the Brandon Zone where some districts reported rates which were double the provincial average.

The following tables summarize the most important results in indicators of mortality and diseases.
Prairie Mountain Health Changes in Indicators of Mortality

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2002-06</th>
<th>2007-11</th>
<th>Best District Rate</th>
<th>Worst District Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Getting Better</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premature Mortality Rate (PMR) (per 1,000 residents)</td>
<td>3.25</td>
<td>3.07</td>
<td>Brandon South End (2.22)</td>
<td>Brandon Downtown (4.44)</td>
</tr>
<tr>
<td>Male Life Expectancy (Years)</td>
<td>76.5</td>
<td>77.4</td>
<td>Brandon South End (81.7)</td>
<td>Porcupine Mountain (73.2)</td>
</tr>
<tr>
<td><strong>No Significant Change</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Mortality (per 1,000 residents)</td>
<td>8.23</td>
<td>8.06</td>
<td>Brandon South End (5.44)</td>
<td>Brandon Downtown (10.51)</td>
</tr>
<tr>
<td>Female Life Expectancy (Years)</td>
<td>82.3</td>
<td>82.3</td>
<td>Brandon South End (90.6)</td>
<td>Brandon Downtown (78.6)</td>
</tr>
<tr>
<td>Potential Years of Life Lost (PYLL) (per 1,000 residents)</td>
<td>53.5</td>
<td>54.5</td>
<td>Brandon West End (24.4)</td>
<td>Porcupine Mountain (103.6)</td>
</tr>
<tr>
<td>Suicide (per 1,000 residents aged 10+)</td>
<td>0.15</td>
<td>0.17</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

Prairie Mountain Health Changes in Indicators of Diseases

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2006-07</th>
<th>2011-12</th>
<th>Best District Rate</th>
<th>Worst District Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Getting Better</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osteoporosis Prevalence (residents age 50+)</td>
<td>12.8%</td>
<td>11.2%</td>
<td>Dauphin (8.3%)</td>
<td>Brandon Downtown (14.3%)</td>
</tr>
<tr>
<td>Congestive Heart Failure (CHF) Prevalence (residents aged 40+)</td>
<td>1.68%</td>
<td>1.49%</td>
<td>Brandon South End (1.02%)</td>
<td>Dauphin (2.64%)</td>
</tr>
<tr>
<td>Acute Myocardial Infarction (AMI) Rate (per 1,000 residents aged 19+)</td>
<td>4.71</td>
<td>4.31</td>
<td>Turtle Mountain (3.48)</td>
<td>Dauphin (7.08)</td>
</tr>
<tr>
<td>Stroke Rate (per 1,000 residents aged 40+)</td>
<td>3.03</td>
<td>2.46</td>
<td>Brandon East End (1.57)</td>
<td>Swan River (3.98)</td>
</tr>
<tr>
<td><strong>No Significant Change</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischemic Heart Disease (IHD) Prevalence (residents aged 19+)</td>
<td>8.92%</td>
<td>8.69%</td>
<td>Asessippi (6.34%)</td>
<td>Dauphin (14.31%)</td>
</tr>
<tr>
<td><strong>Getting Worse</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Respiratory Morbidity (TRM) Prevalence</td>
<td>11.5%</td>
<td>12.1%</td>
<td>Whitemud (8.2%)</td>
<td>Brandon Downtown (19.2%)</td>
</tr>
<tr>
<td>Diabetes Prevalence (residents aged 19+)</td>
<td>9.2%</td>
<td>10.4%</td>
<td>Whitemud (8.4%)</td>
<td>Porcupine Mountain (14.3%)</td>
</tr>
<tr>
<td>Hypertension Prevalence (residents aged 19+)</td>
<td>25.7%</td>
<td>26.8%</td>
<td>Whitemud (25.1%)</td>
<td>Porcupine Mountain (31.2%)</td>
</tr>
<tr>
<td>Arthritis Prevalence (residents aged 19+)</td>
<td>21.4%</td>
<td>22.3%</td>
<td>Spruce Woods (18.5%)</td>
<td>Porcupine Mountain (30.5%)</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013
Further to the disparities in health status from the most healthy to the least healthy districts, the three zones of Prairie Mountain Health also have significant variation in health status as shown in the following table.

### PMH Zone Changes in Indicators of Mortality and Diseases

<table>
<thead>
<tr>
<th>Indicator</th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Premature Mortality Rate (PMR) (per 1,000 residents)</strong></td>
<td>☹ 2.83</td>
<td>☹ 2.96</td>
<td>☹ 3.57</td>
</tr>
<tr>
<td><strong>Hypertension Prevalence (residents aged 19+)</strong></td>
<td>☹ 25.9%</td>
<td>☹ 26.3%</td>
<td>☹ 28.1%</td>
</tr>
<tr>
<td><strong>Arthritis Prevalence (residents aged 19+)</strong></td>
<td>☹ 19.5%</td>
<td>☹ 23.0%</td>
<td>☹ 26.1%</td>
</tr>
<tr>
<td><strong>Ischemic Heart Disease (IHD) Prevalence (residents aged 19+)</strong></td>
<td>☹ 7.2%</td>
<td>☹ 7.3%</td>
<td>☹ 12.2%</td>
</tr>
<tr>
<td><strong>Total Respiratory Morbidity (TRM) Prevalence</strong></td>
<td>☹ 9.2%</td>
<td>☹ 16.1%</td>
<td>☹ 12.2%</td>
</tr>
<tr>
<td><strong>Diabetes Prevalence (residents aged 19+)</strong></td>
<td>☹ 9.6%</td>
<td>☹ 10.2%</td>
<td>☹ 11.2%</td>
</tr>
<tr>
<td><strong>Osteoporosis Prevalence (residents age 50+)</strong></td>
<td>☹ 10.8%</td>
<td>☹ 13.3%</td>
<td>☹ 9.5%</td>
</tr>
<tr>
<td><strong>Congestive Heart Failure (CHF) Prevalence (residents aged 40+)</strong></td>
<td>☹ 1.21%</td>
<td>☹ 1.31%</td>
<td>☹ 2.15%</td>
</tr>
<tr>
<td><strong>Acute Myocardial Infarction (AMI) Rate (per 1,000 residents aged 19+)</strong></td>
<td>☹ 3.96</td>
<td>☹ 3.59</td>
<td>☹ 5.61</td>
</tr>
<tr>
<td><strong>Stroke Rate (per 1,000 residents aged 40+)</strong></td>
<td>☹ 2.42</td>
<td>☹ 1.73</td>
<td>☹ 3.20</td>
</tr>
</tbody>
</table>

* Trend over time:
  - ☺ = Getting Better
  - ☸ = No Significant Change
  - ☹ = Getting Worse

** Most recent rate compared to the Manitoba average:
  - ◊ = significantly lower
  - ◊◊ = similar
  - ◊◊◊ = significantly higher

Source: MCHP RHA Indicators Atlas, 2013
Cardiovascular disease is more prevalent among northern PMH residents. While there has been a significant decrease in the rate of strokes among PMH residents overall, the rates have remained high among residents in the North Zone. The proportion of residents living with ischemic heart disease in the North Zone is almost twice that of residents in the South and Brandon zones.

Just over 10% of PMH residents are living with diabetes. The prevalence of diabetes and the rate of lower limb amputation for residents with diabetes were significantly higher than the provincial average for residents in the North Zone of PMH.

As shown in the following summary table, there were notable differences in the North Zone of PMH. Despite some improvement in four disease indicators, the North Zone was significantly higher than the provincial average in almost all of the mortality and disease indicators summarized here.

PMH Summary of Changes in Indicators of Mortality and Diseases

<table>
<thead>
<tr>
<th>Region</th>
<th>Getting Better</th>
<th>No Significant Change</th>
<th>Getting Worse</th>
<th>Most Recent Compared to the Manitoba Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Brandon</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>North</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>PMH</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

PMH Changes in Indicators of Health Conditions

Prairie Mountain Health had a significant increase in the prevalence of mood and anxiety disorders. This was largely driven by increases in the North and Brandon zones. The prevalence of substance abuse was significantly higher in the North and Brandon zones, and both the South and North zones experienced significant increases over time.

The prevalence of dementia within the region was significantly lower than the provincial average. However, the district rates ranged from a low of 5.3% to a high of 16.0%, and the Brandon Zone showed a significant increase in dementia prevalence over time.

Access to and Use of Healthcare Services

Primary Health Care

There is variable utilization of primary health care services across the Prairie Mountain Health region; utilization is impacted by health status, comorbidity, income, and availability. Transportation to access services was identified as a challenge for residents in First Nation communities.
Supply and demand for primary health care remains an issue for PMH, highlighting the need to continue to focus on building capacity within the region. Ongoing staff shortages (EMS, nursing, therapy, diagnostic, etc.) and physician resources are a significant challenge for PMH, and recruitment initiatives continue to be a top priority. Many innovative primary health care initiatives are underway in PMH. Monitoring outcomes to determine impact on access, quality of care, and health status will provide the region with needed information for ongoing planning for program implementation and service delivery.

There are high numbers of mental health clients living in Brandon, Dauphin, and Swan River. Many of these clients are living in these communities in order to access the services and supports available. Access to safe, supportive housing is a challenge for clients of the Mental Health program.

Residents of Prairie Mountain Health received over 95% of their general and family practitioner visits within the region. Residents of Prairie Mountain Health received 64% of their visits to specialists within the region, and around 34% in Winnipeg. Provincially, Prairie Mountain Health residents had the second highest proportion of hospitalizations and hospital days in their home region at 81% and 90%, respectively.

Poorer access to primary care may lead to increased hospitalization. Hospitalization rates for ambulatory care sensitive conditions (ACSC) are strongly related to income and overall health status. Hospitalization rates for ACSC in Prairie Mountain Health decreased; however the rate was still significantly higher than the provincial average. Rates for residents in the North Zone were almost double that of the other zones in PMH.

Use of Hospitals

Residents of the North Zone had significantly higher rates of hospital use and readmissions than other PMH residents. Residents of the South Zone of PMH had higher rates of hospitalization for waiting PCH placement compared to other PMH residents. Brandon Zone residents had lower rates of inpatient hospital admissions and readmissions but higher rates of use of outpatient services and days of care for surgical services and obstetric care than other PMH residents. PMH’s hospital readmission rates were significantly higher than the provincial average, largely driven by high rates in the North and South Zones; however rates did decrease over time.

Women and Children

A significantly higher proportion (almost a quarter) of pregnant women in the North Zone of PMH did not receive adequate prenatal care, which can place both the mother and infant at risk. This correlated with a significantly higher rate of antenatal hospitalization and infant hospital readmission in the North Zone. Among women in the North Zone of PMH the proportion of infants considered large for gestational age was significantly higher than the provincial average, while breastfeeding initiation rates were significantly lower.

In Prairie Mountain Health, 4% of Brandon women, 11% of women from the South and 27% of women from the North travelled more than an hour to give birth. Research suggests that this increases the
likelihood of the mother experiencing moderate to severe stress sevenfold. The North Zone and Brandon experienced significantly higher rates of pre and postnatal psychological distress and there was a high prevalence of maternal depression in the South Zone and Brandon.

Caesarean section rates continue to be significantly higher among PMH women than the provincial average. Infants delivered via Caesarean Section are at increased risk of a number of complications including respiratory problems and difficulties breastfeeding.

Alcohol consumption during pregnancy (significantly higher than the Manitoba average in the South zone and Brandon) and smoking during pregnancy (significantly higher in the North zone and Brandon) have the potential to lead to adverse outcomes for both the mother and child.

Seniors

Prairie Mountain Health has the highest proportion of seniors (age 65 and older) in the province, which has significant implications for planning programs and services, and facility use. The proportion of PMH residents 75 years and older admitted to personal care homes was higher than the provincial average but decreased over time. Just over 13% of PMH residents 75+ were living in a personal care home. The lack of designated chronic care beds for clients whose needs exceed the capacity of personal care homes was noted, with acute care or transitional beds being the only alternative available.

There is a strong relationship between prevalence of osteoporosis and income, with a higher prevalence among residents of lower income areas in both urban and rural settings; yet osteoporosis prevalence was significantly lower in the North Zone. This finding is most likely related to access to health services (screening) and not truly indicative of lower rates of disease. Benzodiazepine use among residents age 75+ living in the community and in Personal Care Homes in PMH remains a cause for concern with rates significantly higher than the province. PMHs rate of hospitalizations due to unintentional falls were higher than Manitoba which supports the need for the regional falls prevention initiative that is currently underway.

Mind the Gap

Health status of Prairie Mountain Health residents is largely driven by the social determinants of health, particularly income. With a majority of the indicators presented within this CHA report, there is a significant relationship between income inequities and the incidence/prevalence of mortality, diseases and health conditions. The health status of residents of lower income either did not improve over time or improved at a slower rate than for residents of higher income areas. As a result, the health gap continues to widen.

These CHA findings will provide the basis for discussion and future planning with our communities, partner organizations and regional programs and services. An equity perspective is crucial to reducing the health disparities within our region.
Introduction

In April 2012, three regional health authorities (Assiniboine, Brandon and Parkland) were merged to form our new health region. Prairie Mountain Health (PMH) is the managing body for the publicly funded health services and programs that are available in the region. Prairie Mountain Health operates under the direction of a 15-member Board, appointed by the Minister of Health. The Board’s mandate and responsibilities arise from the Regional Health Authorities Act. The Act provides the legislated responsibility and authority to plan, manage, deliver, monitor and evaluate health services within the region.

What is community health assessment?

A community health assessment (CHA) is a dynamic, ongoing process that regional health authorities undertake in order to determine the strengths and needs in communities, as well as to identify community-wide health priorities. This is the first CHA for the recently formed Prairie Mountain Health region. The information collected is analyzed and reported in a way that creates an understanding of the health of the population and factors that are influencing health among residents of the region.

The results from the community health assessment are provided to the PMH Board as a foundation for strategic planning. These findings are intended to provide the basis for discussion and future action planning, either by communities, partner organizations, or regional programs and services.

CHA describes how healthy we are as a region. The CHA uses a population health perspective, which takes into account the determinants of health as well as the characteristics and performance of the health system. This approach is meant to assess and positively influence the conditions that affect the health and quality of life of a population. Health is considered more than just the absence of disease, but is also a resource for living that encompasses the whole person.

Regional health authorities work collaboratively with Manitoba Health, Healthy Living and Seniors to identify common relevant indicators that are reviewed through the community health assessment process. This joint approach allows for some degree of comparability across the province yet is flexible enough to allow for each regional health authority to develop a unique way of conducting its community health assessment.

This report is the culmination of that process, including information about the health of the residents of PMH and about the community’s capacity to improve the lives of residents. By assessing the
population’s health status, health care use, and the performance of the health system, the community health assessment also provides information about ways to improve the responsiveness of the health system.

**Determinants of Health and Equity**

In order to provide a comprehensive picture of the health of PMH residents, information regarding the determinants of health, health status of the region as well as how it is changing over time are included throughout the CHA. The interactions of the determinants of health result in differences in health status between individuals living in different zones and districts in the PMH region as well as amongst residents with different ethnic and cultural backgrounds. Throughout the report, how health is experienced by the population overall as well as which population groups are experiencing poorer health outcomes is presented wherever possible. These comparisons are essential to assess whether gaps are widening or narrowing among population groups. Future planning efforts need to take into consideration these gaps in order to improve overall population health outcomes.

Determinants of health are the economic and social conditions that shape the health of individuals and communities as a whole. They are the main factors which influence whether individuals stay healthy or become ill and determine the extent to which a person possesses the physical, social, and personal resources to identify and achieve personal aspirations, satisfy needs, and cope with the environment.

There are twelve key social determinants of health (see following figure): income and social status, healthy child development, education and literacy, employment and working conditions, social support networks, personal health practices and coping skills, social environments, physical environments, biology and genetic endowment, health services, culture, and gender. These determinants are connected, working in concert to determine how healthy or unhealthy we may be.

Income is considered to be one of the most important determinants of health. As income and social status increase, overall health status also tends to improve. Therefore, higher income earners tend to be healthier than people with lower incomes. Populations with a more equal distribution of income also tend to be healthier than those in which there is a greater income spread between the rich and the poor. Income is often influenced by the level of education achieved.
Health equity suggests that all people can reach their full health potential and should not be disadvantaged from attaining it because of their social and economic status, social class, race, ethnicity, religion, age, disability, gender, gender identity, sexual orientation or other socially determined circumstance. Health inequities are systematically associated with underlying social disadvantage (or disadvantage in the major social determinants of health).
They reflect unequal opportunities to be healthy and thus, are considered avoidable and unfair. Assessing health equity requires comparing health and its social determinants between more and less advantaged social groups. (Whitehead M et al., 2006).

While the health of Manitobans has generally improved, gaps in health status appeared to have increased between those Manitobans living in the northern regions of the province compared to the rest of Manitoba, as well as between those living in areas with the lowest neighbourhood income levels compared to areas with higher neighbourhood income. These gaps increased due to improvements in health status for those living in southern regions of the province, and in higher neighbourhood income areas, with little change in health status occurring for those in the north and in low neighbourhood income areas (Martens PJ et al., September 2010).
Methods

PMH established a team made up of staff as well as PMH Board members to plan and implement the CHA process. This CHA team collected and reviewed available data, identified gaps in information and selected processes to gather additional information. Much of the data is provided by the Health Information Management Branch of Manitoba Health, Healthy Living and Seniors and the Manitoba Centre for Health Policy. Other data come from provincial partners, such as CancerCare Manitoba. Data collected by the region is also included. Population data used in this report are based on the Manitoba Health population reports which can be viewed at: http://www.gov.mb.ca/health/population/

The community engagement process was a crucial aspect of community health assessment. Engagement involved a variety of activities aimed at connecting with communities, patients, staff, and other key stakeholders. Wherever possible the engagement process was incorporated into existing activities such as: diabetes gatherings, Manitoba Métis Federation Knowledge Networks, patient advisory group meetings as well as patient and family interviews. The voice of the customer (users of PMH programs and services) was incorporated throughout the CHA wherever possible. Often this “voice” came from client experience surveys and key informant interviews. CHA team members also met with many staff groups within the region in order to identify program-specific information as well as their experiences as program and service providers. To see a copy of specific survey tools utilized, such as the Youth Health Survey, please contact PMH.

Data Presentation and Interpretation

Most indicators in this report are presented using a population–based approach. This means that the rates or the prevalence shown are based upon virtually every person living in Manitoba and excludes only those in Federal penitentiaries, members of the Canadian Armed Forces, and the RCMP.

The indicators in this report are based upon where people live, not where they received services, with a few exceptions. For example, a person living in the PMH region may be hospitalized in Winnipeg, but the hospitalization is attributed back to the rate for the PMH region. Thus, the results show the health and healthcare use patterns of the population living in PMH, no matter where they receive their care.

In all cases, the latest available information is presented. Graphs and tables have been labelled and ordered in a consistent fashion throughout the report with sources clearly defined.

In this report where First Nations or Métis is used, it is referring to only those residents who have self-identified as being of either First Nations or Métis descent. When PMH is used alone it refers to all residents of the region, including those identifying as First Nations or Métis.
Geographic Boundaries

In the majority of cases the quantitative data is presented for the five regional health authorities of Manitoba, and where available, or significant, is split by sex and broken down into three Prairie Mountain Health zones and seventeen PMH districts (the geographic boundaries including the municipalities and towns that make up these districts are outlined in Appendix 3.)
The PMH zones are reported as North, South and Brandon. These geographies refer to the former regional health authority boundaries where the North Zone represents the former Parkland RHA, South Zone represents the former Assiniboine RHA and the Brandon Zone represents the former Brandon RHA.

When reading this report, unless explicitly specified otherwise, you should assume that ‘the region’ is the area covered by the PMH region and that ‘residents’ are the people living within the boundaries of the PMH region.

Rates and Prevalence

In the majority of charts or tables, data is presented as a rate or 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.

Adjusted Rates and Crude Values

Most of the indicators in this report are labelled 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. 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.

In some cases ‘crude values’ are presented in order to indicate the actual number of events that occurred (e.g. residents suffering from a particular condition) within the region and to represent the possible burden of illness to PMH in particular.
Limitations

The most current data available to the region is included in the CHA; however for a few indicators this data can be a few years old. Some indicators are not available at the regional, zone or district level. Data specific to First Nations is still limited. However, through the community engagement process, several First Nation communities welcomed the opportunity to meet and talk about concerns, issues, strengths of their programs and hopes for forging stronger connections with PMH. With respect to the Métis population of PMH, the Knowledge Networks and the Métis Health Atlas has provided valuable information regarding the health of Métis residents in the region.

The community engagement process was planned to gain an understanding of health and health care from the perspective of a wide range of residents of the region. The people involved in community engagement activities were meant to be representative of the people who live in the community, including a variety of demographic characteristics. Although the intent was to obtain a good cross-section of individuals in communities, it was not always possible to involve people who represented every aspect of a community. The people involved in various community engagement activities spoke from their particular perspective and we recognize and respect that. We also recognize that vulnerable populations may not always be represented.

The Youth Health Survey was done as a census sample, meaning that every student whose parents consented to their participation had an opportunity to complete the survey. The intent is not for schools to compare themselves to other schools in the region or province, since the results have not been adjusted to reflect the particular characteristics of the students from each school.

Data presented in this report from the Canadian Community Health Survey (CCHS) conducted by Statistics Canada is comprised of a sample of Manitobans selected to be representative of the provincial population. It is not based on the entire population and therefore needs to be interpreted with some caution. Specifically, it does not include residents living in First Nations communities because they may
participate in the federally administered Regional Health Survey. In addition, the data collection involves interviewers asking questions of participants, which may be affected by personal bias, recall error, and self-serving responses.

Injury data presented in the CHA were obtained from the Manitoba Health Registry, Hospital Separations Abstracts, and Vital Statistics databases for all residents of Manitoba who were registered with Manitoba Health, Healthy Living and Seniors from January 1, 2000 to December 31, 2012. Only hospitalizations occurring within Manitoba among Manitoba residents were included in the analysis. They do not include descriptive information about the circumstances leading to injury incidents, the specific locations where injuries occurred, or demographic information beyond age and sex. Reported injuries represent only a fraction of the injuries that occur and do not capture those for which medical care was not sought or those for which care was provided in the community (in doctor's offices, outpatient hospital settings, emergency departments, physiotherapy, massage therapy or chiropractic practices).
Chapter 1 Demographics and Population

Demographics provide information regarding the size and characteristics of our population. This includes population changes over time, the age of the population, how our population is distributed throughout the region, and what is projected to happen to our population in the future.

With the recent 2012 amalgamation of three former regional health authorities (Assiniboine, Brandon and Parkland) into the new region of Prairie Mountain Health, the demographics and population characteristics have changed. The structure and layout of the region’s population is an important factor when considering the type of health service delivery that may be required and the areas which may require more or less emphasis. Within this chapter population numbers are presented for the new planning zones and districts and not by the former RHA boundaries. Population pyramids for zones and districts can be found in Appendix 4 and Appendix 5. A list of municipalities included in each district can be found in Appendix 3.

Population

Population is defined as the number of people living in a geographic area, including their age and sex. The population of the region in 2013 was 167,121, around 12.9% of the Manitoba population. This represents a 3.7% increase from the 2009 population of 161,113. In 2013, 17.7% of the population was 65 years of age or older and 18.6% was under the age of 15. The gender split was fairly even at 49.5% male and 50.5% female.

North Zone: The population of the North Zone in 2013 was 41,334, or 24.7% of the PMH population. This represents little change from the 2009 population of 41,590. In 2013, 19.7% of North Zone’s population was 65 years of age or older and 19.0% was under the age of 15. The gender split was almost even at 49.7% male and 50.3% female.

South Zone: The population of the South Zone in 2013 was 75,133, or 45.0% of the PMH population. This represents a 2.9% increase from the 2009 population of 73,036. In 2013, 18.9% of the South Zone’s population was 65 years of age or older and 18.3% was under the age of 15. The gender split was almost even at 50.4% male and 49.6% female.

Brandon City: The population of Brandon City in 2013 was 50,654, or 30.3% of the PMH population. This represents a 9.0% increase from the 2009 population of 46,487. In 2013, 14.2% of Brandon’s population was 65 years of age or older and 19.0% was under the age of 15. The gender split was fairly even at 48.4% male and 51.6% female.

Population by District

The following table breaks down the population of the region by district and zone, showing the 2013 population, percentage aged 0-14, percentage aged 65 and over and the change in population between 2009 and 2013.
Table 1.1 Population Characteristics by PMH Zone and District, 2013

<table>
<thead>
<tr>
<th>PMH Zone</th>
<th>2013 Population</th>
<th>Percent 0-14</th>
<th>Percent 65+</th>
<th>2009-2013 Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porcupine Mountain</td>
<td>9,117</td>
<td>22.3%</td>
<td>14.5%</td>
<td>-3.3%</td>
</tr>
<tr>
<td>Swan River Town</td>
<td>5,321</td>
<td>18.1%</td>
<td>21.6%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Duck Mountain</td>
<td>5,594</td>
<td>16.7%</td>
<td>23.9%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Riding Mountain</td>
<td>5,228</td>
<td>14.8%</td>
<td>20.8%</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Dauphin City</td>
<td>8,832</td>
<td>17.7%</td>
<td>22.3%</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Agassiz Mountain</td>
<td>7,242</td>
<td>21.8%</td>
<td>17.9%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Asessippi</td>
<td>12,595</td>
<td>18.2%</td>
<td>19.5%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Little Saskatchewan</td>
<td>11,361</td>
<td>16.1%</td>
<td>18.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Whitemud</td>
<td>11,490</td>
<td>18.1%</td>
<td>17.9%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Souris River</td>
<td>14,248</td>
<td>18.4%</td>
<td>18.5%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Turtle Mountain</td>
<td>10,078</td>
<td>18.2%</td>
<td>20.2%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Spruce Woods</td>
<td>15,361</td>
<td>19.9%</td>
<td>18.6%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Brandon Downtown</td>
<td>11,174</td>
<td>19.1%</td>
<td>12.2%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Brandon East End</td>
<td>6,789</td>
<td>19.8%</td>
<td>16.1%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Brandon North Hill</td>
<td>7,245</td>
<td>18.2%</td>
<td>15.8%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Brandon South End</td>
<td>9,864</td>
<td>19.3%</td>
<td>13.4%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Brandon West End</td>
<td>15,582</td>
<td>18.6%</td>
<td>14.6%</td>
<td>7.1%</td>
</tr>
<tr>
<td>South Zone</td>
<td>75,133</td>
<td>18.3%</td>
<td>18.9%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>50,654</td>
<td>19.0%</td>
<td>14.2%</td>
<td>9.0%</td>
</tr>
<tr>
<td>North Zone</td>
<td>41,334</td>
<td>19.0%</td>
<td>19.7%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>First Nations*</td>
<td>5,700</td>
<td>33.4%</td>
<td>5.1%</td>
<td>2.3%</td>
</tr>
<tr>
<td>PMH</td>
<td>167,121</td>
<td>18.6%</td>
<td>17.7%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>1,289,268</td>
<td>18.8%</td>
<td>14.3%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

*On Reserve Only

Source: Manitoba Health Population Reports, 2009-2013
Population Change

The following population pyramid shows the single year of age and sex distribution of Prairie Mountain Health residents for 2009 and 2013. The population is shown for both males (on the left side of the graph) and females (on the right side) with the clear bars representing the 2009 population and the shaded bars the 2013 population.

The profile shows increased population in the ages 0-10, 20-40, and 55-65 between 2009 and 2013. Conversely population declines can be seen in the age groups 10-20 and 45-50. These changes are apparent in both males and females.

Figure 1.1 Age Profile of Prairie Mountain Health, 2009 and 2013

2009 Population: 161,113
2013 Population: 167,121

Source: Manitoba Health Population Reports, 2009-2013
Population Projections

Population projections are an estimate of a future population. The assumptions relating to projections are based on recent trends such as births, deaths, life expectancy and migration in the region and reflect the impact that these factors would have on the population if these trends were to continue.

The following population projections are based on a medium growth projection scenario. This accounts for a medium rate of change in fertility, mortality and migration over the next 30 years.

Assuming that the trends identified remain consistent, it is estimated that Prairie Mountains Health’s population will increase by 21.3% over the next 30 years bringing the total region population to 201,000 residents. This growth is relatively low compared to Manitoba’s projected increase of 43.3% by 2042 (Yee G et al., 2014).

![Projected Population Growth (1,000's) for Prairie Mountain Health, 2012 to 2042](source)

Figure 1.2 Projected Population Growth (1,000’s) for Prairie Mountain Health, 2012 to 2042

Medium growth projection scenario

Source: Manitoba Population Projections, 2014
Population Projections by Age Group

Whilst the overall population count is projected to increase by 21.3% in the next 30 years, there is an expected change in age distribution in the region. There is an expected population increase in all age groups with the most significant in the population age 65 and over. This age group is predicted to grow from 29,800 residents in 2012 to 48,400 by 2042. This is a 62.4% increase in the next 30 years. The most dramatic increase will be seen in the population 85 years and over with an increase of more than 96%. This change in population will have a significant impact on health care service in the region (Yee G et al., 2014).

Figure 1.3 Projected Population Change for Prairie Mountain Health by Age Group, 2012 to 2042

Heritage Mountain Health

Medium growth projection scenario

Source: Manitoba Population Projections, 2014

Urban / Rural Population

An Urban area is defined by Statistics Canada as having a minimum population of 1,000 and a population density of 400 people per square kilometer. The population of PMH was evenly split at the 2011 Census with 49.5% living in a rural area and the rest in urban areas. Population densities for each of the Planning Districts are outlined in Appendix 2.
Demographics

Aboriginal Population

Aboriginal people are those persons who reported identifying with at least one Aboriginal group (e.g. First Nations, Métis or Inuit) and/or those who report being a Treaty Indian or a Registered Indian as defined by the Indian Act. The majority of the Aboriginal population live in the First Nation communities throughout the region. In addition, there are many Métis people living in communities across the South and North Zones as well as a number of Manitoba Métis Federation Locals. There are no on-reserve communities in the Brandon Zone; however, many First Nations and Métis individuals and families live and work in Brandon (Statistics Canada, 2011).

Table 1.2 Aboriginal Population, PMH and Manitoba, 2011
Percent of residents who reported identifying with at least one Aboriginal group

<table>
<thead>
<tr>
<th></th>
<th>PMH</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>15.9%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

Source: Statistics Canada Census, 2011

First Nations Population

The First Nations population accounts for 3.4% (2013) of the overall population in Prairie Mountain Health and has remained fairly consistent since 2009. There are 14 First Nation communities throughout the region: Birdtail Sioux First Nation, Canupawakpa Dakota Nation, Gamblers First Nation, Keeseekowenin First Nation, Rolling River First Nation, Sioux Valley Dakota Nation, Waywayseecappo First Nation, Ebb & Flow First Nation, O-Chi-Chak-O-Sipi First Nation, Pine Creek First Nation, Sapotaweyak Cree Nation, Skownan First Nation, Tootinaowaziibeeng First Nation and Wuskwi Sipihk.

Table 1.3 First Nations Population, PMH, 2009 to 2013

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMH First Nations Population</td>
<td>5,574</td>
<td>5,600</td>
<td>5,686</td>
<td>5,716</td>
<td>5,700</td>
</tr>
<tr>
<td>% of overall PMH population</td>
<td>3.5%</td>
<td>3.4%</td>
<td>3.5%</td>
<td>3.5%</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Source: Manitoba Population Report, 2009-2013

The population projection growth for First Nations in Manitoba is significantly higher than the rest of the population. Over the next 30 years, it is estimated that the provincial First Nations population will increase by 8.4% to over 171,000 people. Population projections for First Nations people are not provided at a regional level (HIMB, 2013).
Métis Population

In Manitoba, the Métis population have a greater proportion of young people age 0 to 29, and a lower proportion of mid-aged and older adults when compared to all other Manitobans. All three zones within Prairie Mountain Health have noticeably higher proportions of younger Métis people (particularly 0 to 25 years old) compared to all other Manitobans living in the region. The Métis population in Prairie Mountain Health accounts for 7.0% of residents living in the region.

The North Zone has the highest proportion of Métis people compared to the rest of the region at 16.6%. The Métis populations in the Brandon Zone (5.0%) and South Zone (3.2%) are relatively low in comparison.

Table 1.4 Métis Population, PMH and PMH Zone, 2006

<table>
<thead>
<tr>
<th>Zone</th>
<th>Métis Population 2006</th>
<th>Percentage Métis</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>2,127</td>
<td>3.2%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>2,336</td>
<td>5.0%</td>
</tr>
<tr>
<td>North Zone</td>
<td>5,976</td>
<td>16.6%</td>
</tr>
<tr>
<td>PMH</td>
<td>10,439</td>
<td>7.0%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>73,016</td>
<td>6.6%</td>
</tr>
</tbody>
</table>

Profile of Métis Health Status and Healthcare Utilization 2010

Internal Migration

Internal migrants are people that lived in a different Canadian municipality one year prior to the Statistics Canada Census of 2011 (one-year migration) or at the 2006 Census (five-year migration).

PMH has a high one-year migration rate of 5.1% (3.9% moved within the province) when compared to the provincial rate of 3.3%. The five-year migration rate is also high at 15.5% (10.8% moved within the province) compared to a provincial rate of just 10.5%. Provincial rates are heavily influenced by low migration rates in Winnipeg.

Immigration

In 2011, over 7% of Prairie Mountain Health’s total population (in private households) were of immigrant or non-permanent resident status (2011 National Household Survey). There are several different immigration streams by which individuals and families arrive in the region. These include temporary residents (international students, temporary workers, visitors) and permanent residents (economic class, family class, refugee class, Manitoba Provincial Nominee, etc.).

In 2013, over 7% (almost 3,000) of all Manitoba permanent residents settled in the Southwest and Parklands regions (NOTE: Southwest and Parklands are regional destinations used by Manitoba Labour...
Permanently Resident are people who have been granted the right to live in Canada permanently by immigration authorities including permanent residents who have not yet received their Canadian citizenship.

Foreign Workers are temporary residents who have come to Canada primarily for work. They are issued a work permit, which is an official document that allows individuals who are not Canadian citizens or permanent residents to work in the country.

In addition to permanent residents, PMH communities have also been impacted by temporary foreign workers. Between 2004 and 2012, Brandon experienced average annual flows of 220 temporary foreign workers. During the same time period Brandon also had average annual flows of 62 international students. International Students are students who do not hold Canadian citizenship or permanent resident status in Canada and are here for educational purposes.

Immigrants and newcomers often experience challenges with navigating the health care system. Language barriers and cultural differences impact their experience as well as affect service provision within PMH. PMH has implemented a number of strategies to accommodate the unique needs of newcomers and examples are included throughout the Community Health Assessment. Some examples include:

- Cultural Facilitators employed at the 7th Street Access Centre in Brandon provide language support interpretation for individuals who speak Chinese or Spanish and also organize informational and cultural education sessions for the immigrant communities or service providers.
- PMH recruits multilingual staff when possible and continues to translate materials as resources permit.
- PMH staff noted challenges for newcomers/immigrants who are Citizenship and Immigration Canada (CIC) referrals to Public Health and living in rural communities such as Neepawa. Medical follow up can be a real challenge as the medical needs for CIC referrals cannot be met in some rural communities at this time. Families often need to travel to Winnipeg/Brandon to see
specialists related to these medical requirements. PMH is currently exploring strategies to address these challenges.

- PMH continues to enhance existing partnerships (i.e., Sexuality Education Resource Centre, Settlement Services, Schools, interdepartmental cooperation, Elspeth Reid Family Resource Centre, etc.) to work together for service delivery and improved health outcomes for immigrant families.

Manitoba Labour and Immigration funded settlement services are provided throughout PMH and are a key resource for immigrants and newcomers. In 2013, a significant change was made to settlement services funding by CIC. Funding is now specific to settlement for Permanent Residents only. Settlement programs were no longer able to provide services to Temporary Foreign workers.

Westman Immigrant Services (WIS) is a not-for-profit organization providing settlement, employment and language programs and services to immigrants in Brandon and the Westman area. In addition to providing services, they also liaise with community groups and organizations such as Prairie Mountain Health. Through this partnership WIS works towards building capacity in the community for improving health services to immigrants and providing interpretive services for patient and client care. A number of programs are offered through WIS such as newcomer classes, family programs that teach family law in Canada, family cultural adaptation and culture preservation, and they also assist with employment facilitation. In addition to WIS, settlement services aimed at helping permanent residents with daily life and finding employment are also provided in Russell, Birtle, Rossburn, Roblin, Dauphin, Swan River, Cartwright, Killarney, Boissevain, Neepawa and Virden.

Another regional service provided for newcomers is EAL (English as an Additional Language) classes. These are offered in a number of areas throughout PMH such as Brandon, Carberry, Killarney, Cartwright, Boissevain, Virden, Kola, Souris, Hamiota, Russell, Minnedosa and Neepawa.
Demographics Key Points

- The population of the region in 2013 was 167,121, accounting for 12.9% of the Manitoba population.

- The largest proportion of the PMH population resides in the South Zone (45.0%).

- The gender split of PMH’s population was fairly even at 49.5% male and 50.5% female.

- Over the next 30 years, there is an expected population increase in all age groups within PMH with the most significant being in the population age 65 and over.

- The population projection for First Nations people in Manitoba is significantly higher than the rest of the population.

- The North Zone has the highest proportion of Métis people compared to the rest of the region at 16.6%. The Métis populations in the Brandon Zone (5.0%) and South Zone (3.2%) are relatively low in comparison.

- Immigrants and newcomers often experience challenges with navigating the health care system. Language barriers and cultural differences impact their experience and affect service provision within PMH.

- PMH’s changing population will continue to have a significant impact on health care service in the region. Ongoing planning and enhanced partnerships aimed at addressing the needs of an aging population, newcomers, and aboriginal populations will be vital.
Chapter 2 Determinants of Health and Lifestyle

Determinants of health are the social and economic conditions in which people are born, grow, live, work, and age. These circumstances are shaped by the distribution of money, power, and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities – the unfair and avoidable differences in health status seen within communities.

To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on our health, whereas the more commonly considered factors such as access and use of health care services often have less impact (WHO, n.d.)

There are twelve key social determinants of health:

1. Income and social status – higher income and social status are linked to better health. The greater the gap between the richest and poorest people, the greater the differences in health.

2. Education – low education levels are linked to with poor health, more stress, and lower self-confidence.

3. Employment and working conditions – those who are employed are healthier, particularly those who have more control over their working conditions.

4. Healthy child development – positive early experiences in life have a powerful effect on brain development, school readiness, and health in later life.

5. Personal behaviours and coping skills – balanced eating, keeping active, smoking, drinking, and how we deal with life’s stresses and challenges all affect health.

6. Social support networks – greater support from families, friends, and communities are linked to better health.

7. Social environments – social stability, recognition of diversity, safety, good working relationships, and cohesive communities provide a supportive society that reduces or avoids many risks to good health.

8. Physical environment – safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health.

9. Biology and genetics – inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses.

“The choices we make are shaped by the choices we have”.

Health in Common, Annual Report, 2012
10. Gender – Men and women develop different types of diseases at different ages.

11. Culture – customs and traditions, and the beliefs of the family and community all affect health.

12. Health services – access and use of services that prevent and treat diseases influences health.

While all social determinants of health are important, the focus of this chapter is related to the first five modifiable determinants listed.

**Self-Perceived Health**

As part of the Canadian Community Health Survey, participants are 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”. The self-perceived health of the region’s residents is very similar to the province with only 13% rating it as ‘fair or poor’. At a zone level there was an increased perception of well-being as we move from the North Zone to Brandon and then to the South Zone. The North Zone has the highest percentage of residents who reported their health as ‘fair or poor’ at 16%.

**Table 2.1 Self-Perceived Health by PMH Zone**

<table>
<thead>
<tr>
<th>PMH Zone</th>
<th>Fair/Poor</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>10%</td>
<td>28%</td>
<td>45%</td>
<td>17%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>13%</td>
<td>29%</td>
<td>41%</td>
<td>17%</td>
</tr>
<tr>
<td>North Zone</td>
<td>16%</td>
<td>31%</td>
<td>38%</td>
<td>16%</td>
</tr>
<tr>
<td>PMH</td>
<td>13%</td>
<td>29%</td>
<td>41%</td>
<td>17%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>12%</td>
<td>30%</td>
<td>39%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source: Manitoba Health, Health Information Management, 2014

**Income and Social Status**

Income is the single most important factor that affects the health of a population. As income and social status increase, overall health status also tends to improve. Therefore, higher income earners tend to be healthier than people with lower incomes. Populations with a more equal distribution of income also tend to be healthier than those in which there is a greater income spread between the rich and the poor. Income is often influenced by the level of education achieved.

Median income is that amount which divides the income size distribution of a group into two halves, (i.e. the income of the first half of the group is below the median, while those in the second half are above the median). Median individual income is calculated using the total income (pre-tax, post-transfer) for persons aged 15 and over who reported income in the Census of Canada. Median
household income is calculated for all household units in the Census of Canada, whether or not they reported income.

Table 2.2 Median Income of Individuals and Households, Manitoba and PMH, 2013

<table>
<thead>
<tr>
<th></th>
<th>PMH</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>$27,190</td>
<td>$29,029</td>
</tr>
<tr>
<td>Household</td>
<td>$50,830</td>
<td>$57,299</td>
</tr>
</tbody>
</table>

Source: Statistics Canada Census, 2013

For 2013, the average household income for residents in Prairie Mountain region ($50,830) was 12% lower than the provincial average ($57,299). There was less difference (6.5%) in the average individual income for the region when compared to the province (Census 2013). Data were not available at the PMH zone or district level.

**Low Income**

The prevalence of low income is a measure of the percentage of residents whose income falls below the Statistics Canada Low Income (before-tax) Cut Offs (LICOs). This measure represents income levels at which families or persons not in economic families spend twenty percent more than the average of their before tax income on food, shelter and clothing. LICOs vary according to family size and by the size of the community. LICOs are not referred to as poverty lines by Statistics Canada but it is accepted that LICOs identify the proportion of the population who are substantially worse off than the average.
A lower proportion of residents in Prairie Mountain Health (12.0%) reported an income that fell below the Statistics Canada low income before-tax cut-offs when compared to the provincial average (15.4%) and national average (14.8%). A higher proportion of female residents in the region (13.5%) self-identified as low income when compared to male residents at 10.4%. Data were not available at the zone or district level (Statistics Canada National Health Survey, 2011).

**Children Living in Low Income Families**

Children living in low income is defined as children age 17 and under living in families or persons not in economic families that spend 20 percentage points more than average of their before tax income on food, shelter and clothing.
A lower proportion of children age 17 and under in Prairie Mountain Health (14.4%) were living in low income families when compared to the provincial average (19.1%) and national average (16.1%). A higher percentage of female children lived in low income families (16.3%) in PMH than male children (12.5%). This trend was not observed provincially where 19.6% of children living in low income families were female and 18.7% were male (Statistics Canada NHS 2011). Data were not available at the PMH zone or district level.

**Socioeconomic Status**

Socioeconomic status (SES) is defined as the social and economic ranking of a person or group in comparison to the rest of the population (Census of Canada, 2006). Socioeconomic conditions are measured using indicators such as household income, educational level attainment, employment and housing. This is an important indicator to measure because SES is directly related to health outcomes of certain populations. Low SES has shown to be a strong predictor of a range of physical and mental health problems.
Socioeconomic Factor Index (SEFI)

The Socioeconomic Factor Index (SEFI) reflects the social determinants of health using four variables: average household income, proportion of single parent households, unemployment rate for residents aged 15 and older, and proportion of population aged 15 and older without high school graduation. A value of zero represents the Manitoba average. Lower scores indicate better socioeconomic status while scores greater than zero indicate worse status.

Figure 2.3 Socioeconomic Status by PMH District, 2001 and 2006
Score on MCHP’s Socioeconomic Factor Index (SEFI)

Socioeconomic status improved for residents in Prairie Mountain Health over the two time periods from 0.21 in 2001 to 0.16 in 2006; however the improved regional ranking remained lower (worse) than the provincial status. The North Zone (0.7) and South Zone (0.1) were below the provincial status whereas the Brandon Zone sat higher on the SEFI with a score of -0.2 (Fransoo R et al., October 2013).

At the district level, Agassiz Mountain, Porcupine Mountain and Brandon Downtown were significantly worse off in the second time period when compared to the provincial average, while Brandon West End scored significantly better than the Manitoba average in the second time period.

The lowest SEFI score (best status) was found in Brandon West End District at -0.6. The highest SEFI score (worst status) was found in Porcupine Mountain at 1.3.

Source: MCHP RHA Indicators Atlas, 2013
Social and Material Deprivation

Social and material deprivation is defined as small-area based composite indices calculated from Canadian Census data which reflect the deprivation of wealth, goods and conveniences (material deprivation), and the deprivation of relationships among individuals in the family, the workplace, and the community (social deprivation). The material deprivation index includes average household income, the unemployment rate of the population aged 15 and older, and the proportion of the population aged 15 and older without high school graduation. The social deprivation index includes the proportion of the population aged 15 and older who are separated, divorced, or widowed, the proportion of the population that lives alone, and the proportion of the population that has moved at least once in the past five years. Scores on these indices range from -5 to +5. Lower scores (e.g. below zero) indicate better status or less deprivation, while scores higher than zero indicate worse status or more deprivation.

Overall Prairie Mountain Health was similar to the provincial average in terms of social deprivation but scored significantly worse with material deprivation when compared to the Manitoba average. This trend was also evident in the North and South Zones. However the opposite pattern was seen in the Brandon Zone with deprivation scores indicating significantly better scores for material deprivation and significantly worse scores for social deprivation. These results suggest that residents in the North and South Zones face greater challenges in terms of income, education, and employment while the social fabric in the Brandon Zone may be weaker with more people living alone, more residents separated, divorced or widowed and a higher degree of residential instability.
Considerable differences in both social and material deprivation were noted at the district level. The lowest Material Deprivation score (best status) was found in Brandon West End District at -0.6 while the highest scores (worst status) were found in Agassiz Mountain (1.4) and Porcupine Mountain (1.7).

The lowest Social Deprivation score (best status) was found in Porcupine Mountain (-0.7) while the highest scores (worse status) were found in Dauphin (0.8) and Brandon Downtown (1.2).

**Lone Parent Families**

A lone parent family is defined as a family with only one parent of any marital status, with at least one child. Living in a lone parent family can be a risk factor for poorer health. Risk factors associated with lone parent families are lower socioeconomic status and increased parental stress.
Table 2.3 Lone Parent Families, Manitoba and PMH, 2011 and 2013
Percent of lone parent families living in private households by sex

<table>
<thead>
<tr>
<th></th>
<th>PMH 2011</th>
<th>Manitoba 2011</th>
<th>PMH 2013</th>
<th>Manitoba 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.1%</td>
<td>3.8%</td>
<td>3.2%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Female</td>
<td>11.3%</td>
<td>13.3%</td>
<td>11.4%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Total</td>
<td>14.5%</td>
<td>17.1%</td>
<td>14.6%</td>
<td>17.1%</td>
</tr>
</tbody>
</table>


In 2013, 14.6% (6,495 families) of all census families in Prairie Mountain Health were one parent families. This was slightly lower than the Manitoba rate of 17.1%. The proportion of lone parent families in PMH and the province have remained consistent over the two reporting periods. In PMH, 78.3% of lone parent families were headed by a female (Census, 2011). Data were not available at the PMH zone or district level.

**Housing**

Housing is a critical component of a person’s environment. Living in poor housing conditions including indoor air pollution caused by moulds and off gassing from modern materials has been linked to respiratory conditions, lead poisoning, injuries from falls and decreased mental health (Kreiger J. & Higgins D.L., 2002). Those who cannot access affordable housing may experience increased levels of stress and feel more vulnerable and insecure (Mikkonen J. & Raphael D., 2010). A household is considered to be in core housing need if it does not meet one or more of the adequacy, suitability, or affordability standards and it would have to spend 30% or more of its before-tax income to pay the median rent (including utility costs) of alternative local market housing that meets all three standards (Lewis R., 2009).

Housing affordability is defined as the percentage of the population that reported spending more than 30% of a household's average total income on shelter-related expenses. Those expenses include the monthly rent (for tenants) or the mortgage payment, property taxes and condominium fees (for owners) and utility costs.

Table 2.4 Housing Affordability, Manitoba and PMH, 2013
Percent of residents who reported spending more than 30% of total household income on shelter costs

<table>
<thead>
<tr>
<th></th>
<th>PMH</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>14.7%</td>
<td>19.3%</td>
</tr>
</tbody>
</table>

Source: Statistics Canada Census, 2013

In 2013, the proportion of residents in the region that reported spending more than 30% of their income on housing was lower (14.7%) than the provincial average (19.3%). The average monthly shelter costs...
for an owned dwelling in PMH was $677 compared to Manitoba at $901 (Census 2013). Data were not available at the PMH zone or district level.

**Affordable Housing Strategy – City of Brandon**

Studies have shown that housing plays a significant and independent role in health outcomes of a population. Access to safe and affordable housing is an increasing issue for many residents in the region. In response to changes in population growth trends and housing market conditions, the City of Brandon developed an Affordable Housing Strategy in September 2013. Local developers, not-for-profit organizations and service providers were consulted to develop strategies and actions that will move the community toward its vision of ensuring each person in Brandon has the opportunity to secure housing that is adequate and affordable for their individual circumstances. The report contains 81 recommendations that could assist in addressing Brandon’s primary housing issues.

**Safe and Warm Shelter**

With a rental vacancy rate that has hovered at or below 1% for the past decade, emergency and transitional housing units full, and increasing rental rates, some of those with limited means and/or barriers to securing housing live on the street in Brandon. During the winter of 2012/13, a group of concerned service providers came together, with the support of the United Way and the City of Brandon, to provide emergency shelter in local churches for the absolute homeless on days when the weather dipped below -15. Knowledge gleaned from the pilot year was used to improve the emergency shelter operations for 2013/14.

As a result of the lessons learned, the shelter was open every night between December 2013 and March 2014 rather than depending upon weather, which can change significantly over the course of an evening. Additional partners were invited to be part of the committee and one consistent location was secured for the emergency shelter. The enhanced shelter registration process now emphasizes connecting those seeking shelter to the resources necessary to secure longer term housing. As a result, 17 individuals who accessed the shelter were able to secure longer term housing (Economic Development Brandon, 2014).

**Education**

Health status increases with level of education. Education attainment is widely acknowledged as a key component of socioeconomic status and is positively associated with health. People with less education are more likely to have low paying jobs that are not very satisfying. They may also be at higher risk for occupational injuries. The lack of a high school diploma remains a significant predictor of negative outcomes: lower earning potential, higher rates of unemployment, higher rates of reliance on social assistance, higher rates of teen motherhood, and poorer health overall.

Higher levels of education also improve people’s ability to access and understand information to keep themselves healthy. Education is an important characteristic to consider in health planning as it helps to determine appropriate and effective communication mechanisms with the people we serve.
Education level is defined as the highest level of schooling attainment (less than high school, high school, trades, college and university). Education level includes all residents age 15 years and older.

### Table 2.5 Education Level, Manitoba and PMH, 2011 and 2013

<table>
<thead>
<tr>
<th></th>
<th>PMH 2013</th>
<th>MB 2013</th>
<th>PMH 2011</th>
<th>MB 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>No High school Diploma</td>
<td>28.6%</td>
<td>25.2%</td>
<td>28.7%</td>
<td>25.1%</td>
</tr>
<tr>
<td>High school diploma or equivalent</td>
<td>27.3%</td>
<td>26.2%</td>
<td>27.4%</td>
<td>27.7%</td>
</tr>
<tr>
<td>Post-secondary</td>
<td>43.9%</td>
<td>47.3%</td>
<td>43.8%</td>
<td>47.1%</td>
</tr>
</tbody>
</table>

Source: Statistics Canada Census, 2013

The proportion of residents living in the PMH region without a high school diploma was higher than the provincial rate for both reporting periods while the proportion of residents with a high school diploma or equivalent was similar when compared to the provincial average. The proportion of PMH residents with some level of post-secondary education was lower than the Manitoba rate (43.9% vs. 47.3%). Data were not available at the PMH zone or district level.

### Employment

Meaningful employment and job security are important factors that influence health. As well as the money received from work, employment also provides a sense of identity, purpose and social contact.

### Labour Force Participation

Labour force participation is a measure of equity and is key indicator of long term economic growth. The indicator is defined as the percentage of the population aged 15 years and over, who were in the labour force in the week prior to the Census of Canada.

### Table 2.6 Labor Force Participation Rate, Manitoba and PMH, 2011

<table>
<thead>
<tr>
<th></th>
<th>PMH</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>66.4%</td>
<td>67.3%</td>
</tr>
</tbody>
</table>

Source: Statistics Canada Census, 2011

For 2011, the proportion of PMH residents aged 15 and older that was in the work force was similar to the provincial average. Data are not available at the PMH zone or district level.

### Unemployment Rates

Unemployment has been consistently linked to poorer health and is an indicator of socially disadvantaged status. It may be associated with increasingly difficult living conditions, low SES and
health and social problems. Unemployment is a significant risk factor for poor physical and mental health and therefore a major determinant for health inequality.

The unemployment rate refers to the average percentage of people in the labour force, 15 years of age and over, who did not have a job during a specific reference week.

Table 2.7 Unemployment Rates, Manitoba and PMH, 2011
Percent of labor force aged 15 and older identified as not having a job

<table>
<thead>
<tr>
<th></th>
<th>PMH</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>5.9%</td>
<td>6.2%</td>
</tr>
</tbody>
</table>

Source: Statistics Canada Census, 2011

In 2011, the employment rate for residents in Prairie Mountain Health aged 15 and older of 5.9% was consistent with the provincial rate of 6.2% (Census 2011). Data were not available at the PMH zone or district level.

Healthy Child Development

Dental Extractions

Good oral health is a key component to a healthy life. The promotion of good oral health habits such as making healthy food choices, brushing teeth twice a day with fluoridated toothpaste, regular flossing and visits to a dentist can all help to prevent decay and maintain a healthy mouth for a lifetime (Canadian Dental Association, n.d.).

The presence of decay in the primary teeth in children less than six years old can often progress to more rampant disease processes called severe early childhood caries (ECC). ECC is an infectious, transmissible, diet-dependent disease that may begin soon after dental eruption and may progress rapidly. Some of the consequences of ECC are acute and chronic pain, interference with eating, sleeping and proper growth, tooth loss and poorer general health overall. Dental surgery for ECC under general anesthesia is the most common day surgery procedure at most pediatric hospitals in Canada (Canadian Dental Association, 2010).

Dental extractions among young children is defined as the number of dental extractions performed on residents aged 0 to 5 per 1,000 residents aged 0 to 5 years. The rate of dental extractions among children under the age of six in Prairie Mountain region remained significantly lower than the provincial average for both reporting periods, 9.0 vs. 15.0 for 2007/08-2011/12. Similar to the provincial trend, a significant decrease over time for the region was also noted.

Although the rate of dental extractions among young children in PMH was significantly lower overall than the provincial average, substantial differences were noted at the zone level. The extraction rate for children living in the North Zone (14.3/1,000) was considerably higher than for children living in the
South Zone (8.2/1,000) and more than twice as high as the Brandon Zone (5.9/1,000) (Fransoo R et al., October 2013).

Figure 2.5 Dental Extraction Surgery Rate by PMH District, 2002/03-2006/07 and 2007/08-2011/12
Crude average annual rate per 1,000 residents under age 6

Marked differences in dental extraction surgery rates were noted at the district level throughout the region. Dental surgery rates for the majority of districts were either significantly lower than the provincial average or similar to the provincial rate for both time periods. Porcupine Mountain however remained significantly higher than the province for both reporting periods at 26.9/1,000 vs. 15.0/1,000 for 2007/08-2011/12. Agassiz Mountain was significantly higher than the province in the first time period but similar to the provincial average for the second time period.

In both urban and rural areas, there were significant relationships with income in both time periods: residents of lower income areas had dramatically higher rates and rural rates were much higher than urban rates.
Healthy Weight

Obesity

Obesity is a complex issue that involves a range of biological, behavioural and societal factors. Physical activity, sedentary behaviours, screen time, diet and socioeconomic status can all contribute to increased body weight. Links have been made between obesity and chronic health conditions including type 2 diabetes, asthma, gallbladder disease, osteoarthritis, chronic back pain, cancers and cardiovascular disease (Report on the State of Public Health in Canada, 2014).

Body Mass Index

The body mass index (BMI) is a common measure based on height and weight that is used to determine healthy and unhealthy weights. It is the most widely used diagnostic tool to identify weight problems within a population because of its ease of measurement and calculation.

Table 2.8 Body Mass Index by PMH Zone
Age and sex-adjusted percent of weighted sample aged 18+

<table>
<thead>
<tr>
<th>Zone</th>
<th>Underweight/Normal</th>
<th>Overweight</th>
<th>Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>40%</td>
<td>35%</td>
<td>25%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>45%</td>
<td>34%</td>
<td>21%</td>
</tr>
<tr>
<td>North Zone</td>
<td>35%</td>
<td>36%</td>
<td>29%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>44%</td>
<td>36%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Source: Manitoba Health, Health Information Management, 2014

Thirty-five percent of the region’s residents aged 18 years and older were estimated to be overweight with 24% classified as obese. Forty-one percent (41%) were considered to be either underweight or of normal weight. Some fluctuation is noted at the zone level in particular between the Brandon and North zones. A higher proportion of residents in the Brandon Zone (45%) were underweight or considered to be normal weight when compared to the North Zone (35%). A similar trend was also observed among the proportion of the population in the Brandon and North zones who were classified as obese (21% vs. 29%) (Manitoba Health, Health Information Management, 2014).
There is substantial variation in BMI measures among residents in Prairie Mountain Health at the district level. The proportion of the population age 18 years and older estimated to be underweight or normal weight was highest in Brandon North Hill at 56% followed by Brandon Downtown at 46% and Brandon East End and Little Saskatchewan, both at 45%. A total of 43% of those living in Duck Mountain were estimated to be overweight compared to a low of 29% of residents in Brandon Downtown. A district level analysis of BMI showed a significantly lower rate of overweight in Brandon North Hill (13%) and higher rates in Agassiz (33%) and Porcupine Mountain (33%).

**Youth and Healthy Weight**

A Youth Health Survey was completed with students from Grades 7 to 12 across Prairie Mountain Health in the fall and winter of 2011/12. Students were asked to report their weight and height. We then calculated their Body Mass Index (BMI) using the CDC’s BMI guidelines for Children and Teens (CDC 2011a). For youth, BMI is age- and sex-specific and is often referred to as BMI-for-age.
Overall, 70% of students fell within the healthy weight category for their age and sex, 4% fell within the underweight category for their age and sex, and 27% fell within the overweight/obese category for their age and sex. A higher proportion of male youth (31%) were within the obese category when compared to female youth at 23%.

**Major Risk Factors**

**Healthy Eating**

Healthy eating is an important component of a healthy lifestyle. Community dietitians are integral members of the regional Health Promotion Teams and partner with communities, schools, daycares, recreation facilities and other groups throughout the region. The Health Promotion Teams advocate healthy eating for good health and to prevent chronic disease through a variety of programs and activities. Some of the activities the community dietitians are involved in are presentations in school and throughout the community, cooking classes, grocery store tours, weight loss classes, and Nutrition Month.
Fruit and Vegetable Consumption

Health Canada’s Guide to Healthy Eating recommends that individuals eat between 5 and 10 servings of fruit and vegetables per day depending on age and gender. Using data from the Canadian Community Health Survey (CCHS), survey respondents aged 12 and older were grouped into two categories – those eating fruits and vegetables 0 to 4 times per day and those eating fruits and vegetables 5 or more times per day.

Results from the CCHS suggest that 35% of residents aged 12 and over residing in PMH consume at least 5 servings a day which is slightly, but not significantly, lower than the provincial average at 37%. Fruit and vegetable consumption in the Brandon Zone was lower (30%) than the provincial rate and the difference is significant.

Districts within the region that reported the highest daily consumption of fruits and vegetables 5 or more times per day are Whitemud (42%), Little Saskatchewan (41%) and Spruce Woods (39%). The districts with the lowest consumption were Brandon North Hill (21%) and Brandon South End (26%).
Canada’s Food Guide recommends that young people eat seven (females) or eight (males) servings of fruits and vegetables per day (Health Canada, 2011b). The majority of Canadian students report eating less than one serving per day (Janssen, 2008).

A total of 37% of youth in grades 7 to 12 in Prairie Mountain Health reported eating fruit and/or vegetables 7 or more times per day while 21% reported eating fruits and/or vegetables 2 times or less per day. No significant differences were noted between male and female respondents.

**Salty and Sugary Snacks and Fast Foods**

With the already demanding schedule of youth and their families, more youth are eating unhealthy snacks, fast food, and pre-prepared/instant food in lieu of balanced meals. Fast and pre-prepared/instant food items do not necessarily follow recommended portion sizes, tend to be higher in fat, sodium, sugar, and calories in general, and have lower nutritional value (Booth, Pinkston, & Carlos Poston, 2005). Access to fast and pre-prepared/instant food items at school, in convenience stores, and at recreational facilities also increases intake by youth (He et al., 2012).

In the Youth Health Survey, PMH students were asked how often they consumed salty/sugary snacks and fast food on a daily basis. Overall, the vast majority of students consumed salty or sugary snacks or fast food 2 times or less per day however 24% of students reported eating salty and sugary snacks three or more times per day and 7% of students reported eating fast food three or more times per day.

**Breakfast Habits**

Eating breakfast, at home or school, improves youth’s memory, concentration levels, problem-solving abilities and creative thinking; it reduces hunger and maintains a healthy weight (Healthy Child Manitoba, 2006).

In the Youth Health Survey, PMH students were asked about their breakfast habits. Overall, 25% reported that they do not usually eat breakfast. The proportion of students who do not eat breakfast and reasons for not doing so are:

- 63% reported they do not have time for breakfast
- 33% reported they cannot eat early in the morning
- 4% reported there is not always enough food in the home.

**Food Security**

A substantial increase in housing costs over the past several years in Brandon has resulted in many residents directing more of their disposable household income towards housing and away from their food budget. According to anecdotal reports from service providers, this trend has created insecurity in clients’ ability to access healthy foods in quantities required to maintain health.
In the summer of 2013, a research study was conducted by Brandon University and the Brandon Neighbourhood Renewal Corporation to explore issues with food security in Brandon as a foundation to develop a coordinated strategy for the city. Ethics approval was received in April 2013, certificate #21436. A total of seven Food Cafes, or focus groups, were conducted with community residents. Food Cafes provided the opportunity to bring community residents together to talk about their experiences with food – not just what they eat, but also where they purchase their food, why they choose the foods they do, how easily they are able to prepare meals, and various related challenges.

Two focus groups were held for the general public as well as a session targeting populations of interest including newcomers to Brandon, individuals and families self-identified as living within low income levels, military members and their families and various services providers serving low income residents. Overall, a total of 46 individuals participated in the focus groups.

Based on the themes identified through the Food Cafes, a broader research study titled, Assessing Equity within Brandon’s Foodscape, was conducted in 2014 (Ethics approval certificate #21590). Research methodology included a web-based survey, key informant interviews, an environmental scan and GIS mapping of existing food sources. The intent of this comprehensive assessment was to develop recommendations for future food-related programming and policy development.

Recommendations from the study include:

- Implement and/or expand effective programs as identified in the literature such as the Good Food Box, Collective Kitchens, Fruit Share, roof top garden plots and education sessions such as budgeting
- Enhance public awareness regarding organic, local and ethically produced food products, foods available locally and appropriate foods for donation. Advocate for a community garden for every public school, delivery options by local grocery stores, and municipal policy regarding location of convenience stores (McPherson N, 2013).

**Physical Activity**

Appropriate levels of physical activity have been demonstrated to promote normal growth and bone development, foster psychological well-being, self-esteem, and social development, to help maintain a healthy body weight, and to reduce the risk of several chronic diseases including diabetes, high blood pressure, heart disease, and cancer.
Twenty-six percent of the region’s residents aged 12 years and older were classified as being active compared to the provincial average of 30%. A slightly higher proportion of PMH residents were classified as inactive (47%) when compared to the province overall (45%). Substantial differences were not observed between the three zones.

Table 2.9 Physical Activity Level (Leisure + Travel) by PMH Zone
Age - and sex-adjusted percent of weighted sample aged 12+

<table>
<thead>
<tr>
<th>Zone</th>
<th>Active</th>
<th>Moderate</th>
<th>Inactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>25%</td>
<td>28%</td>
<td>47%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>27%</td>
<td>29%</td>
<td>44%</td>
</tr>
<tr>
<td>North Zone</td>
<td>28%</td>
<td>25%</td>
<td>47%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>30%</td>
<td>26%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Source: Manitoba Health, Health Information Management, 2014

Figure 2.9 Physical Activity Level (Leisure + Travel) by PMH District
Age - and sex-adjusted percent of weighted sample aged 12+

Source: Manitoba Health, Health Information Management, 2014
At the district level, the highest proportion of ‘active’ residents lived in Asessippi (32%) followed by Duck Mountain (31%), Brandon South End (31%), and Brandon West End (31%). Districts with the lowest proportion of ‘active’ residents were Souris River (18%), Brandon North Hill (21%), and Brandon East End (22%). There were four districts in the region with greater than 50% of the residents classified as ‘inactive’; Turtle Mountain (57%), Souris River (53%), Whitemud (52%) and Riding Mountain (51%).

**Activity limitation**

Activity limitations are determined by survey respondents’ answers to questions on the frequency that they experience activity limitations related to long-term physical and/or mental health problems.

In Prairie Mountain Health, 34% of residents reported having some form of limitation when it comes to physical activity. This is consistent with the provincial rate of 35%. The North Zone (35%) and Brandon Zone (36%) are also similar to the province. The South Zone reported fewer residents with limitations at 33% (Fransoo R et al., October 2013).

**Figure 2.10 Activity Limitation by PMH District**

Age - and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 3.1 (2005), 2007-2008, and 2009-2010

Source: Manitoba Health, Health Information Management, 2014
There is no strong variation between the districts in the region in regards to activity limitations. The districts with the highest proportions of residents reporting limitations are Brandon Downtown, Brandon South End and Porcupine Mountain all at 39%. The districts with the lowest rate were Swan River at 31% and Duck Mountain at 28%.

**Physical Functioning**

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.

Prairie Mountain Health is similar to the province with 51% of respondents reporting perfect physical functioning. Results are similar at the zone level – North (52%), South (52%) and Brandon (50%).

**Figure 2.11 Physical Functioning by PMH District**

Age - and sex-adjusted percent of weighted sample aged 12+ from combined CCHS cycles 3.1 (2005), 2007-2008, and 2009-2010

Source: Manitoba Health, Health Information Management, 2014
Some variation is observed at the district level. The top four districts with the highest proportion of residents self-reporting perfect physical functioning were Swan River (58%), Little Saskatchewan (57%), Turtle Mountain (56%), and Souris River (56%). Agassiz Mountain (44%) and Asessippi (45%) had the lowest rates in the region.

**Students’ Physical Activity Rates**

As part of an effort to increase physical activity levels, Manitoba Education mandated the amount of time that Kindergarten to Grade 10 students spend in Physical Education/Health Education (PE/HE) classes in 2007. Grade 11 and 12 PE/HE were made compulsory in 2008.

Students were asked to report how much hard/vigorous and moderate physical activity they did each day for the previous week and then calculated their level of physical activity.

![Figure 2.12 Physical Activity Rate in PMH Students by Grade, 2012](source: PMH Youth Health Survey, 2012)

Overall, 52% of students who completed the Youth Health Survey were active, 32% were moderately active and 15% were inactive. The proportion of students who self-reported being ‘moderately active’ increased by 1% by grade level. A substantial decline in physical activity level was observed among those who self-reported being ‘active’: from 57% in grade 7 to 48% by grade 12.
Alcohol and Substance Use

Alcohol abuse is associated with motor vehicle and aquatic injuries and deaths, vandalism, alcohol poisoning, and violence. Harmful use patterns started young and carried into adulthood exacerbate these problems, and chronic alcohol abuse may lead to a number of acute and chronic disease conditions.

Binge Drinking

Using data from the Canadian Community Health Survey (CCHS), survey respondents aged 12 and older were grouped into two categories – those who have had 5 or more drinks on one occasion, once per month and those who have had 5 or more drinks on one occasion, less than once per month.

The number of PMH residents that report having 5 or more drinks on one occasion at least once a month (27%) is slightly higher than the provincial rate (24%). Higher binge drinking rates are reported in the South Zone (30%) compared to the North Zone (24%) and Brandon Zone (25%).

Figure 2.13 Binge Drinking by Prairie Mountain Health District
Age - and sex-adjusted percent of weighted sample aged 12+

Source: Manitoba Health, Health Information Management, 2014
Considerable differences in the rate of binge drinking were observed across the districts. Asessippi had the highest rate at 40% and Riding Mountain reported the lowest rate at 20%.

**Youth Binge Drinking**

According to the Atlantic Alcohol Risk Continuum, 11.5% of Manitoba’s Grade 7/8 students and 17% of Manitoba’s Grade 9 to 12 students meet the criteria of being at high risk for alcohol dependency (Friesen, Lemaire, & Patton, 2008).

Binge drinking is defined as five or more drinks within a couple of hours. Nationally, 19 to 30% of Canadian students (ranging by province) and 27% of Manitoba students reported drinking five or more drinks on a single occasion within the month prior to being surveyed (Young et al., 2011).

![Figure 2.14 Binge Drinking (in the Past Month) in PMH Students by Grade, 2012](image)

Students were asked about drinking five or more drinks within a couple of hours. One quarter (25%) of all grade 7 to 12 students reported consuming five or more drinks of alcohol within a couple of hours on at least one day in the past month. By grade 11-12, a substantially higher proportion of students (46%) reported binge drinking on one or more days in the past month.
Substance Abuse

Substance abuse is defined as the percent of residents aged 10 years and older diagnosed with substance abuse (alcoholic or drug psychosis, alcohol or drug dependence or non-dependence abuse of drugs) in one or more physician visits or hospital abstracts over a 5 year period.

In PMH, the prevalence in the time period 2007/08-2011/12 was 5.73%. This is an increase from the reported rate of 4.97% in 2002/03-2006/07. The substance abuse rate for Manitoba in the second time period was 4.97% (2007/08-2011/12) (Fransoo R et al., October 2013).

Figure 2.15 Prevalence of Substance Abuse by PMH District, 2002/03-2006/07 and 2007/08-2011/12

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

The districts with the highest prevalence of substance abuse are Brandon Downtown (8.37%) and Brandon East End (7.14%). The district with the lowest rate is Whitemud at 3.21%. Over seventy percent of the districts have seen an increase in substance abuse over the two time periods with the most significant being in Swan River (4.1% to 6.1%) and Porcupine Mountain (5.6% to 7.0%).

Youth Marijuana and Other Drug Use

Aside from alcohol and cannabis, ecstasy is the most prevalent drug (4 to 7% report lifetime use), followed by inhalants (2 to 4% report lifetime use) used by Canadian youth. It is estimated that 22% of
Manitoba students reported past-year marijuana use and 13% of Manitoba students reported past-month marijuana use (Young et al., 2011).

PMH students were asked about their substance use in the Youth Health Survey:

- In the past year, 22% of all students reported using an illegal, prescription or over-the-counter drug for the purposes of getting high. A total of 19% of all students reported using marijuana or hashish in the past year.

- In the past month, 16% of all students reported using an illegal, prescription or over-the-counter drug for the purposes of getting high. The most common type of drug used in the past month was marijuana/hashish (13%) (Youth Health Survey, 2012).

**Addictions Foundation of Manitoba**

The Addictions Foundation of Manitoba offers a number of services throughout the region for residents that are dealing with substance abuse issues. These services include residential treatment programs in Brandon and St. Rose du Lac. The residential program is a short term (21 to 28 day) stay that consists of individual and group counselling, discussion groups, lectures, audio-visual technology, assignments and handout materials. While in the program clients may be linked with a physician to address their physical health needs and if needed, links are also established with psychological service providers. In locations where there are a high percentage of Aboriginal clients, the program may incorporate cultural specific sessions and make provisions for traditional practices such as sweet grass ceremonies and sharing circles. Community based treatment programs for individuals experiencing problems with alcohol, drugs and/or gambling are also available.

**The Unity Ride**

The Unity Ride has its beginnings with the Lakota/Dakota/Nakota tribes from the U.S. and Canada who were inspired by a spiritual leader to “work for change and let the world know how beautiful our way of life is, so the Seventh Generation can have a better life.” The original Unity Ride took place in 1986 and continued through to 1989, whereby horse and riders gathered to fulfill the prophecy known as *Mending the Sacred Hoop of the Nation* which involved healing journeys to sacred sites to remember events in history where ancestors endured hardship and death. Symbolically, the Unity Rides carried on reuniting All-Tribes to raise awareness of other Aboriginal historical events and current day issues.

For the second year running, a Unity Ride was organized in August 2014 by the Birdtail, Canuapwakpa and Sioux Valley Dakota Nations, and Waywayseeecappo First Nation. The Unity Ride drew attention to the misuse and abuse of prescription drugs with the goal to raise awareness and provide information to deal with a problem that is not Aboriginal-specific but highlight the impact on First Nation communities. Each First Nation community was represented by riders, community workers, staff from the health centres, volunteers and helpers from outside the community who worked together to bring the issue forward to finds ways to help each other. The Unity Ride incorporates the importance of traditional and
cultural teachings to promote living the simple life in comparison to lives wasted and dishonored by addictions. Another Unity Ride is planned for 2015.

**Smoking and Tobacco Use**

Tobacco use remains the leading cause of death from lung cancer and chronic obstructive pulmonary disease (COPD) in Manitoba. Although the smoking rates in the province have declined with the initiation of programs such as Journey2Quit, Lungs Are For Life and the Blue Light Project, there continues to be more than 185,000 Manitobans that currently smoke and the highest number of teenagers that smoke in the country. Despite years of public education, smoke free legislation, tax increases and more, 19% of Manitobans aged 15 and older still smoke (Lung Association of Manitoba, 2013).

![Figure 2.16 Tobacco Smoking Rates by Prairie Mountain Health District](image)

*Source: Manitoba Health, Health Information Management, 2014*
Tobacco Smoking Rates

The rate of current smokers in Prairie Mountain Health remains the same as the province at 20% and the region has a slightly higher percentage of former smokers. The North Zone and South Zone rate of current smokers is higher than the province at 21% but the Brandon Zone is the same at 20%.

The highest percentage of current smokers live in the Brandon East End (31%) and Whitemud (29%) districts while the lowest percentage reside in the Turtle Mountain (16%) and Swan River (17%) districts. Brandon East End and Whitemud districts are statistically different from the provincial rate of 20%. Brandon South End (55%) and Porcupine Mountain (49%) districts have the highest percent of former smokers in the region (Fransoo R et al., October 2013).

Tobacco Use in Children

Manitoba has the highest rate of teenage smokers in the country with an estimated 11% of children ages 15 to 19 currently using some form of tobacco each day. This number is higher in males than in females. In the 2013 Youth Health Survey, Prairie Mountain Health students identified their tobacco use trends and indicated that 14% consider themselves to be a current smoker. The percent of students smoking increases as they get older with 25% of grade 12 students using tobacco.

Table 2.10 Smoking Status in PMH Students by Grade, 2012

<table>
<thead>
<tr>
<th>Grade</th>
<th>Current Smoker</th>
<th>Non-Smoker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 9</td>
<td>13%</td>
<td>87%</td>
</tr>
<tr>
<td>Grade 10</td>
<td>17%</td>
<td>83%</td>
</tr>
<tr>
<td>Grade 11</td>
<td>23%</td>
<td>77%</td>
</tr>
<tr>
<td>Grade 12</td>
<td>25%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Source: PMH Youth Health Survey, 2012

Exposure to Second Hand Smoke

Second-hand smoke (SHS) is also known as environmental tobacco smoke (ETS) and when non-smokers are exposed to SHS it is called involuntary smoking or passive smoking. Non-smokers who breathe in second-hand smoke take in nicotine and toxic chemicals by the same route regular smokers do. Second-hand smoke causes numerous health problems particularly in infants and children, including more frequent and severe asthma attacks, respiratory infections, ear infections, and sudden infant death syndrome (SIDS). Some of the health conditions caused by second-hand smoke in adults include coronary heart disease, stroke, and lung cancer (Centre for Disease Control and Prevention, 2014).
Exposure to second-hand smoke rates in Prairie Mountain Health were slightly higher than the province at 12%. The North, South and Brandon Zones are all higher than the provincial rate of 11%, with the highest being in the North Zone at 14%.

The highest percentage of the population exposed to second hand smoke at home were in the Whitemud (18%), Riding Mountain (18%) and Agassiz Mountain (21%) districts with the lowest percentage of residents living in Brandon North Hill (6%), Brandon West End (9%) and Souris River (9%) districts.

Children Exposed to Second-hand Smoke

Second-hand smoke can cause serious health problems in children. They are particularly vulnerable to the effects of second-hand smoke because they are still developing physically, have higher breathing rates than adults, and have little control over their indoor environments. Studies show that older children whose parents smoke get sick more often. Their lungs grow less than children who do not breathe second-hand smoke, and they get more cases of bronchitis, ear infections and pneumonia.
Wheezing and coughing are more common in children who breathe second-hand smoke and can trigger an asthma attack in a child. Children with asthma who are around second-hand smoke have more severe and frequent asthma attacks and this can put a child's life in danger (Environmental Protection Agency, 2012).

In the Youth Health Survey, a total of 25% of Prairie Mountain Health students reported that they are exposed to second-hand smoke every day or almost every day. When asked where they are exposed to second-hand smoke, 56% responded ‘in public’.

An effort to reduce the exposure of children to second-hand smoke with provincial legislation preventing the use of all lighted tobacco products in vehicles carrying children age 16 and younger was brought into law in July 2010 (Highways Control Act, 2010).

**Social Support Networks**

**Healthy Together Now**

Healthy Together Now (HTN), formerly the Chronic Disease Prevention Initiative (CDPI), has evolved from a five-year demonstration project to an on-going initiative supporting communities across Manitoba in their chronic disease prevention efforts. Healthy Together Now projects are community-led, regionally coordinated and government supported. Healthy Together Now activities work to address the three major risk factors that lead to chronic disease: smoking, physical inactivity and unhealthy eating. Healthy Together Now supports Manitobans to live smoke-free, encourages healthy eating, promotes active living, and supports mental wellbeing. Participating communities throughout the Prairie Mountain region develop programs and activities to address the risk factors affecting their community. These activities can reach community members of all ages at home, at school, at work and in their community.

The goals of Healthy Together Now are to:

- Support community-led prevention activities
- Get organizations, communities, regions, and government working together to prevent chronic disease
- Join with and build on existing prevention programs
- Increase skills, knowledge and ability to carry out prevention programs to address different levels of health.

Examples of Healthy Together Now projects include community gardens, cooking classes, mother/daughter wellness days, teaching fundamentals of sports such as curling and basketball and local festivals.
Get Better Together!

Get Better Together! is a free six-week workshop for people with ongoing health conditions to take control of their health. It is a self-management program for anyone living with a chronic disease, ongoing health concern, or disability, from type 2 diabetes, heart disease, arthritis and chronic pain, to Parkinson’s, asthma, depression, and cancer. The program consists of workshops delivered in a community setting. People with chronic conditions discuss solutions for frustration, fatigue, pain, and isolation, effective communication with health professionals and appropriate exercise and nutrition. Participants receive a copy of the book, Living a Healthy Life with Chronic Conditions and they are welcome to bring a support person to the sessions. The workshops are led by trained volunteer peer leaders who are themselves coping with chronic conditions, which is one component that makes the program so successful. Get Better Together! has been offered in a number of communities across Prairie Mountain Health.

Culture

Culture and ethnicity are important factors that influence health. Cultural differences affect patients’ attitudes about medical care and their ability to understand, manage, and cope with the course of an illness, the meaning of a diagnosis, and the consequences of medical treatment. Patients and their families bring culture specific ideas and values related to concepts of health and illness, reporting of symptoms, expectations for how health care will be delivered, and beliefs concerning medication and treatments. In addition, culture specific values influence patient roles and expectations, how much information about illness and treatment is desired, how death and dying will be managed, bereavement patterns, gender and family roles, and processes for decision making (McLaughlin, L. & Braun K., 1998).

Prairie Mountain Health is a culturally diverse region. PMH has implemented several initiatives to provide culturally-sensitive services such as the Brandon Community Language Centre, Cultural Facilitator positions, and through hiring practices when possible. For more information about First Nations, Métis and newcomer populations, please refer to the Demographics chapter.
Key Points Determinants of Health and Lifestyle

- The social determinants of health are mostly responsible for health inequities – the unfair and avoidable differences in health status seen within communities.

- The average household income for residents in PMH was 12% lower than the provincial average. Data were not available at the district level. Further exploration of several key health determinants at the district level including income will support appropriate allocation of health resources.

- Over three quarters of the lone parent households in Prairie Mountain Health are headed by a female.

- Although the proportion of PMH residents spending more than 30% of their income on shelter-related expenses is lower than the provincial average, it is important to identify communities with safe and affordable housing challenges.

- While the rates of pediatric dental extractions were significantly lower in PMH overall when compared to the province, rates for Porcupine Mountain are significantly higher. There was a significant relationship between pediatric dental extraction rates and income; with higher rates in low income areas. This finding supports the need for enhanced primary prevention efforts in low income areas.

- The proportion of PMH residents without a high school diploma was consistently higher than the provincial average. Lower levels of education pose many challenges for residents in making healthy life choices and accessing health care as well as for service providers in delivering care.

- Almost half of PMH residents classified themselves as physically inactive even though 51% of the population self-identified as ‘perfectly physical functioning’.

- A substantial decline in physical activity level among students from grade 7 through grade 12 suggests the need for additional low-cost recreational opportunities such as intramural sports in school.

- Residents residing in the Brandon Zone consume considerably less fruits and vegetables than the rest of the region.

- Food security – availability, accessibility and affordability of healthy foods – is a challenge for many residents in PMH.

- There is substantial variation in BMI measures among residents in Prairie Mountain Health at the district level. The proportion of the population age 18 years and older estimated to be overweight ranges from 29% of residents in Brandon Downtown (where many residents do not own a vehicle and thus walk) to 43% of those living in Duck Mountain.
- One quarter of youth grades 7 to 12 do not eat breakfast and almost two-thirds say it is because they don’t have time in the morning.

- The number of PMH residents who report binge drinking at least once per month is slightly higher (27%) than the provincial average (24%). The highest rate of binge drinking was in the South Zone.

- Almost one half of youth in grades 11 and 12 reported binge drinking on at least one day in the past month indicating the need for harm reduction strategies among that age group.

- Over 70% of the districts in PMH have seen an increase in substance abuse with the most significant in Swan River and Porcupine Mountain.

- The most common type of drug used by PMH youth grades 7 to 12 was marijuana/hashish.

- Manitoba has the highest rate of teenage smokers in the country. The percent of students smoking increases as they get older with 25% of grade 12 students in PMH currently using tobacco. The number of current smokers is higher in males than in females. Smoking trends in PMH suggest the need for cessation efforts as well as prevention among this population.
## Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Perceived Health</strong></td>
<td>PMH residents reporting their health as ‘fair or poor’ similar to province (PMH 13% - 12% MB)</td>
<td>North Zone has the highest percentage of residents reporting their health as ‘fair or poor’ at 16%</td>
<td>Districts in the North Zone have generally higher percentages of residents who report their health as ‘fair or poor’</td>
</tr>
<tr>
<td><strong>Physical Activity Levels</strong></td>
<td>Lower percent of active residents than the province (30% PMH &gt;26% MB)</td>
<td>South Zone lowest rate of active residents (25%)</td>
<td>Souris River district significantly lower than the province Brandon South End, Brandon West End and Duck Mountain higher than the province</td>
</tr>
<tr>
<td><strong>Prevalence of Substance Abuse</strong></td>
<td>Similar to province (5.73% PMH=5.31% MB) 2007/08 to 2011/12</td>
<td>Increase from 4.29% to 5.73% from 2002-2006 to 2007-2011</td>
<td>Brandon Downtown, Brandon East End and Porcupine Mountain highest in the region Swan River and Porcupine Mountain districts significant increase over time</td>
</tr>
<tr>
<td><strong>Body Mass Index</strong></td>
<td>Slightly higher than the province (24% PMH&gt;21% MB)</td>
<td>North Zone significantly higher than the province at 29%</td>
<td>Souris River significantly higher than the province at 31%</td>
</tr>
<tr>
<td><strong>Fruit and Vegetable Consumption</strong></td>
<td>Slightly lower than the province (35% PMH&lt;37% MB)</td>
<td>Brandon Zone significantly lower than the province at 30%</td>
<td>Whitemud district higher than the province at 42% Brandon South End and Brandon North Hill lowest in the region</td>
</tr>
<tr>
<td><strong>Frequency of Binge Drinking</strong></td>
<td>Similar to province (53% PMH&lt;54% MB)</td>
<td>North Zone slightly higher than the province at 56%</td>
<td>Asessippi significantly higher at 18% compared to MB at 22%</td>
</tr>
<tr>
<td><strong>Physical Functioning</strong></td>
<td>Similar to province (51% PMH&gt;50% MB)</td>
<td>Similar throughout the region</td>
<td>Agassiz Mountain and Asessippi districts lowest rate of physical function in the region Swan River district had the highest</td>
</tr>
<tr>
<td><strong>Tobacco Smoking Rates</strong></td>
<td>Same as province Current smoker: 20% PMH = 20% MB (2007/08-2011/12)</td>
<td>2007/08 to 2011/12 PMH Current smoker: 20% Former smoker: 42% Non-smoker: 38%</td>
<td>Brandon East End and Whitemud had the highest percent of current smokers Turtle Mountain, Swan River and Dauphin had the lowest percent of current smokers</td>
</tr>
<tr>
<td>Indicator</td>
<td>PMH Region compared to Manitoba</td>
<td>PMH Region</td>
<td>PMH District</td>
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<tr>
<td>---------------------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Exposure to Second Hand Smoke at Home</td>
<td>Similar to Province 12% PMH &gt; 11% MB (2007/08-2011/12)</td>
<td>Brandon Zone and South Zone: 11% North Zone higher at 14%</td>
<td>Asessippi, Riding Mountain and Whitemud had the highest rates of exposure Brandon North Hill and Souris River had the lowest</td>
</tr>
</tbody>
</table>
Chapter 3 Burden of Illness

Mortality

Mortality rates or death rates have been frequently used as indicators of the health of a population as well as how long people are living. Income, gender, ethnicity and geography are significant factors associated with shorter life expectancy. Men, First Nations, male Métis and rural Manitobans have, on average, shorter life expectancies than others (Manitoba Government, 2013). There were strong relationships between income and male and female life expectancy in urban and rural areas, that is, life expectancy was shorter for residents of the lowest income areas (Fransoo R et al., October 2013).

The health gap continues to widen over time. In other words, most of the improvement in health status among residents occurred in healthy areas whilst there was a lack of improvement among residents in the least healthy areas (Fransoo R et al., October 2013; Martens PJ et al., September 2010). This gap can be seen in several of the indicators in this section.

Total Mortality

Total mortality rate (TMR) is a simple measure of the number of deaths per 1,000 residents, per year. The age and sex adjusted rate of mortality for the Prairie Mountain Health Region for the period of 2007-2011 was 8.06 which is slightly lower than that for 2002-2006 when it was 8.23. These rates are not significantly different from the provincial average values which were 7.88 and 8.43 respectively in the same time periods.

At a district level, Brandon Downtown TMR was significantly higher than the provincial average and Brandon South End was significantly lower than the provincial average. All other PMH districts did not have a significantly different TMR from the provincial average.

Provincially, TMR for Métis residents was higher than for all others for the calendar years 2002-2006 (9.7 vs. 8.4 per 1,000). In Brandon for the same time period, Métis residents had a significantly higher TMR than all other Brandon residents (11.0 vs. 7.9 per 1,000) (Martens PJ et al., June 2010).

Causes of Death

The top three causes of death in the Prairie Mountain Health region were Circulatory, Cancer and Respiratory, accounting for 66% of all deaths in the region. In the PMH region, for the time period 2007-2011:

- Diseases of the circulatory system (the heart, the blood, and blood vessels) were the leading cause of death, accounting for almost one third of all deaths (31%).
- Neoplasms or cancers were the second leading cause of death, accounting for 26% of all deaths.
- Diseases of the respiratory system (airways and lungs) were the third leading cause of death, accounting for 9% of all deaths.
Premature Mortality

The Premature Mortality Rate (PMR) indicates the average annual rate at which residents died before reaching age 75 (per 1,000 residents under 75, age and sex adjusted to the population of Manitoba). The PMR is considered the single best indicator of the overall health status of a region’s population and need for healthcare (Carstairs & Morris, 1991; Eyles & Birch, 1993; Eyles, Birch, Chambers, Hurley, & Hutchinson, 1991). PMR is correlated with morbidity and self-rated health, as well as socioeconomic indicators.

The Prairie Mountain Health region’s PMR decreased significantly between 2002-2006 and 2007-2011 from 3.25 to 3.07 deaths per 1,000 residents aged 0 to 74 years.
In 2007-2011, there was considerable variation in PMR across the Prairie Mountain Health region with the South Zone (2.8) having a significantly lower PMR than the Manitoba average (3.1) and North Zone (3.6) a significantly higher PMR than the provincial average. At the district level, Porcupine Mountain (4.2) and Brandon Downtown (4.4) had the highest PMR and Brandon South End (2.2) and Brandon West End (2.5) the lowest. Brandon South End, Brandon West End, Turtle Mountain and Spruce Woods PMR was significantly lower that the provincial average, whilst Porcupine Mountain and Brandon Downtown were significantly higher.
There were strong relationships between income and PMR in urban and rural areas in both time periods (2002-2006 and 2007-2010). PMR were higher among residents of lower income areas (Martens PJ et al., September 2010).
For Manitoba rural neighbourhood income quintiles, DRR increased between 2002-2006 and 2007-2010 from 1.70 to 1.98, or a 16% increase. Rural DRD also increased in the same time period from 1.89 to 2.35, or a 24% increase. For urban neighbourhood income quintiles, DRR increased between 2002-2006 and 2007-2010 from 2.71 to 3.14, or a 16% increase. Manitoba urban DRD also increased in the same time period from 3.33 to 3.42, or a 3% increase.

When comparing rural Manitoba neighbourhood income groups DRD for 2007-2010, there were 2.35 more deaths per 1,000 people in the lowest income quintile group compared to the highest income quintile group. When comparing urban neighbourhood income groups DRD for 2007-2010, there were 3.43 more deaths per 1,000 people in the lowest income quintile group compared to the highest income quintile group (Fransoo R et al., October 2013).

**Causes of Premature Death**

The most frequent causes of premature death for Manitobans aged 0 to 74 are reported for the time periods 2002-2006 and 2007-2011. Causes of death from the Vital Statistics registry of death records were grouped by disease category, and the most frequent causes are shown in the following table.

In 2007-2011, the top three causes of premature death in Prairie Mountain Health were:

- Cancer (36.2 %)
- Circulatory (23.5 %) [“circulatory diseases” include heart attacks and strokes]
- Injury and Poisoning (14.5 %)

Note that cancer and circulatory diseases were still the top two and claim almost 60% of premature deaths. However, they have swapped places in these rankings when compared with all causes of deaths (see earlier in this section). This means that while both are obviously important and can cause death at any age, cancer is responsible for more deaths of people under the age of 75 than is circulatory disease (Fransoo R et al., October 2013).
Table 3.1 Most Frequent Cause of Premature Death for PMH, 2002-2006 and 2007-2011
Average annual crude percent of deaths among residents under age 75

<table>
<thead>
<tr>
<th></th>
<th>2002-2006</th>
<th>2007-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>37.8</td>
<td>36.2</td>
</tr>
<tr>
<td>Circulatory</td>
<td>24.3</td>
<td>23.5</td>
</tr>
<tr>
<td>Injury and Poisoning</td>
<td>11.7</td>
<td>14.5</td>
</tr>
<tr>
<td>Endocrine and Metabolic</td>
<td>5.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Respiratory</td>
<td>5.3</td>
<td>5.8</td>
</tr>
<tr>
<td>Digestive</td>
<td>3.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Nervous System</td>
<td>2.8</td>
<td>3.5</td>
</tr>
<tr>
<td>Ill-Defined Conditions</td>
<td>1.8</td>
<td>-</td>
</tr>
<tr>
<td>Genitourinary and Breast</td>
<td>1.4</td>
<td>-</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>-</td>
<td>1.5</td>
</tr>
<tr>
<td>Perinatal Conditions</td>
<td>-</td>
<td>1.2</td>
</tr>
<tr>
<td>All Others</td>
<td>4.2</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

Life Expectancy

Life expectancy is defined as the expected length of life from birth, based on patterns of mortality in the population for the preceding 5 years. Values are calculated from the mortality experience of local residents using the ‘life table’ approach. A life table (also called a mortality table) is a table which shows, for each age, what the probability is that a person of that age will die before their next birthday.

Life expectancy in the region for both males and females was similar to the provincial average. Across the two 5-year time periods, 2002-2006 and 2007-2011, male life expectancy in the region increased significantly (76.5 to 77.4 years) whilst female life expectancy remained the same (82.3 years). At a zone level, the exception to this was male life expectancy in the North Zone of PMH which was significantly lower than the Manitoba average in 2007-2011.

At the district level, Brandon South End and Brandon North Hill had a significantly higher male and female life expectancy than the provincial average for both time periods. Brandon Downtown had a significantly lower male and female life expectancy than the provincial average in both time periods. Porcupine Mountain had a significantly lower male life expectancy than the provincial average in both time periods.

The lowest life expectancy for males can be found in the Porcupine Mountain district at 73.2 years whilst the lowest for females was found in Brandon Downtown district at 78.6 years. The highest life
expectancy for both males and females can be found in Brandon South End district at 81.7 and 90.6 respectively.

Table 3.2 Life Expectancy for Manitoba, PMH, and PMH Zone and District by sex, 2002-2006 and 2007-2011
Life expectancy (at birth) in years

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prairie Mountain</td>
<td>76.5</td>
<td>77.4</td>
<td>82.3</td>
<td>82.3</td>
</tr>
<tr>
<td>Manitoba</td>
<td>76.5</td>
<td>77.5</td>
<td>81.5</td>
<td>82.2</td>
</tr>
<tr>
<td>South Zone</td>
<td>76.5</td>
<td>78.1</td>
<td>82.7</td>
<td>82.6</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>77.1</td>
<td>78.5</td>
<td>82.7</td>
<td>82.4</td>
</tr>
<tr>
<td>North Zone</td>
<td>75.7</td>
<td>74.6</td>
<td>81.0</td>
<td>81.4</td>
</tr>
<tr>
<td>Bdn South End</td>
<td>79.3</td>
<td>81.7</td>
<td>90.5</td>
<td>90.6</td>
</tr>
<tr>
<td>Bdn West End</td>
<td>79.5</td>
<td>79.7</td>
<td>84.1</td>
<td>83.1</td>
</tr>
<tr>
<td>Turtle Mountain</td>
<td>78.0</td>
<td>80.4</td>
<td>82.7</td>
<td>83.4</td>
</tr>
<tr>
<td>Bdn North Hill</td>
<td>78.2</td>
<td>78.6</td>
<td>86.8</td>
<td>87.1</td>
</tr>
<tr>
<td>Spruce Woods</td>
<td>77.1</td>
<td>79.6</td>
<td>83.4</td>
<td>84.0</td>
</tr>
<tr>
<td>Whitemud</td>
<td>76.1</td>
<td>78.0</td>
<td>83.5</td>
<td>83.2</td>
</tr>
<tr>
<td>Souris River</td>
<td>76.4</td>
<td>78.6</td>
<td>83.0</td>
<td>82.5</td>
</tr>
<tr>
<td>Riding Mountain</td>
<td>77.3</td>
<td>76.7</td>
<td>83.0</td>
<td>82.3</td>
</tr>
<tr>
<td>Little Saskatchewan</td>
<td>78.0</td>
<td>77.9</td>
<td>81.9</td>
<td>82.3</td>
</tr>
<tr>
<td>Asessippi</td>
<td>75.1</td>
<td>76.3</td>
<td>82.4</td>
<td>82.1</td>
</tr>
<tr>
<td>Duck Mountain</td>
<td>75.0</td>
<td>77.4</td>
<td>83.7</td>
<td>83.6</td>
</tr>
<tr>
<td>Dauphin</td>
<td>77.0</td>
<td>74.7</td>
<td>82.0</td>
<td>82.0</td>
</tr>
<tr>
<td>Agassiz Mountain</td>
<td>77.0</td>
<td>73.5</td>
<td>79.7</td>
<td>81.4</td>
</tr>
<tr>
<td>Bdn East End</td>
<td>75.1</td>
<td>77.0</td>
<td>85.2</td>
<td>83.5</td>
</tr>
<tr>
<td>Swan River</td>
<td>74.7</td>
<td>74.9</td>
<td>79.4</td>
<td>81.2</td>
</tr>
<tr>
<td>Porcupine Mountain</td>
<td>73.4</td>
<td>73.2</td>
<td>79.3</td>
<td>80.8</td>
</tr>
<tr>
<td>Bdn Downtown</td>
<td>72.3</td>
<td>74.3</td>
<td>78.2</td>
<td>78.6</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

Life expectancy in the PMH South Zone and Brandon for both male and female Métis residents was lower than for all others for the calendar years 2002-2006 (Martens PJ et al., June 2010).
Table 3.3 Life Expectancy for PMH Zones and Métis vs. All Others by sex, 2002-2006
Life expectancy (at birth) in years

<table>
<thead>
<tr>
<th>Zone</th>
<th>Male</th>
<th>Female</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Métis</td>
<td>All Others</td>
<td>Métis</td>
<td>All Others</td>
</tr>
<tr>
<td>South Zone</td>
<td>75.2</td>
<td>76.5</td>
<td>77.6</td>
<td>83.0</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>72.7</td>
<td>77.3</td>
<td>80.5</td>
<td>82.9</td>
</tr>
<tr>
<td>North Zone</td>
<td>76.7</td>
<td>75.7</td>
<td>82.3</td>
<td>81.1</td>
</tr>
<tr>
<td>Manitoba</td>
<td>75.0</td>
<td>76.8</td>
<td>81.0</td>
<td>81.8</td>
</tr>
</tbody>
</table>

Source: MCHP - Profile of Métis Health Status and Health Care Utilization, 2010

Aboriginal Manitobans have a life expectancy estimated to be at least five years less than non-Aboriginal Manitobans. (Chief Provincial Public Health Officer’s Report on the Health Status of Manitobans, 2011.)

Table 3.4 Average life expectancy at birth by Aboriginal group and sex, Manitoba*, 1999 and 2009

<table>
<thead>
<tr>
<th>Life expectancy at birth</th>
<th>1999</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Aboriginal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>75.9</td>
<td>76.9</td>
</tr>
<tr>
<td>Female</td>
<td>81.8</td>
<td>82.7</td>
</tr>
<tr>
<td>Aboriginal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>70.0</td>
<td>71.9</td>
</tr>
<tr>
<td>Female</td>
<td>76.5</td>
<td>77.3</td>
</tr>
</tbody>
</table>

* Estimates based on Census 2006 and more recent Inter-Census data to create 2009 results
Source: Economic Growth and Innovation, 2010

Persons with serious mental illness also experience shorter life expectancies, dying 25 years earlier than the general population. Evidence indicates that the rate of serious morbidity (illness) and mortality (death) in this population has accelerated. Their increased morbidity and mortality are largely due to treatable medical conditions that are caused by modifiable risk factors such as smoking, obesity, substance abuse, and inadequate access to medical care (Parks et al., 2006). According to Prairie Mountain Health Mental Health Services staff, these issues have been reflected within the Psychosocial Rehabilitation client population. Staff report that only a small percentage of their clients are over the age of 65 and that the service continues to lose clients to premature mortality, often 20 to 25 years earlier than the general population.
Potential Years of Life Lost

Another measure of health is the number of potential years of life lost (PYLL) by residents age 1 to 74 per 1,000 residents. For each death, the PYLL value is calculated as the difference (in years) between age at death and 75 years of age. PYLL is more sensitive to deaths at younger ages than other mortality indicators.

The PYLL rate per 1,000 residents in the region increased from 53.5 years in 2002-2006 to 54.5 in 2007-2011. This is in contrast to the rest of Manitoba where it has dropped from 55 to 51.5 in the same time period. The PMH South Zone decreased from 57.5 years in 2002-2006 to 50.2 years in 2007-2011 whilst the Brandon Zone (40.9 to 43.1 years) and North Zone (64.9 to 79.9 years) increased in the same time period. The Spruce Woods district had the sharpest decline whilst the Dauphin district had the sharpest rise between 2002-2006 and 2007-2011. None of these increases or decreases were statistically significant; however, in 2007-2011, the North Zone PYLL was significantly higher (79.9) than the provincial average (51.5).

Figure 3.4 Potential Years of Life Lost by PMH District, 2002–2006 and 2007–2011
Age- and sex-adjusted average annual rate of PYLL per 1,000 residents aged 1-74

Source: MCHP RHA Indicators Atlas, 2013
Child Mortality

Child mortality rates measure the total number of deaths in children age 1 to 19 years divided by the total population of the same age in that time period; it is reported as rates of deaths per 100,000 children age 1 to 19 years, for a given time period.

From 2007/2008 to 2011/2012 there were 495 deaths among Manitoba children. The child mortality rate for Prairie Mountain Health for this time period was 39.7, slightly higher than the provincial rate of 32.4 deaths per 100,000 children ages 1 to 19. The child mortality rate in Manitoba appeared to be stable over time, with the mortality rate in males remaining consistently higher than that of females.

![Figure 3.5 Child Mortality Rate by Manitoba RHA, 2007/2008 to 2011/2012](image)

Source: Manitoba Health, Health Information Management, 2014

Child mortality rates for the Métis population of Rural South and Brandon (1997-2006) were slightly lower than the child mortality rate for all other children in Rural South and Brandon. Provincially, child mortality rates of Métis were similar to all other Manitoba children (0.33 vs. 0.36 per 1,000) (Martens PJ et al., June 2010).
The top 5 causes of death for Manitoba children aged 1 to 19 years old for 2005-2009 are shown in the following table. For both time periods, the top 3 causes were the same and accounted for a similar proportion of deaths: injuries, other factors and neoplasms (Brownell M et al., 2012).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Injuries</td>
<td>60.6 %</td>
<td>61.0 %</td>
</tr>
<tr>
<td>Other Factors</td>
<td>8.7 %</td>
<td>8.4 %</td>
</tr>
<tr>
<td>Neoplasms</td>
<td>7.0 %</td>
<td>7.0 %</td>
</tr>
<tr>
<td>Neurological</td>
<td>3.4 %</td>
<td>5.8 %</td>
</tr>
<tr>
<td>Congenital Anomalies</td>
<td>4.8 %</td>
<td>4.1 %</td>
</tr>
</tbody>
</table>

Source: MCHP How Are Manitoba’s Children Doing, 2012

**Unintentional Injury Deaths**

Deaths due to unintentional ("accidental") injuries include deaths due to causes such as motor vehicle collisions (MVC), falls, poisoning, burns, and drowning. The unintentional injury death rate is calculated as the number of injury deaths in a given year per 100,000 population as of June 1 of the same year. To account for the differences in the age and sex structure of population over the years and population sub-groups for a given year, injury death rates were standardized using the age and sex structure of the standard population from the 2006 Canadian Census.

In the 10 year period 2003 to 2012, PMH’s age standardized total unintentional injury death rate fluctuated from a low of 28 to a high of 53 deaths per 100,000 population. In the same 10 year period, PMH’s female unintentional injury death rate fluctuated from a low of 18 to a high of 40 deaths and PMH’s male rate fluctuated from a low of 41 to a high of 74 deaths per 100,000 population. As shown in the following figure, both PMH and Manitoba’s total unintentional injury death rates have shown an increasing trend over the 10 year time period, but PMH’s rate has generally been higher than the Manitoba average and is increasing more than the provincial average.
The following chart shows the 5 year average comparison between Manitoba and PMH for males and females. Across the two 5 year time periods, PMH’s average unintentional injury death rate was higher than the Manitoba average for males and females, and the rate increased over time.
Between 2000 and 2012, the top 5 causes of unintentional injury deaths (total, age standardized rate) for PMH were MVC (12.1 deaths per 100,000 population); falls (10.6); unspecified (4.8); poisoning (4.3) and burns (1.8). In the same time period, Manitoba’s top 5 were: falls (11.4); MVC (8.4); poisoning (5.4); unspecified (3.2) and suffocation (2.0). For both PMH and Manitoba females the top 2 causes of unintentional injury deaths were falls (9.3 and 10.0 respectively) and MVC (8.0 and 5.7 respectively).

For PMH males, the top 2 causes of unintentional injury death were MVC (16.3) and falls (11.8), whereas for Manitoba the top 2 were reversed with falls (13.3) followed by MVC (11.2).

From 2000 to 2012, the majority of unintentional injury deaths occurred in the PMH total population aged 65 and up (57.3% / 600 cases). When looking at females, they also had the majority of unintentional injury deaths in 65 and up age groups (72.6% / 329 cases), whereas for PMH males the percentage was lower (45.5% / 271 cases). When comparing age-specific total unintentional injury death rates, PMH was higher than the Manitoba average for the 85 and up age category (572.6 and 496.3 deaths per 100,000 respectively), but lower in less than one year old age category (7.9 and 19.2 deaths per 100,000 respectively).
Infant Mortality Rate – refer to Public Health chapter

Suicide Rates – refer to Mental Health chapter

**Mortality Key Points**

- Similar to the province, the top 3 causes of death in PMH were circulatory disease, cancer and respiratory disease.

- Similar to the province, the top 3 causes of premature death in PMH were cancer, circulatory disease and injury and poisoning.

- Life expectancy in the region for both males and females was similar to the provincial average.

- The top two causes of unintentional injury deaths for PMH were motor vehicle collisions and falls.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
</table>
| **Total Mortality Rate** (number of deaths per 1,000 residents, per year) | Similar to province 8.06 PMH > 7.88 MB (2007-2010)     | ↓ from 8.23 to 8.06 between 2002-2006 and 2007-2011 | • Brandon Downtown significantly higher rate than the provincial average  
  • Brandon South End was significantly lower than the provincial average |
| **Premature Mortality Rate** (deaths per 1,000 residents aged 0 to 74 years) | Similar to province 3.07 PMH < 3.12 MB (2007-2011)     | ↑ significantly from 3.25 to 3.07 between 2002-2006 and 2007-2011 | • Highest rate in Porcupine Mountain and Brandon Downtown  
  • Lowest rate in Brandon South End and Brandon West End |
| **Life Expectancy**                   | Similar to province Male: 77.4 PMH < 77.5 MB  
  Female: 82.3 PMH>82.2 MB (2007-2011)          | ↑ significantly from 76.5 to 77.4 years for males  
  and No change for females at 82.3 years between 2002-2006 to 2007-2011 | • Male lowest life expectancy in Porcupine Mountain at 73.2 years  
  • Female lowest in Brandon Downtown at 78.6 years  
  • Male and female highest in Brandon South End at 81.7 and 90.6 years respectively |
| **Potential Years of Life Lost** (by residents age 1 to 74 per 1,000 residents aged 1-74) | Similar to province 54.5 PMH > 51.5 MB (2007-2011)     | ↑ 53.5 years in 2002-2006 to 54.5 in 2007-2011 | Between 2002-2006 to 2007-2011:  
  • Spruce Woods district had the sharpest decline  
  • Dauphin district had the sharpest rise |
| **Causes of Death**                   | Similar to province Top three (2007-2011):  
  Circulatory (31%)  
  Cancer (26%)  
  Respiratory (9%)  | ---          | ---                                                                 |
| **Causes of Premature Death** (before age 75) | Similar to province Top three (2007-2011):  
  Cancer (36%)  
  Circulatory (23.5%)  
  Injury and Poisoning (14.5%)  | ---          | ---                                                                 |
<p>| <strong>Unintentional Injury Deaths</strong> (age adjusted rate of unintentional injury deaths per 100,000 population) | 41.5 PMH &gt; 36.8 MB (2000-2012 average rate)          | ---          | ---                                                                 |</p>
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Mortality Rate (rate of death per 100,000 children age 1 to 19 years)</td>
<td>Similar to province 39.7 PMH &gt; 32.4 MB (2007/2008-2011/2012)</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
Cardiovascular Disease

Cardiovascular diseases are the group of conditions that affect the heart and/or blood vessels and include hypertension, ischemic heart disease, heart attacks, strokes and peripheral vascular disease. According to the Heart and Stroke Foundation of Manitoba, cardiovascular disease is the leading cause of death in Manitoba, Canada and worldwide. While circulatory diseases are the primary cause of death for residents in Prairie Mountain Health, there has been an ongoing reduction in crude percent of deaths due to heart attacks and stroke in the region between 2002-2006 and 2007-2011 at 33.4% and 30.9% respectively. This trend is consistent with a similar reduction in deaths attributable to circulatory disease in the province overall (Fransoo R et al., October 2013).

Potential Years of Life Lost (PYLL)

When comparing the impact of diseases it is useful to consider the total number of deaths and also the age at which they occur. Premature death results in lost years of potential life. Circulatory disease is the second leading cause for potential years of life lost for residents in Prairie Mountain Health. Between 2002/03-2006/07 and 2007/08-2011/12, PMH’s age- and sex-adjusted rate of PYLL due to circulatory disease (per 1,000 residents aged 1 to 74) decreased slightly from 10.5 to 9.6 (Manitoba Health Information Management, 2014).

Diabetes and Heart Health Promotion

The Diabetes and Heart Health Promotion Program is a regional program offering a variety of supports for individuals who are at risk for developing diabetes and/or heart disease or who wish to support a friend or family member with diabetes and/or heart disease. The program is staffed by Registered Nurses and Registered Dietitians who provide individual and/or group education and counselling sessions on a variety of topics (for further information on the Diabetes and Heart Health program please refer to the Burden of Illness – Diabetes section).

Hypertension

Primary hypertension is often referred to as high blood pressure. High blood pressure is the number one risk factor for stroke and a major risk factor for heart disease. High blood pressure occurs when the blood pressure in the arteries is elevated and the heart has to work harder than normal to pump blood through the blood vessels. Hypertension is a major health problem because it often has no symptoms. If left untreated, it can lead to heart attack, stroke, enlarged heart or kidney damage. Hypertension affects at least one in four Manitobans.

Incidence of Hypertension

Hypertension incidence is defined as the average number of new cases of residents aged 19 and older with hypertension (high blood pressure) per 100 person-years with either at least one hospitalization, or at least one physician visit, or at least two prescriptions for hypertension medication. Indicators of
Disease incidence reflect how many people develop the condition in a given year. This is expressed as a rate of new cases per 100 person-years and can be thought of in this way: of 100 people without this disease, how many will develop it over the next year if we assume all 100 people live for the entire year?

**Figure 3.8 Incidence of Hypertension by PMH District, 2006/07 and 2011/12**
Age- and sex-adjusted incidence rate per 100 person-years for residents aged 19+

![Incidence of Hypertension by PMH District, 2006/07 and 2011/12](image)

Between 2006/07 and 2011/12, the incidence of hypertension amongst residents aged 19 and over in Manitoba decreased in Manitoba from 3.40 to 3.09 cases per 100 person-years. Hypertension incidence in Prairie Mountain decreased significantly during the same reporting periods when compared to the province. A significant reduction over time was observed in the North and South zones. However, the North Zone remained significantly higher than the provincial rate in both time periods at 4.48 and 3.91 cases per 100 person-years respectively. At the district level Spruce Woods and Asessippi showed a significant decrease in rates over the two time periods whilst Whitemud was significantly higher than the Manitoba rate in 2011/12 and Porcupine Mountain was significantly higher than the provincial average in both time periods.

There were significant relationships between income and the incidence of hypertension in urban and rural areas in both reporting periods with incidence rates being higher among residents in lower income areas.
Prevalence of Hypertension

Hypertension prevalence is defined as the percent of residents aged 19 and older with hypertension (high blood pressure) in a one-year period with either at least one hospitalization or at least one physician visit or at least two prescriptions for hypertension medication.

Hypertension prevalence amongst the population aged 19 and older increased in Manitoba in the two reporting periods from 24.8 to 25.6%. Hypertension prevalence in Prairie Mountain Health was significantly higher than the provincial average for both reporting periods at 25.7% and 26.8% respectively. A significant increase in disease rates over time was also observed in all three zones. There were notable differences at the district level with three districts reporting significantly higher prevalence than the provincial average for 2011/12:

- Duck Mountain (28.0%)
- Agassiz Mountain (29.0%)
- Porcupine Mountain (31.2%)
A significant increase over time in the prevalence of hypertension was observed in Riding Mountain, Little Saskatchewan and Porcupine Mountain.

There were significant relationships between income and hypertension prevalence in urban and rural areas in both time periods in that prevalence was higher among residents of lower income areas. In rural areas, the gap between lowest and highest income quintile widened over time.

The prevalence of hypertension among the Métis population for 2006/07 in the North Zone was significantly higher (32.0%) when compared to the Métis provincial average (27.9%) and significantly higher when compared to all other Manitobans (25.0%) (Martens PJ et al., June 2010).

**Heart Health**

**Ischemic Heart Disease (IHD)**

Ischemic heart disease (IHD) is a disease characterized by reduced blood supply to the heart muscle, usually due to coronary artery disease (atherosclerosis of the coronary arteries). The risk for IHD increases with age, smoking, high cholesterol levels, diabetes, and hypertension (high blood pressure). Depending on the symptoms and risk, treatment may include medication, percutaneous coronary intervention (angioplasty), or coronary artery bypass graft surgery (CABG).

**Ischemic Heart Disease Incidence**

Ischemic Heart Disease Incidence is defined as the average number of new cases of residents aged 19 and older with ischemic heart disease per 100 person-years as defined by at least one hospitalization, or at least two physician visits, or one physician visit and at least two prescription medications for ischemic heart disease.
Figure 3.10 Incidence of Ischemic Heart Disease by PMH District, 2002/03-2006/07 and 2007/08-2011/12
Age- and sex-adjusted incidence rate per 100 person-years for residents aged 19+

Despite a significant decline in the incidence of IHD in Manitoba between 2002/03-2006/07 and 2007/08-2011/12 (7.74% vs. 6.73%), Prairie Mountain has only shown a slight decline in incidence (7.80% vs. 7.57%) and remains significantly higher than the provincial incidence in the second reporting period. Incidence of IHD in the North Zone was significantly higher than the province in both time periods at 10.7% and 11.5% respectively. Alternatively, the Brandon Zone had a significant decrease across the two time periods (7.02% vs. 6.02%) and was significantly lower than the province overall. At the district level, significant increases in the number of new cases of IHD were noted in Riding Mountain and Duck Mountain over the two time periods and the incidence of IHD in Dauphin, Agassiz Mountain and Porcupine Mountain was significantly higher than the provincial average for both time periods. Conversely, Brandon West End was significantly lower than the provincial average for both time periods. Brandon North Hill and Souris River showed a significant decline in IHD rates over time.

There were statistically significant relationships between income and the incidence of IHD in urban and rural areas for 2002/03-2006/07 and 2007/08-2011/12 with rates being higher among residents of lower income areas. Provincially, the prevalence of IHD was higher among the Métis population compared to
all other Manitobans (12.2% vs. 8.7%) (Martens PJ et al., June 2010). This trend was consistent for the North and Brandon zones.

Ischemic Heart Disease Prevalence

Ischemic Heart Disease prevalence is the percentage of residents aged 19 and older with ischemic heart disease in a five-year period as defined by at least one hospitalization, or at least two physician visits or at least one physician visit and at least two prescription medications for IHD.

Between 2002/03-2006/07 and 2007/08-2011/12, the prevalence of IHD decreased in all regions in Manitoba. However, Prairie Mountain’s prevalence remained significantly higher than the provincial average in the second time period (8.69% vs. 7.92%). The North Zone was significantly higher than the province in both time periods, with an increase over time (11.6% vs. 12.2%) although the increase was not significant. The opposite trend was observed in the South Zone with IHD prevalence significantly lower than the provincial average for both reporting periods (7.40% vs. 7.18%). A significant decrease in the prevalence of IHD over time was observed in the Brandon Zone (8.39% vs. 7.30%).
Marked differences were noted at the district level. The prevalence of IHD in Riding Mountain, Dauphin, Agassiz Mountain and Porcupine Mountain was significantly higher than the province in both time periods with a significant increase over time seen in Dauphin (14.3%) and Duck Mountain (11.7%). Conversely, a significant decline was observed in Brandon South End, Brandon West End, Brandon North Hill, Souris River, Brandon East End, and Swan River.

Strong relationships between income and IHD prevalence in urban and rural areas were observed in both time periods: IHD prevalence was higher among residents in lower income areas.

**Acute Myocardial Infarction (Heart Attacks)**

Heart attack, or acute myocardial infarction (AMI), is one of the leading causes of death in Manitoba. Heart attacks can be life threatening emergencies that occur when the coronary arteries (the blood vessels supplying the heart muscle to keep it working) become blocked. Lack of blood supply damages the heart muscle or stops it altogether which can be fatal.

The predominant risk factors for AMI are smoking, high cholesterol levels, high blood pressure, obesity, high stress levels, excessive alcohol use, a family history of heart disease and diabetes. Males are more at risk than females and men over the age of 45 and women over the age of 55 are also at higher risk.

The AMI rate for the region measures the number of hospitalizations or deaths due to AMI per one thousand residents aged 40 and over.
Figure 3.12 Heart Attack (AMI) Rate by PMH District, 2002-2006 and 2007-2011
Age- and sex-adjusted average annual rate of death or hospitalization for AMI per 1,000 residents aged 40+

The rate of AMIs for Prairie Mountain significantly decreased over time from 4.71/1,000 in the period 2002-2006 to 4.31/1,000 in the period 2007-2011. Variation in AMI rates was observed across the zones: the AMI rates for residents in the North Zone were significantly higher than the province in both time periods (5.40/4.36 and 5.60/4.09 respectively) and increased slightly, whilst Brandon and South zones decreased between the two time periods. The decrease in AMI rates for the Brandon Zone was significant (4.91% to 3.56%).

There were differences at the district level with a significant decrease in AMI rate over the two time periods in Brandon North Hill, Whitemud, Brandon East End and Brandon Downtown. A significant increase in AMI rate was noted in Asessippi over the same time periods. AMI rates for Dauphin (7.08%), Agassiz Mountain (5.67%) and Porcupine Mountain (6.94%) have remained consistently higher than the provincial average in both time periods and the differences were significant.

There is a strong relationship between AMI rates and income levels for both urban and rural residents in both time periods with AMIs being more prevalent in the lower income areas.

Provincially, the AMI rate was higher among the Métis population compared to all other Manitobans (5.4 vs. 4.3 per 1,000 residents). The Métis population in the North Zone experienced a higher AMI rate.
(7.5 per 1,000) when compared to others living in the area (5.3 per 1,000). (Martens PJ et al., June 2010).

**Acute Myocardial Infarction (AMI) Mortality**

A patient’s risk of dying in hospital following a heart attack depends on many factors. Some factors, such as age, cannot be modified but many other factors may be. Cardiac interventions, particularly the timing of re-opening coronary arteries for blood flow are improving people’s chances of survival. Other care-related practices such as following clinical practice guidelines and best practices are also important to achieving better outcomes.

The 30-day myocardial infarction in-hospital mortality rate measures the risk-adjusted rate of all-cause in-hospital death occurring within 30 days of first admission to an acute care hospital with a diagnosis of AMI. Lower rates are desirable.

**Table 3.6 30 Day Acute Myocardial Infarction In-Hospital Mortality Rate by PMH Zone, 2007 to 2010**

<table>
<thead>
<tr>
<th>Year</th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>9.5%</td>
<td>10.6%</td>
<td>n/a</td>
<td>7.8%</td>
</tr>
<tr>
<td>2008</td>
<td>10.8%</td>
<td>8.3%</td>
<td>n/a</td>
<td>7.2%</td>
</tr>
<tr>
<td>2009</td>
<td>8.6%</td>
<td>7.6%</td>
<td>n/a</td>
<td>7.0%</td>
</tr>
<tr>
<td>2010</td>
<td>9.2%</td>
<td>7.1%</td>
<td>n/a</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

Source: Canadian Institute for Health Information, 2013

The in-hospital mortality rate for AMI has been declining in the Brandon Zone which is consistent with the provincial trend. A similar pattern was not observed in the South Zone and data were not available for the North Zone. PMH’s 30-day acute myocardial infarction in-hospital mortality rate is similar to the Canada overall rate (6.8% vs. 7.0%).

**Congestive Heart Failure**

Congestive heart failure (CHF) occurs when the heart muscle doesn’t pump blood as well as it should to meet the needs of the body. Common causes of heart failure include coronary artery disease including a previous heart attack, high blood pressure, atrial fibrillation and valvular heart disease which can leave the heart too weak or stiff to fill and pump efficiently.

Prevalence of congestive heart failure measures the percentage of residents aged 40 and older with congestive heart failure in a three year period by either at least one inpatient hospitalization in one year or at least two physician visits in a one-year period.
The prevalence of CHF decreased in Manitoba (1.83% to 1.64%) between 2004/05-2006/07 and 2009/10-2011/12. At the health region level, the prevalence of CHF is lowest in the Prairie Mountain region with a significant decline over time when compared to the provincial average (1.68% to 1.49%). CHF prevalence in the North Zone was significantly higher than provincial average (2.15% vs. 1.64%) although a significant decrease over time was observed. Rates for the South and Brandon zones were significantly lower in both time periods at 1.21% and 1.31% respectively. At the district level, a significant decrease over time in CHF prevalence was seen in Turtle Mountain, Spruce Woods, Souris River, Little Saskatchewan, Asessippi, Agassiz Mountain, Swan River and Porcupine Mountain.

There were strong relationships between income and CHF prevalence in both urban and rural areas in both time periods. CHF prevalence was higher among residents of lower income areas and a stepwise pattern across the income groups was observed. Among rural residents, the gap across the income groups widened over time because the decrease in disease prevalence among the lowest income group was smaller than the decrease in disease prevalence observed for all other income groups.
High Profile Surgical and Diagnostic Procedures

Cardiac Catheterization

Cardiac catheterization is a procedure whereby a catheter is inserted into a chamber or vessel of the heart for investigation and/or interventional purposes. It is used primarily to identify the location and extent of blockages in coronary arteries. This procedure is only performed at St. Boniface General Hospital in Manitoba. Cardiac catheterization (or diagnostic angiogram) rate is defined as the number of cardiac catheterizations performed on residents aged 40 and older per 1,000 residents aged 40 and older.

Figure 3.14 Cardiac Catheterization Rate by PMH District, 2004/05-2006/07 and 2009/10-2011/12
Age- and sex-adjusted average annual rate per 1,000 residents aged 40+

From 2004/05-2006/07 to 2009/10-2011/12, the rate of cardiac catheterizations increased in Manitoba from 6.64 to 8.27 per 1,000 residents aged 40 and older. While residents in Prairie Mountain Health had the lowest rates of cardiac catheterizations in the province, the rate of cardiac catheterizations for residents in the region increased significantly between the two reporting periods from 6.05 to 7.69 per 1,000 residents. Residents in the South and Brandon zones had the lowest rates among health regions overall, whereas cardiac catheterization rates for residents in the North Zone were significantly higher than the provincial average for both reporting periods (8.27 vs. 10.05 per 1,000 residents) and a
significant increase over time was noted. In the South Zone, significant increases were seen in Spruce Woods, Souris River, Assinippi, and Little Saskatchewan. In the North Zone, significant increases were observed in Dauphin and Agassiz Mountain. A significant decrease over time was observed for residents in Brandon North Hill.

**Cardiac Revascularization Interventions**

Cardiac revascularization procedures are used to restore or improve blood supply to the heart muscle, which reduces the symptoms of coronary heart disease, such as chest pain. Revascularization can improve the quality of patients’ lives and reduce mortality. There are two types of revascularization procedures: percutaneous coronary angioplasty (PCI) and coronary artery bypass graft surgery (CABG).

**Percutaneous Coronary Interventions (PCI)**

PCI is defined as the number of percutaneous coronary interventions (angioplasty and stent insertion) performed on residents aged 40 and older per 1,000 residents aged 40 and older.

![Figure 3.15 Percutaneous Coronary Intervention Rate by PMH District, 2002/03-2006/07 and 2007/08-2011/12](source: MCHP RHA Indicators Atlas, 2013)
Overall the PCI rate increased in Manitoba from 2.25 to 3.02 procedures per 1,000 residents aged 40 and older in the two reporting periods. This is consistent with continuing changes in clinical practice, including the use of PCI as a primary treatment for heart attack patients and the use of stents among some patients for whom bypass surgery may have been recommended several years ago. Consistent with the provincial trend, a significant increase in PCI rate was observed in Prairie Mountain Health between 2002/03-2006/07 and 2007/08-2011/12 (1.99 to 2.79). Although both the North and South zones experienced a significant increase in PCI rate, Brandon’s rate was significantly lower than the provincial average in the second time period (2.18 vs. 3.02). Variation is noted at the district level with significant increases seen in Brandon South End, Turtle Mountain, Spruce Woods, Whitemud, Little Saskatchewan, Assisippi and Swan River. Brandon West End had a significantly lower rate of PCI in the second time period.

In urban areas, there were strong, stepwise relationships between PCI rates and income levels with higher procedure rates among residents of lower income areas. In rural areas, rates were highest among the lower income groups (Fransoo R et al., 2013).
Coronary Artery Bypass Graft Surgery (CABG)

Coronary Artery Bypass Surgery is defined as the number of bypass surgeries performed on residents aged 40 and older per 1,000 residents aged 40 and older. These procedures are performed only at the two tertiary Manitoba hospitals, Health Sciences Centre and St. Boniface General Hospital.

The rate of coronary artery bypass graft surgery in Manitoba remained stable over time; a slight decrease from 1.56 to 1.44 surgeries per 1,000 residents aged 40 and older was not statistically significant. A similar trend was observed in Prairie Mountain Health and in the North and South zones. A significant decrease in the rate of procedures over time was seen in Brandon at 1.56 to 1.10 surgeries per 1,000 residents.

A significant increase over time was noted in Swan River in the North Zone, Brandon South End in the Brandon Zone and several districts in the South Zone including Asessippi, Turtle Mountain, Spruce Woods, Whitemud, and Little Saskatchewan.

Within districts in the rural regions, there was some relationship with premature mortality (PMR) in that residents of less healthy districts generally had higher bypass surgery rates. Similar findings were
observed among urban residents including the Brandon Zone. In both time periods, those living in lower income areas had higher bypass surgery rates.

The rate of coronary artery bypass surgery is higher for Métis people in the province when compared to all other Manitobans (2.3 vs. 1.5 per 1,000). Although data are not available at the regional level, a similar trend was observed in the North Zone (2.4 vs. 1.6 per 1,000). The relationship with PMR mentioned earlier with lower CABG surgery rates in the healthier districts and higher surgical rates in the less healthy districts was not obvious for Métis.

The Heart Program

In 2003, the Heart Program was established in the Ambulatory Clinics at the Brandon Regional Health Centre. It is the only heart program outside the City of Winnipeg and provides support to cardiac clients across Prairie Mountain Health as well as other health regions. The intent of the program is to ensure an educational component using a multidisciplinary approach in secondary prevention of cardiac disease. This includes the treatment and management of heart disease. The program also provides palliative care and support for patients and families experiencing end-stage heart failure.

The Heart Program is staffed with two full-time Registered Nurses who provide a comprehensive education program. This includes individual appointments for clients and their families/supports and involves any one of the multidisciplinary team members. Many clients are initially introduced to the program while in hospital following a cardiac event. Referrals are also received from St. Boniface Hospital, rural physicians and self-referrals. Using a case management model, clients receive individualized care based on their risk factors and other co-morbidities following best practices guidelines.

The age of clients currently in the program ranges from 28 to 90 years with the majority being male; however the number of female patients is climbing in recent years. The top six cardiac disease processes/interventions include:

1. Acute coronary syndrome - angina and myocardial infarction
2. Arrhythmias
3. Congestive heart failure
4. Ischemic coronary disease
5. Angioplasty - pre and post intervention
6. Implantable Cardiac Defibrillators (ICDs) and Left Ventricular Assist Devices (LVADs)
Table 3.7 Heart Program Utilization in PMH, 2011/12, 2012/13 and 2013/14

<table>
<thead>
<tr>
<th></th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Patients</td>
<td>559</td>
<td>616</td>
<td>687</td>
</tr>
<tr>
<td>In Patient visits</td>
<td>701</td>
<td>679</td>
<td>581</td>
</tr>
<tr>
<td>Outpatient visits</td>
<td>744</td>
<td>972</td>
<td>1,421</td>
</tr>
<tr>
<td>Patients in classes</td>
<td>569</td>
<td>588</td>
<td>465</td>
</tr>
</tbody>
</table>

Source: Heart Program, PMH, 2014

As shown in the table, an increase in the number of new patients and outpatient visits was noted between 2011/12 and 2013/14. In-patients receive an average of three visits per admission. Outpatient support includes in-home and office visits, and telephone follow-up. Nurses with the Heart Program provided follow-up support via Telehealth until a few years ago but clients of the program were not satisfied with this method. They prefer to travel to Brandon for in-office visits or to attend the classes.

“As these are the most motivated clients you will ever see. They experience cohesiveness in their common disease processes and enjoy the camaraderie of the group setting. Technology does not embrace the emotional and psychological phase of recovery which happens at various times. Patients prefer to travel to the clinic to meet with us”.

Heart Program Nurse Interview, November 2014

Discussions with the Heart Nurses identified several trends arising from clinical practice. These trends include:

- An increase in the number of women experiencing cardiac events
- An increase in younger clients, both male and female
- An increase in the use of implantable cardiac defibrillator (ICD) to regulate irregular fatal heart rhythms or improve heart function
- An increase in requests for information regarding medications (by clients and family)
- An increase in self-advocacy by both client and spouse.

Most clients are current or former smokers, and a significant proportion of clients are living with diabetes.

Much of the success of the Heart Program is based on a strong partnership with St. Boniface Hospital in Winnipeg which has developed over time. Opportunities for professional development (education and
skill building) and information sharing are in place. For example, the Heart Nurses participate in weekly Grand Rounds at St. Boniface Hospital via Telehealth.

The Heart Program at the Brandon Regional Health Centre (BRHC) is the only facility in the province with the capacity to receive patients from St. Boniface Hospital the same day following cardiac intervention. As a result, blocked time for the Catheterization Lab at St. Boniface Hospital is secured for patients from the BRHC from Monday through Friday.

Perhaps the strongest evidence of the successful partnership between the two health care institutions is demonstrated by a pioneer patient currently under the care of the Heart Program. A male resident of Brandon experienced severe heart failure and was placed on a heart transplant list. His condition steadily worsened resulting in minimal quality of life. In time, the individual was transported to Edmonton, Alberta where he received a Left Ventricular Assist Device (LVAD), a mechanism to override the left ventricle of his heart. He then returned to St. Boniface Hospital to recover from the invasive procedure.

The patient and his family did not want to relocate to Winnipeg for ongoing medical care and they requested to return to Brandon. There are approximately nine individuals currently living in Winnipeg with this device but none outside the city. Collaborative efforts between the Heart Failure and Transplant Clinics at St. Boniface Hospital, the Heart Program at BRHC and the manufacturer of the device resulted in this individual being the first patient with an LVAD in Manitoba to live outside the City of Winnipeg. A consultant with the LVAD manufacturer from Denver, Colorado provided training for several health care providers at the BRHC including the Emergency Room, Intensive Care and the Heart Program as well as 22 family members to ensure the necessary supports are in place for this individual. The patient, in his early 50s, has returned to his home in Brandon where he participates in the Cardiac Rehab program at the local YMCA and is active in the community.

**Cardiac Rehabilitation Program**

The Cardiac Rehab Program was established approximately 25 years ago and is delivered in partnership with the Brandon YMCA. The program runs two nights per week from September through May and costs $5.00 per session. This fee is a recognized income tax deduction. Each client must have experienced a cardiac event and had a stress test in order to join the program. Each session is supervised by a physician, cardiac nurse and an exercise kinesiologist. Cardiac rehab staff members assist clients with setting individualized goals and an exercise regime to strengthen cardiac health. On average, 16 clients attend each session and they may continue with the program lifelong.

**Stroke**

Stroke is a major cause of death and disability. It is caused by the interruption of the blood supply to the brain, usually because a blood vessel bursts or is blocked by a clot. This cuts off the supply of oxygen and nutrients causing damage to the brain. The effects of a stroke depend on which part of the brain is injured and how severely it is affected. A very severe stroke can cause sudden death (World Health Organization, 2004).
The stroke rate for the region measures the number of hospitalizations or deaths due to stroke per 1,000 residents aged 40 and older.

**Figure 3.17 Stroke Rate by PMH District, 2002-2006 and 2007-2011**

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

![Graph showing stroke rates by PMH district]

Source: MCHP RHA Indicators Atlas, 2013

Similar to the province overall, there was a significant decrease in the stroke rate for residents in Prairie Mountain between 2002-2006 and 2007-2011 from 3.03 to 2.46 strokes/1,000 residents respectively. Although the stroke rate has decreased in the North Zone over time, it remains significantly higher than the provincial rate (3.98/2.93 vs. 3.20/2.66). Brandon’s stroke rate has reduced significantly over time and was significantly lower (1.73) than the provincial rate (2.66) for 2007-2011. At the district level, a significant decrease was observed in the second time period in Brandon West End, Turtle Mountain, and Brandon East End. The stroke rate was significantly higher in Dauphin (4.24) and Agassiz Mountain (4.71) in 2002-2006 and in Swan River for both time periods at 4.70 and 3.98 respectively. A significant decrease in the rate of stroke over time was seen in Turtle Mountain, Whitemud and Brandon East End.

Stroke rates were related to premature mortality rates with higher stroke rates in less healthy areas. Similarly, stroke rates were strongly related to income levels for urban and rural residents in both time periods, meaning that residents in lower income areas had higher stroke rates.
Stroke Mortality

Stroke is caused by either blocked blood flow to the brain (ischemic stroke) or rupture of blood vessels and bleeding into the brain (hemorrhagic stroke). Only about one in five strokes is caused by bleeding, but patients with hemorrhagic strokes have higher mortality rates.

An important factor in stroke mortality is the quality of care provided. For example, timely access to imaging technology such as computed tomography (CT) or magnetic resonance imaging (MRI) is essential in distinguishing the two types of strokes and determining appropriate treatment. Early treatment with thrombolytics (clot busting medications) may benefit patients with ischemic strokes. Care provision by a specialist or a stroke team may also lead to better outcomes. Mortality rates following stroke may reflect the severity of the stroke, the effectiveness of treatment, and the quality of care.

The 30-day stroke in-hospital mortality rate measures the risk-adjusted rate of all-cause in-hospital death occurring within 30 days of first admission to an acute care hospital with a diagnosis of stroke. Lower rates are desirable.

Table 3.8 30 Day Stroke In-Hospital Mortality Rate by PMH Zone, 2007 to 2010

<table>
<thead>
<tr>
<th></th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>24.6%</td>
<td>15.1%</td>
<td>n/a</td>
<td>17.3%</td>
</tr>
<tr>
<td>2008</td>
<td>26.0%</td>
<td>15.9%</td>
<td>n/a</td>
<td>16.5%</td>
</tr>
<tr>
<td>2009</td>
<td>26.6%</td>
<td>17.7%</td>
<td>n/a</td>
<td>16.2%</td>
</tr>
<tr>
<td>2010</td>
<td>22.7%</td>
<td>15.3%</td>
<td>n/a</td>
<td>15.6%</td>
</tr>
</tbody>
</table>

Source: Canadian Institute for Health Information, 2013

The provincial stroke mortality has been steadily declining between 2007 and 2010. PMH’s 30-day Stroke In-Hospital Mortality rate (19.6%) is significantly higher than the Canada overall rate (14.7%). Fluctuations were observed in the Brandon and South Zones with the former South Zone remaining higher than the provincial average. Data were not available for the North Zone.

Stroke Prevention Clinic

Stroke is the third leading cause of death in Canada, and a stroke survivor has a 20% chance of having another stroke within two years. People who have had a Transient Ischemic Attack (TIA) or mini stroke are five times more likely to have a stroke over the next two years than the general population (Heart and Stroke Foundation of Manitoba, 2008).

The Stroke Prevention Clinic was established at the Brandon Regional Health Centre (BRHC) in 2008. Stroke Prevention Clinics address the needs of individuals who are at high risk for stroke through evidence-based protocols, improved management and referral services. These services include rapid
assessment and accelerated care through a series of diagnostic tests and immediate preventive medication if necessary. Using a case management model, services are provided by a Registered Nurse (Case Manager) and a Neurologist.

Also in 2008, a Stroke Strategy was implemented in the South Zone to align stroke prevention and management efforts with current guidelines. The strategy included public awareness activities and an EMS protocol to transport patients with specific symptoms directly to Brandon to facilitate early access to diagnostic procedures. A stroke by-pass protocol was not implemented in the North Zone primarily due to the geographical challenges of accessing a stroke centre.

A formal evaluation of the Stroke Prevention Clinic at the BRHC was conducted in 2011. Data were gathered through a telephone survey addressing four dimensions: wellness, lifestyle and medication, client understanding of stroke, and recommendations for improvement from a client perspective. Survey participants were residents who had accessed services through the clinic between 2008 and 2011 and were randomly selected. A total of 149 clients participated in the survey representing both urban and rural settings.

A total of 65% of survey respondents reported a complete physical recovery from their stroke. A complete physical recovery was defined as the returned ability to independently perform activities of daily living. As well as mobility, survey questions also specifically addressed speech, vision and reading abilities. Of those individuals who did not achieve a full recovery, the majority reported mobility issues.

While the majority of clients did not report financial difficulties following their stroke, it is worth noting that many of the respondents were retired from the workforce. Of the 13% who did report financial stress, medication costs, job loss or the inability to perform the same work such as farming were the primary reasons cited.

A total of 35% of the survey respondents self-reported feelings of depression following the stroke or TIA. Symptoms of depression included personality change (22%), feeling down (22%), feeling tired (36%) and loss of interest in former activities (58%).

Approximately 60% of respondents reported a positive lifestyle change including alterations in exercise and diet following their stroke or TIA.

When asked about prescription adherence, the vast majority (92%) reported compliance with the medication regime they were provided. Of the 8% who reported not taking their medications as prescribed, negative side effects were the primary reason cited.

Overall, clients were extremely 

“Dr. Tamayo and Sherry were there when I needed them; very knowledgeable and kind. They helped me make changes to better myself. I greatly missed them after I didn’t have to see them anymore.”

*Stroke Prevention Clinic Evaluation Respondent, October 2013*
satisfied with the services and support they received through the Stroke Prevention Clinic with the majority of respondents describing “the outstanding care” they received from the Case Manager and Neurologist.

Based on client feedback, recommendations for program improvement include:

- Decrease wait time for initial assessment
- Increase time with Neurologist
- Expand clinic services to include a pharmacist and dietitian
- Establish a support group especially for clients experiencing depression (Fowell J & Teichreow D, 2013).

**Peripheral Arterial Disease**

Peripheral Arterial Disease, sometimes referred to as Peripheral Artery Disease or PAD, is a progressive narrowing and deterioration of the arteries in the neck, abdomen and extremities. It is usually caused by atherosclerosis (plaque buildup inside arteries). The major causes of PAD include cigarette smoking, hypertension, hyperlipidemia (high lipid levels) and diabetes mellitus. Other risk factors include obesity, sedentary lifestyle, family history, stress and gout.

Atherosclerosis is responsible for the majority of cases of PAD resulting in a twofold to threefold increase in risk of cardiovascular morbidity and mortality for those individuals living with PAD. PAD tends to be highly under-diagnosed and under-treated and thus known as the ‘silent’ cardiovascular disease (Lewis et al., 2010). A diagnosis of PAD can help predict subsequent risks associated with cardiovascular and cerebrovascular diseases (Golomb, Dang & Criqui, 2006).

Based on the incidence of circulatory disease in the Brandon region, the former Brandon RHA pilot tested a community-based Peripheral Vascular Disease clinic in 2003 in collaboration with the Ambulatory Care Clinic at Misericordia Health Centre in Winnipeg. A total of 111 participants were screened and 23 individuals were referred to a specialist with suspected PAD. Of those referred, 1.7% did not have PAD, 39% had mild PAD and 13% had severe PAD requiring surgery.

The feasibility of a PAD Clinic for Prairie Mountain Health was further explored in the fall of 2013. An analysis of available health resources required to establish a Peripheral Artery Disease clinic in Brandon was completed and a screening clinic was piloted involving 26 individuals.

All but one respondent reported having at least one risk factor for PAD and every respondent reported experiencing leg pain. The top three risk factors for both males and females included:

- Hypertension – males 38%, females 61%
- Hyperlipidemia – males 50%, females 33%
• Diabetes – males 25%, females 22%

A total of 38% of males and 17% of females were referred to a vascular surgeon for follow-up after completing the PAD screening.

Recommendations from the pilot study include:

• Increase public awareness of PAD

• Enhance early detection for the asymptomatic population with associated risk factors

• Develop a clinical pathway for clients at high risk for PAD (Barclay N & Dixon M, 2013).
Cardiovascular Disease Key Points

- More than one-quarter (26.8%) of PMH residents aged 19 and older were living with hypertension. This finding includes only those residents aged 19 and older who have been diagnosed with hypertension and does not include the proportion of the population who are hypertensive but not yet diagnosed.

- There was a significant relationship between income and incidence/prevalence of cardiovascular diseases in that rates of diseases were higher in lower income areas. This finding means that health status is largely driven by the determinants of health, particularly income.

- There were significantly higher rates of cardiovascular diseases overall in the North Zone compared to the South and Brandon zones which is consistent with inequities related to the determinants of health (e.g. in a five-year period, the proportion of residents aged 19+ living with ischemic heart disease in the North Zone is almost twice that of residents in the South Zone).

- Although the rate of cardiac catheterizations increased significantly in PMH, residents of the South and Brandon zones continued to have the lowest rates in the province. Reasons for low rates of this diagnostic intervention in both zones are not known.

- There was a significant increase in the PCI rate over time in the region. This is consistent with ongoing changes in clinical practice including the use of PCI as the primary treatment for heart attack patients and the use of stents among some patients for whom bypass surgery may have been recommended several years ago.

- A strong partnership between the Heart Program and St. Boniface Hospital in Winnipeg has resulted in effective and efficient care and support of cardiac clients in PMH.

- The vast majority of clients were extremely satisfied with “the outstanding care” they received through the Stroke Prevention Clinic and have reported positive lifestyle changes since accessing services.

- There has been a significant decrease in the rate of strokes over time throughout the region; however rates have remained higher in the North Zone.

- Early detection for the asymptomatic population with risk factors for peripheral artery disease is recommended.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypertension Prevalence</strong></td>
<td></td>
<td>↑ significantly over time (25.7% to 26.8%)</td>
<td>Duck Mountain (28%), Agassiz Mountain (29%) and Porcupine Mountain (31%) significantly higher</td>
</tr>
<tr>
<td>(age-and sex adjusted percent of residents aged 19+ diagnosed with disorder)</td>
<td>Significantly higher than the province</td>
<td>North Zone significantly higher than province. North Zone highest rates in MB.</td>
<td>Significant increase over time in Riding Mountain, Little Saskatchewan and Porcupine Mountain</td>
</tr>
<tr>
<td></td>
<td>26.8% PMH &gt; 25.6% MB 2011/12</td>
<td>North Zone (11.5%) significantly higher than province. North Zone had highest rates in MB.</td>
<td>Whitemud (25%) lowest in the region</td>
</tr>
<tr>
<td><strong>Incidence of Ischemic Heart Disease</strong></td>
<td></td>
<td>North Zone significantly lower than province in both time periods – significant decrease over time</td>
<td>Dauphin (13.7%) and Riding Mountain (13.0%) highest in the region</td>
</tr>
<tr>
<td>(age-and sex-adjusted rate per 100 person-years for residents aged 19+)</td>
<td>Significantly higher than the province</td>
<td>Brandon Zone significantly lower than province in both time periods – significant decrease over time</td>
<td>Brandon West End (5.4%) and Brandon North Hill (5.9%) lowest rates in the region</td>
</tr>
<tr>
<td></td>
<td>7.57% PMH &gt; 6.73% MB 2007/08-2011/12</td>
<td>Dauphin (14.31%) and Agassiz Mountain (14.16%) highest rates in the region</td>
<td></td>
</tr>
<tr>
<td><strong>Prevalence of Ischemic Heart Disease</strong></td>
<td></td>
<td>North Zone (12.2%) significantly higher than province. North Zone highest rate in the province in second time period.</td>
<td>Brandon West End (6.81%) and Assesippi (6.34%) lowest rates in the region</td>
</tr>
<tr>
<td>(age-and sex adjusted percent of residents aged 19+ diagnosed with disorder)</td>
<td>Significantly higher than the province</td>
<td>South Zone (7.18%) significantly lower than provincial rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.69% PMH &gt; 7.92% MB 2007/08-2011/12</td>
<td>Significant decrease over time in Brandon Zone</td>
<td></td>
</tr>
<tr>
<td><strong>Heart Attack (AMI) Rate</strong></td>
<td></td>
<td>↓ significantly over time (4.71 to 4.31)</td>
<td>Dauphin (7.08), Agassiz Mountain (5.67%) and Porcupine Mountain (6.94) significantly higher than the province and highest in the region</td>
</tr>
<tr>
<td>(age- and sex-adjusted average annual rate of death or hospitalization for AMI per 1,000 residents aged 40+)</td>
<td>Similar to the province</td>
<td>North Zone highest in the province at 5.60</td>
<td>Significant decrease over time in Brandon North Hill, Whitemud, Brandon East End and Brandon Downtown</td>
</tr>
<tr>
<td></td>
<td>4.31 PMH &gt; 4.09 MB 2007-2011</td>
<td>Significant decrease over time in Brandon Zone (3.56)</td>
<td></td>
</tr>
</tbody>
</table>
### CHAPTER 3: BURDEN OF ILLNESS — CARDIOVASCULAR DISEASE

<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalence of Congestive Heart Failure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(age- and sex adjusted average annual percent of residents aged 40+ diagnosed with disorder)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Significantly lower than the province</td>
<td></td>
<td>Riding Mountain (2.54%) and Dauphin (2.64%) highest in the region</td>
</tr>
<tr>
<td></td>
<td>1.49% PMH &lt; 1.64% MB 2009/10-2011/12</td>
<td></td>
<td>Brandon South End (1.02%) and Spruce Woods (1.13%) lowest in the region</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Significant decrease over time in South Zone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Significant decrease over time in Turtle Mountain, Spruce Woods, Souris River, Little Saskatchewan, Assessippi, Agassiz Mountain, Swan River and Porcupine Mountain</td>
</tr>
<tr>
<td><strong>Stroke Rate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(age- and sex adjusted average annual rate of death or hospitalization for stroke per 1,000 residents aged 40+)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Similar to the province</td>
<td></td>
<td>Swan River (3.98) and Agassiz Mountain (3.76) highest in the region</td>
</tr>
<tr>
<td></td>
<td>2.46 PMH &lt; 2.66 MB 2007-2011</td>
<td></td>
<td>Brandon East End (1.57) and Brandon South End (1.75) lowest rates in the region</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Significant decrease over time in all three zones</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Significant decrease over time in Turtle Mountain, Whitemud and Brandon East End</td>
</tr>
</tbody>
</table>
Cancer

The number of cancer cases in Manitoba is influenced by three factors – the age of the population, its size, and risk factors such as smoking, poor diet, inactivity, sun exposure and not being screened. Research shows that up to 50 per cent of cancers can be prevented through positive lifestyle changes. While some risk factors such as age or genetics can’t be changed, reducing risk factors such as smoking, alcohol consumption and poor eating habits can greatly reduce the risk of cancer. Please refer to the Determinants of Health and Lifestyle chapter for further information and details of prevention efforts.

The greatest influence on the increase in the number of cancer cases overall in Manitoba between 1988 and 2007 was aging. Change in risk was the second most influential factor for the increase, and population growth was third. Even though Manitoba is making progress in reducing cancer risk, because the population is aging, the number of new cases of cancer has increased. This is a non-modifiable factor (as is population growth) – an element that can’t be changed through prevention strategies – but is important for health care planners to note, as an aging, growing population will result in the use of more cancer-related health services (CancerCare Manitoba, 2010).

Cancer is the most frequent cause of premature death and is the second leading cause of death overall, both provincially and for residents of Prairie Mountain Health. From 2007 to 2011, for PMH residents aged 1 to 74, 36.2% of premature deaths were related to cancer. For the same time period, 26.0% of all deaths in PMH were related to cancer. Both these rates have seen a slight decrease over time provincially and regionally. The highest value for Potential Years of Life Lost (PYLL) by cause of death (compared to Respiratory and Circulatory disease) amongst PMH residents was for deaths due to cancer. Between 2002/03-2006/07 and 2007/08-2011/12, PMH’s age and sex adjusted average annual cancer PYLL rate (per 1,000 residents aged 1 to 74) decreased slightly from 15.7 to 15.1 and was similar to the Manitoba rate (16.3 and 15.2 respectively) (Manitoba Health Information Management, 2014). Please refer to the Mortality section of this chapter for further information related to causes of mortality. While cancer mortality has decreased, it is expected that in the next 15 to 20 years, the number of Manitobans diagnosed with cancer will increase by 50% due primarily to Manitoba’s aging population (Manitoba’s Cancer Strategy, 2012-2017).

**Invasive cancer**: Cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues (National Cancer Institute website).

**All (invasive) Cancers**: all invasive cancers excluding non-melanoma skin cancers (CancerCare Manitoba, Community Health Assessment, 2014).
Cancer Incidence

The Prairie Mountain Health age-standardized incidence rate of cancer (new cases of patients diagnosed with invasive cancer per 100,000 people) was similar to the Manitoba rate for all cancers and has seen a slight decrease over time. Although statistically similar to the provincial rates, incidence rates of lung and colorectal cancers in PMH were higher while rates of breast and prostate cancers were lower. The North Zone had a significantly lower rate of age standardized incidence of prostate cancer but a slightly higher rate of patients with prostate cancer diagnosed at late stage. Brandon had a significantly higher incidence rate of lung cancer.

Table 3.9 Cancer Incidence for Manitoba, PMH and PMH Zone, by cancer type, 2008-2010
Age standardized rates per 100,000 people

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>PMH</th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>72.7</td>
<td>66.0</td>
<td>93.5</td>
<td>65.9</td>
<td>68.8</td>
</tr>
<tr>
<td>Colorectal</td>
<td>76.4</td>
<td>75.3</td>
<td>70.7</td>
<td>83.1</td>
<td>68.3</td>
</tr>
<tr>
<td>Breast (f)</td>
<td>113.7</td>
<td>114.3</td>
<td>122.3</td>
<td>105.6</td>
<td>122.6</td>
</tr>
<tr>
<td>Prostate</td>
<td>108.7</td>
<td>119.8</td>
<td>116.5</td>
<td>83.5</td>
<td>116.4</td>
</tr>
<tr>
<td>All Cancers</td>
<td>476.5</td>
<td>464.2</td>
<td>512.4</td>
<td>463.1</td>
<td>471.2</td>
</tr>
</tbody>
</table>

Source: Manitoba Cancer Registry, patients diagnosed 2008-2010

From 2002 to 2012, there were notable differences between PMH males and females with respect to cancer incidence rates. For this time period, all invasive cancer, lung and colorectal cancer incidence rates for PMH were higher for males than for females.
While cancer was the leading cause of mortality in Métis in Manitoba (Martens PJ et al., June 2010), the profile of cancer in Métis in Manitobans is little different than that of all other Manitobans. While Métis had higher rates of lung cancer, rates of all invasive, colorectal, breast and prostate cancers were similar between the two groups. Rates of lung cancer in Métis in Manitoba, and particularly in Rural South aggregate area for both sexes, were higher than those in all other Manitobans. The increasing trend in rates of lung cancer in Métis males in Rural South aggregate area is particularly worth noting (a significant increasing trend) (Bartlett J.G., et al., 2011). [Rural South aggregate area includes the rural RHAs of southern Manitoba: including the former Assiniboine, Central, and South Eastman RHAs.]

**Cancer Survival Rate**

Relative survival is a way of comparing survival of people who have cancer with those who don’t—it shows how much cancer shortens life (National Cancer Institute website). The 5-year relative survival rates (the percentages of people still alive five years after their diagnosis of cancer) were similar to the provincial averages for Prairie Mountain Health. The highest rate of cancer survival in PMH was for prostate cancer at 92.3%. The lowest cancer survival rates for PMH are for lung cancer at 20.4%.
Stage: The extent of a cancer in the body. Staging is usually based on the size of the tumor, whether lymph nodes contain cancer, and whether the cancer has spread from the original site to other parts of the body. (National Cancer Institute website).

Lung cancer was the leading cause of death by cancer in PMH. In Canada, lung cancer was also the leading cause of cancer mortality (Canadian Cancer Society, 2011). Lung cancer mortality remained high. Evidence about a population based lung cancer screening program is still emerging. Stage IV cancers have the poorest prognosis (chance of survival); the disease is widespread and treatment is least effective. The percent of PMH patients diagnosed in late stage (IV) for lung cancer was 42.6% which is comparable to the Manitoba average of 45.7% (diagnosis years 2008-2010).

For patients diagnosed between 2008 and 2010, the cancer mortality rate for ‘All Cancers’ for the PMH South Zone was significantly lower than the provincial rate.
Table 3.11 Cancer Mortality for Manitoba, PMH and PMH Zone, by cancer type
Age standardized mortality rates per 100,000 people

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>PMH</th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>51.5</td>
<td>47.6</td>
<td>65.0</td>
<td>46.2</td>
<td>51.1</td>
</tr>
<tr>
<td>Colorectal</td>
<td>26.3</td>
<td>23.6</td>
<td>22.4</td>
<td>34.0</td>
<td>25.3</td>
</tr>
<tr>
<td>Breast (f)</td>
<td>22.0</td>
<td>21.2</td>
<td>27.8</td>
<td>15.6</td>
<td>27.3</td>
</tr>
<tr>
<td>Prostate</td>
<td>36.3</td>
<td>31.9</td>
<td>35.0</td>
<td>44.6</td>
<td>33.9</td>
</tr>
<tr>
<td>All Cancers</td>
<td>195.7</td>
<td>180.2</td>
<td>217.9</td>
<td>200.2</td>
<td>202.7</td>
</tr>
</tbody>
</table>

Source: Manitoba Cancer Registry, patients diagnosed 2008-2010

Prairie Mountain Health’s top 5 cancer mortalities by cancer site and sex are presented in the table below. Percentages were similar to the provincial crude percentage of deaths.

Table 3.12 Top 5 Cancer Mortalities for Prairie Mountain Health by sex and cancer site, 2007 to 2011
Crude percentage of deaths

<table>
<thead>
<tr>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung (25%)</td>
</tr>
<tr>
<td>Prostate (14%)</td>
</tr>
<tr>
<td>Colorectal (14%)</td>
</tr>
<tr>
<td>Esophagus (5%)</td>
</tr>
<tr>
<td>Pancreas (4%)</td>
</tr>
<tr>
<td>Other (38%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung (26%)</td>
</tr>
<tr>
<td>Breast (13%)</td>
</tr>
<tr>
<td>Colorectal (13%)</td>
</tr>
<tr>
<td>Ovary (5%)</td>
</tr>
<tr>
<td>Other (37%)</td>
</tr>
</tbody>
</table>

Source: CancerCare Manitoba, 2014

Cancer Screening

Breast Cancer Screening

Screening mammography is used to detect early breast cancer in women at increased risk because of their age. In Manitoba, it is recommended that screening mammography be offered every two years to all women 50 to 74 years of age. Although breast cancer can occur at any age, more than 80 per cent of new cases occur among women between 50 and 74 years of age and older. Early detection, combined with effective treatment, remains the best option available to continue reducing deaths from breast cancer in this age group. Research indicates that regular screening mammograms can lower breast cancer deaths in women aged 50 to 69 years by up to 25% (CancerCare Manitoba, 2014).

BreastCheck, the provincial breast cancer screening program operated by CancerCare Manitoba (CCMB), provides mammograms every two years for all eligible Manitoba women 50 years and older. BreastCheck includes a breast x-ray (mammogram) as well as information on breast health.
In 1998, *BreastCheck* mobile services were made available to rural and northern communities to improve screening access. *BreastCheck* currently operates mobile breast screening sites across Manitoba in over 90 locations. The goal is to reach 70% of the population of women 50 to 69 years of age. Community and regional health authority assistance are required to find a suitable location, promote screening and find volunteers when needed (CancerCare Manitoba website). Mobile clinics are held throughout Prairie Mountain Health on a biennial rotation. 2013 and 2014 clinics included the communities of: Birch River, Birtle, Boissevain, Camperville, Dauphin, Deloraine, Erickson, Grandview, Hamiota, Killarney, McCreary, Melita, Minnedosa, Neepawa, Roblin, Rossburn, Russell, Sioux Valley, St. Rose, Swan River, Treherne, Virden, and Winnipegosis. In 2013, 3,045 women received screening through these PMH based clinics and it is estimated over 3,200 screens will be performed in 2014 (CancerCare Manitoba, 2014).

Prairie Mountain Health mammography rates and those of all three zones were significantly higher than the Manitoba average in the two year period of April 1, 2008 to March 31, 2010.

<table>
<thead>
<tr>
<th>Table 3.13 Mammography Test Rates for PMH Women Aged 50-69, 2008-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of women (ages 50-69) who completed a mammogram in the past two years</td>
</tr>
<tr>
<td>PMH</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>% screened (all mammograms, screening or diagnostic)</td>
</tr>
<tr>
<td>% screened (BreastCheck only, routine screening only)</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Medical claims data for mammography April 1, 2008 – March 31, 2010

For the time period 2005/06 to 2006/07 mammography rates were significantly lower for Métis women compared to all other women living in the PMH South Zone (52.1% vs. 66.1%) and the North Zone (53.1% vs. 65.2%) (Martens PJ et al., June 2010).

Prairie Mountain Health breast assessment waits – the median waiting time (in days) for women (ages 50-69), from screening by mammogram to final diagnosis, for *BreastCheck* participants – were similar to the Manitoba average (22 and 21 days respectively) for the time period April 1, 2006 to March 31, 2008 and April 1, 2008 to March 31, 2010.

**Cervical Cancer Screening**

Pap (Papanicolaou) testing is a screen for cervical cancer. Regular screening reduces the risk of women developing cervical cancer by up to 80 per cent (CancerCare Manitoba, 2014).
CervixCheck, the provincial cervical cancer screening program, facilitates increased access to screening and educates women and health care providers about the importance of Pap tests in addition to Human Papillomavirus (HPV) screening based on new clinical research for the prevention of cervical cancer. In January 2013, CervixCheck updated its guidelines for cervical cancer screening in Manitoba. Routine screening is no longer recommended for women under 21 years of age. It is recommended that screening should be initiated at 21 years of age for all women who have ever been sexually active and continue every 3 years until age 69.

Prairie Mountain Health pap test rates (women ages 20 to 69) were slightly higher than the Manitoba average (67.2% and 66.8% respectively) in the three year period of April 1, 2009 to March 31, 2012. For the same time period, rates in both the PMH North and South Zone were significantly lower, whilst the rates for the Brandon Zone were significantly higher than the Manitoba average.

Table 3.14 Pap Test Rates for PMH Women Aged 20-69, 2009 to 2012
Percent of women (ages 20 – 69) who had a Pap test in the last three years

<table>
<thead>
<tr>
<th>Pap Test Rate</th>
<th>PMH</th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>67.2</td>
<td>64.5</td>
<td>75.3</td>
<td>60.7</td>
<td>66.8</td>
</tr>
</tbody>
</table>

Source: CervixCheck Registry April 1, 2009 – March 31, 2012
Corrected for hysterectomy.

Inequities have been reported in pap test rates for women aged 18 to 69 (time period 1984/85-1986/87 to 2005/06-2007/08), especially in Rural Manitoba. These inequities are increasing over time according to several disparity measures. The absolute difference gap in pap test rates comparing the lowest rural neighbourhood income group to the highest rural neighbourhood income group was 12.0 less pap tests per 100 women in 1984/85-1986/87 and 18.4 less in 2005/06-2006/07, showing a statistically significant decrease in pap testing in the lowest rural income group compared to highest rural income group over time (Martens PJ et al., September 2010).

Most RHAs had pap test rates for Métis and other women (aged 18 to 69 who received at least one pap test) that were similar to the corresponding provincial average in the three year period of 2004/05-2006/07. However, for Métis women, the PMH North Zone had a cervical cancer screening rate of 58.9% which was lower than the corresponding provincial Métis average of 69.0% (Martens PJ et al., June 2010).

To help improve access to and improve cervical screening (pap test) rates within Prairie Mountain Health, Women’s Wellness Clinics have been established on a rotating basis across the region. These clinics offer cervical screening, clinical breast examinations and consultations completed by trained female providers (nurses). These registered nurses have advanced delegation of medical function and are specially trained to provide assessment according to CervixCheck screening guidelines. A holistic woman’s health model guides the interaction with the client during these wellness clinics. In addition to increasing access to cervical screening, these clinics also endeavour to reach under screened and higher risk population women. Under screened women are women who have not had a pap test within the last
two to three years (guidelines prior to the changes in January 2013 recommended pap tests every two years). For example, the North Zone October 2010 Pap Week screened 103 women and during these clinics 53.3% of these women were under screened (meaning that they had not had a pap test in the last two years). Across the South Zone clinics have been well received, reporting completion of over 2,100 cervical exams performed at 338 Women’s Wellness Clinics since 2010/11.

Since 2010/11, Women’s Wellness Clinics have been held throughout PMH including the following locations:

- North Zone: Benito, Camperville, Dauphin, Ethelbert, Grandview, Roblin, Sapotaweyak, Swan River, Waterhen, and Wuskwi Sipihk
- South Zone: Baldur, Birdtail-Sioux, Birtle, Boissevain, Canupawakpa, Carberry, Deloraine, Erickson, Glenboro, Hamiota, Hartney, Keeseekowenin, Melita, Neepawa, Reston, Rivers, Rossburn, Russell, Sioux Valley, Treherne, Wawanesa, and Waywayseecappo

Clinics continue to be planned into the future across PMH including: Baldur, Deloraine, Hamiota, Hartney, Melita, Reston, Russell, and Souris. In addition to formal clinics, women can receive pap tests and other screenings by appointment with Community Health Nurses with delegation of medical function, and Nurse Practitioners. Please refer to additional information in Primary Care and Public Health chapters.

**Colorectal Cancer Screening**

Every year in Manitoba, about 360 men and women die of colorectal cancer (Colorectal Centre of Excellence, CancerCare Manitoba web site). When detected early, treatment of colorectal cancer is successful up to 90% of the time (CancerCare Manitoba, 2014).

The Manitoba Colorectal Cancer Screening Program was established in April 2007, and became known as *ColonCheck* in 2009. The goal of the program is to reduce the number of Manitobans who die from colon and rectal cancers. It targets individuals of average risk between the ages of 50 and 74 for colorectal cancer screening using a fecal occult blood test (FOBT). Screening for colorectal cancer can start with a FOBT, a test which checks for blood in the stool. These tests are readily available and can be used at home. A positive test will normally lead to further investigation by colonoscopy.

Percentages of men and women (ages 50 to 74) screened for colorectal cancer within Prairie Mountain Health and each zone were significantly lower than the Manitoba average. However, it should be noted that not all testing is captured by CCMB and the data in the following table does not include testing analyzed in Diagnostic Services Manitoba (DSM) labs.
Systemic therapy: Treatment using substances that travel through the bloodstream, reaching and affecting cells all over the body.

Radiation therapy: The use of high-energy radiation from x-rays, gamma rays, neutrons, protons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body near cancer cells (internal radiation therapy) (National Cancer Institute website).

The percent of PMH cancer patients diagnosed at late stage (IV) for colorectal cancer was 12.3% which was significantly lower than the Manitoba average of 18.3% (diagnosis years 2008-2010). The PMH South Zone was also significantly lower with only 8.5% of colorectal cancer patients diagnosed at stage IV for the same diagnosis period.

Cancer Treatment Programs

The 3 main cancer treatments are surgery, radiation therapy and chemotherapy. Cancer treatment is recommended by cancer specialists (oncologists). Oncologists work with the person with cancer to decide on a treatment plan. A patient’s treatment plan is based on several factors, including cancer diagnosis, stage of disease, the patient’s medical fitness for treatment and the patient’s preference. Treatment utilization rates do not necessarily indicate the appropriateness of care, but rather reflect the type and stage of disease, patients’ medical fitness for treatment and patient choice. It is important to note that care received outside of Manitoba is not captured in the following data (CancerCare Manitoba, 2014).
diagnosis years of 2008-2010. For the same time period, both the South (23.1%) and Brandon (23.0%) Zones radiation therapy rates were significantly lower than Manitoba average (CancerCare Manitoba, 2014). These rates are expected to change with the opening of the Western Manitoba Cancer Centre in Brandon in 2011. It is important to note that this data does not include data from this new centre (please refer to section on Community Cancer Programs Network).

PMH systemic therapy rates (percent of patients receiving systemic therapy/cancer drugs for all cancers) were significantly lower than the Manitoba average (32.0% vs. 35.2%) for the diagnosis years of 2008-2010. For the same time period, both the South (31.9%) and Brandon (29.9%) zones systemic therapy rates were significantly lower than Manitoba average. Systemic therapy for colon cancer patients was significantly lower in Brandon (17.3%) compared to the Manitoba average (29.1%) (CancerCare Manitoba, 2014).

Prairie Mountain Health radiation therapy waits (percent of patients treated with radiation therapy within four weeks from ready to treat to start of treatment) were similar to the Manitoba average (99.8% and 99.2% respectively) for the time period of April 1, 2011 to March 31, 2012. In the same time period, PMH South and North zones radiation therapy wait percentages were significantly higher at 100.0% (CancerCare Manitoba, 2014).

**Community Cancer Programs Network**

In partnership with CCMB, Prairie Mountain Health operates seven Community Cancer Programs (CCPs) including the Western Manitoba Cancer Centre (WMCC). WMCC, located in Brandon, opened in June 2011. CCP services were also enhanced by the creation of hubs to provide a wider range of clinical services and expertise delivered closer to the patient’s home. In PMH, Brandon and Dauphin are regional hubs and together with the Community Cancer Program hubs of Deloraine, Hamiota, Neepawa, Russell and Swan River all help coordinate cancer services for the region.

The WMCC provides western Manitoba residents with improved cancer care closer to home. The centre is the first facility in Manitoba to provide radiation therapy outside Winnipeg. It also provides chemotherapy treatments, outpatient care and support services for the emotional, social and spiritual health of patients and their families. Information technology allows the Brandon staff to connect with CCMB in Winnipeg, to consult on treatment options and access education and training without having to travel to Winnipeg.

The facility employs over 24 full-time equivalent positions along with several casual positions including family practitioners in oncology, chemotherapy trained nurses, an oncology social worker, a clinical dietician, a clinical pharmacist, patient navigators and support staff. There are also several CCMB radiation therapy staff providing services through WMCC, including radiation oncologists, a physicist,

---

“Hats off to the staff that make a difficult journey easier...”

*Client Experience Questionnaire – Cancer Program*
a physicist associate, a nuclear electronics technologist and radiation therapists.

The CCPs in Dauphin, Deloraine, Hamiota, Neepawa, Russell and Swan River provide chemotherapy treatments on an outpatient basis as well as any supporting treatments, education and counselling. The CCPs benefits clients by reducing the need to travel for treatment. Many patients also access cancer related supports via Telehealth. In 2012-2013, there were over 2,600 oncology Telehealth sessions within Prairie Mountain Health. Please refer to the Primary Care chapter for more information on Telehealth.

The following table presents the total activity at the seven CCP programs within Prairie Mountain Health. New patient referrals include patients coming to a CCP/WMCC for the first time for a particular cancer disease site or those patients coming back to CCP/WMCC after being discharged. Physician visits include any patient visit with physician involvement (new, on treatment or follow-up visits). Patient visits (nursing) include any visit with a nurse in the clinics that does not involve the physician. New IV chemo starts include the first IV chemo treatment for a course of treatment. IV chemo sessions include any IV chemo treatment that makes up a course (i.e. total number of prescribed) of treatment.

Table 3.16 Community Cancer Care Program Activity for PMH, 2008/09 to 2013/14

<table>
<thead>
<tr>
<th>Total Activity, all sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>New patient referrals</td>
</tr>
<tr>
<td>Physician visits</td>
</tr>
<tr>
<td>Patient visits (nursing)</td>
</tr>
<tr>
<td>New IV Chemo starts</td>
</tr>
<tr>
<td>IV Chemo sessions</td>
</tr>
</tbody>
</table>

Source: Community Cancer Programs Network, CancerCare Manitoba, 2014

Over time, activity levels at each individual CCP site vary based upon patient needs, referral levels, and staff resource availability. Overall, during the time period from 2008/09 to 2013/14, Prairie Mountain Health CCPs showed the following trends:

- increase in new patient referrals activity of 4.9%
- increase in physician visits of 4.3%
- increase in patient visits (nursing) of 12.3%
- increase in new IV chemotherapy starts of 3.0%
- increase in IV chemotherapy sessions of 6.5%

Radiation therapy began being offered at WMCC in 2011. Between May 2011 and June 2014, over 1,100 new radiation therapy patients and over 2,500 follow up patients were seen at WMCC. During the same
time period a total of 16,130 fractions (treatments) were given on this patient group. Fractionation is a way of dividing a total dose of radiation into smaller doses that are given over multiple days. One dose (a single fraction) of the total planned dose of radiation is normally given each day. Occasionally, two treatments a day are given (National Cancer Institute website). The number of fractions per patient depends on many factors including disease site, extent of disease, and the individual patient.

An evaluation of the new WMCC program was undertaken in 2012. The evaluation examined the first year of operations (July 2011 to June 2012) and looked at: access, safety, effectiveness and satisfaction. Highlights of this WMCC program evaluation are as follows:

- 93.6% of all patients seen by WMCC were PMH residents
- of cancer patients originating from Western Manitoba, 69.8% received their radiation treatments at WMCC
- overall, there was a 64% reduction in travel for patients treated in Brandon versus Winnipeg. (*NOTE: Patients receiving treatment in Brandon travelled a total of 82,000 km. The travel distance saved by being able to receive treatment in Brandon as opposed to Winnipeg was 148,000 km. Analysis of distance travelled was based on each treatment as a separate trip.*)
- only about a third of cancer patients from the area needed to receive their treatment in Winnipeg
- the program was responsive in terms of wait times, meeting the benchmark for radiation therapy treatment in 99.4% of cases, and ensuring that 88% of chemotherapy patients started their first treatment within one business day of being seen in the clinic
- patients were extremely satisfied with the care that they received, as shown by the positive feedback in the patient survey and the number of compliments received, and
- overall, staff members were also very happy in their work.

A CCP Multi-Day Treatment Model Evaluation was undertaken in 2014. In October 2013, the Canadian Association of Provincial Cancer Agencies (CAPCA), the Institute for Safer Medication Practices (ISMP) Canada, and five provincial cancer care organizations worked together to look at different aspects to improve safety with IV chemotherapy administration. One aspect they examined and made recommendations on was the same day treatment model versus the multi-day treatment model. It was determined that the multi-day treatment model was best practice.

The three key elements to the multi day model are:

- the ordering physician has access to blood test results at the same time of chemotherapy ordering
- treatment takes place soon after chemotherapy orders are written, and
treatment takes place at least one day after the orders are written.

Several key areas were included in the compliance audit. They were: the date the blood work was completed, the date that a physician visit took place and the day that treatment commenced. The location of each action was also noted along with the name of the physician seen and the distance that the patient had to travel for treatment.

Overall, the compliance audit showed the following results for Prairie Mountain Health CCPs:

- 84% compliance with best practice method (sample size: 166)
- average of 2.5 days between blood work and treatment
- 64% of patients had to travel from their communities to receive treatment
- 94% of physician visits were done in-person. 6% were completed using Telehealth, and
- 74% of patients received all 3 components (lab work, visit, treatment) at the same site.

Cancer Patient Navigators

The suspicion or a diagnosis of cancer can be a very traumatic experience for a patient and their family. To help patients navigate the system three regional Cancer Patient Navigator positions have been created. Navigation is intended to minimize the distress that comes with a cancer diagnosis. The Navigators work collaboratively and provide coverage for each other. They act as a link between the patients and their primary care provider, oncologist or other health care professionals such as acute care teams, mental health, homecare, and palliative care to ensure continuity and more seamless care.

I have received a lot of positive feedback from patients and caregivers as well as other health care professionals; I often hear relief in patients and families voices when we speak over the phone when they know they have someone to talk to, who is connected in the system, who can answer their questions and address their concerns in a timely manner.

Prairie Mountain Health Cancer Patient Navigator
Navigator support is very patient-centered and interventions are based on patient and family needs. Cancer navigation can take on different forms in different communities as dictated by the needs of the patient, their family, community resources and supports. Navigation supports can include: psychosocial support, information and education about patients diagnoses, treatment (and possible side effects), as well as assisting with practical needs such as transportation availability. The Navigation Program is referral-based and referrals can be made by the patient themselves, family members or health care professionals. Referrals include patients from the entire cancer care continuum from newly diagnosed to survivorship or palliation.

From July 2013 to June 2014, Prairie Mountain Health Navigators assisted 364 cancer patients with their journey. The majority of referrals (48%) to the patient navigators came from PMH staff. The remaining referrals originated from family (16%), self/patient (15%), physician (15%) and other (6%). The majority of navigator interventions were completed via the telephone (67%), followed by inpatient (16%), clinic (12%), Telehealth (2%) and other (4%). The average encounter between patients and navigators for this time period was just over 23 minutes.

“IT was most beneficial to me to have access to information and guidance by the patient navigators and social worker though the system...”

Client Experience Questionnaire – Cancer Program

“I work closely with the health care facilities, their dedicated nursing staff, medical clinics, community resources and supports. I have had the opportunity to be included in many First Nation community events as well as community health care events. This networking has allowed me to provide focused care to improve the patient experience.

Prairie Mountain Health Cancer Patient Navigator

Cancer Patient Journey - IN SIXTY

Manitoba’s Cancer Patient Journey Initiative (CPJI), known as IN SIXTY, entered its second year in 2013. The 40 million dollar provincially-funded project aims to reduce the time of suspicion of cancer to first treatment to no longer than 60 days by 2016. Improvements are being made across the health care system, through partnerships and internal change, driven by the aim to improve the cancer system for all Manitobans. Initiatives both large and small have begun at CCMB, and with the many partners involved in the provincially supported initiative (IN SIXTY Cancer Action, CancerCare Manitoba website).

In September 2012, Green Belt Rapid Improvement Leads (RILs) from CancerCare Manitoba led two Breast Cancer Patient Journey improvement projects in PMH, one in the Brandon Regional Health Centre (BRHC) surgical pre-operative assessment clinic and booking process, and the second focusing on
the Diagnostic Imaging patient journey. These projects were both completed in 2013. The surgical project resulted in a 25% decrease in the turnaround time from referral received in operating room booking to surgical date, ultimately improving wait times for patients. The diagnostic imaging project led to changes in scheduling practices that have decreased the wait time for mammogram appointments. The team indicated that participating in this project helped them look for new ways to improve. The team also believed the project has improved the relationship between the Mammogram and Ultrasound departments and pulled the staff together on a common cause.

In October 2013, another diagnostic project was initiated at Brandon Regional Health Centre, this time focusing on endoscopy for colorectal cancer. So far the project has resulted in a 15% reduction in patient waiting time between booking and procedure dates (in compliance with IN SIXTY), less overtime for staff, as well as higher priority patients being scoped sooner, as pre-procedure workup is completed prior to procedure time.

PMH will continue to work collaboratively with CCMB and other partners in cancer service delivery to identify projects that can lead to improved wait times and access for patients and ultimately achieve IN SIXTY targets.

**Murray House**

Murray House is a residence that provides safe, comfortable accommodations for regional cancer patients and their families, who are receiving care at the Western Manitoba Cancer Centre (WMCC) in Brandon. The residence is conveniently located within walking distance of the WMCC.

Murray House officially opened its doors in June 2014, the result of the "A Sense of Home" fundraising campaign launched in 2011 by the Brandon Regional Health Centre Foundation. In December 2011, the residence was officially named “Murray House” after a major leadership donation was received from the Murray Family and their automotive dealerships. Completely driven by public donations, the Foundation’s campaign was a community project in the truest form.

The mission of Murray House is to provide patients and their families a relaxing home-like atmosphere. PMH oversees the operation and maintenance of the facility. The new, state-of-the-art residence offers affordable accommodations, including:

- 8 private rooms, 2 of which are wheelchair accessible, with ensuite bathrooms
- a passenger elevator for wheelchair access to all floors
- common living room, dining room, kitchen and library/conference room
- laundry facilities for personal guest laundry
- an outdoor patio area, and
- on-site parking for guests.
When cancer patients have their initial visit to the WMCC, and if accommodations are required, it is discussed if the Murray House would be a good fit for the patient. The nurse navigator and/or social worker can make a referral for the patient and a room is booked for the appropriate dates of the patients treatments.

PMH staff at Murray House indicated that feedback from the guests has been very positive. Guests have repeatedly stated that they like being so close to WMCC and that they love the large kitchen; being able to cook what they want, when they want, is the next best thing to being at home. Staff report guests regularly share their stories and laughter over a coffee in the shared dining room facilities.

“\textit{The kindness extended to our family will never be forgotten. We really felt safe, comfortable, and at home.}”

\textit{Thank you card comment - Murray House guest}
Cancer Key Points

- PMH’s aging population is likely to result in the use of more cancer-related health services.

- Cancer Patient Navigators, Murray House, and the Community Cancer Programs Network including the WMCC help bring care closer to home for patients and reduce the distress involved with the cancer patient journey.

- Radiation therapy rates are expected to increase and will be reflected in the next Community Health Assessment (will fully capture WMCC data).

- Initiatives to improve cervical cancer screening (pap test) rates could be explored, particularly for North and South zones and lower income women.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH Zone</th>
</tr>
</thead>
</table>
| **Cancer Incidence**            | Similar to province for ‘All Cancers’ PMH 476.5 > MB 471.2 | Lung 72.7, Colorectal 76.4, Breast 113.7, Prostate 108.7 | - North Zone has a significantly lower rate of incidence of prostate cancer. 
- Brandon Zone has a significantly higher incidence rate of lung cancer. |
| (age standardized rate per 100,000 residents, patients diagnosed 2008-2010) |                                 |                               |                                                                           |
| **Cancer Mortality**            | Similar to province for ‘All Cancers’ 195.7 PMH < 202.7 MB | Lung 51.5, Colorectal 26.3, Breast 22.0, Prostate 36.3 | - The cancer mortality rate for ‘All Cancers’ for the PMH South Zone (180.2) is significantly lower than the provincial rate. |
| (age standardized rates per 100,000 people, patients diagnosed 2008-2010) |                                 |                               |                                                                           |
| **Breast Cancer Screening**     | Significantly higher than province 66.1 PMH > 63.7 MB | South Zone 66.9, Brandon Zone 65.4, North Zone 65.4 | - Significantly higher than province in all 3 zones.                       |
| (rate per 1,000 women aged 50 to 69, receiving at least one mammogram in two years, 2008 to 2010, all mammograms, screening or diagnostic) |                                 |                               |                                                                           |
| **Cervical Cancer Screening**   | Similar to province 67.2 PMH > 66.8 MB | South Zone 64.5, Brandon Zone 75.3, North Zone 60.7 | - Significantly lower rates in both the PMH North and South Zone  
- Significantly higher rates in the Brandon Zone. |
| (rate per 1,000 women aged 20 to 69 who had a pap test in a 3 year time period, 2009-2012) |                                 |                               |                                                                           |
Respiratory Disease

Respiratory Health

Respiratory diseases are diseases of the lung, pleural cavity, bronchial tubes, trachea, and upper respiratory tract and of the nerves and muscles of breathing. There are a range of respiratory diseases which vary by type: acute (short-term) and chronic (long-term). Acute diseases include pneumonia, influenza, and infectious diseases. Chronic diseases include lung cancer, Chronic Obstructive Pulmonary Disease (COPD), asthma, tuberculosis, cystic fibrosis, sleep disordered breathing (sleep apnea), occupational lung disease, environmental disease, and allergies.

The most common respiratory diseases are related to tobacco use, including lung cancer and COPD. Asthma, tuberculosis, and influenza – both seasonal and pandemic – are all common respiratory diseases unrelated to tobacco.

Respiratory diseases are a common and significant cause of illness and death in the region.

Total Respiratory Morbidity (TRM)

Total respiratory morbidity (TRM) prevalence is defined as the proportion of residents diagnosed (in at least one physician visit or hospitalization in a one-year period) with any of the following respiratory diseases: asthma, chronic or acute bronchitis, emphysema, or chronic airway obstruction.

Prairie Mountain Health has the highest TRM prevalence in the province at 12.1% for 2011/12 which is significantly higher than the Manitoba rate of 9.5% for the same time period. In contrast to rest of the province which has seen a significant decrease in TRM prevalence, the PMH rate has increased significantly between 2006/07 and 2011/12 (11.5% to 12.1%). In 2011/12 there were 20,675 PMH residents living with a respiratory disease, an increase of almost 1,900 people over the 5 year time period.

The Brandon Zone (16.1%) and North Zone (12.2%) have significantly higher rates whilst the South Zone (9.2%) was not significantly different to the Manitoba (9.5%) average in 2011/12.

At a district level TRM prevalence is widespread with all districts other than Spruce Woods, Whitemud, Assiniboia and Souris River having significantly higher rates than Manitoba as a whole. Particularly high rates can be found throughout the Brandon Zone, especially in the Brandon Downtown (19.2%) and Brandon North Hill (17.9%) districts.
Respiratory Potential Years of Life Lost

Respiratory Potential Years of Life Lost (PYLL) is defined by the number of years of life lost when a person dies before the age of 75 due to a respiratory disease.

The age and sex adjusted rate of respiratory PYLL for Prairie Mountain Health has remained constant at 1.8/1,000 in both 2002/03-2006/07 and 2007/08-2011/12. This compares to the provincial values of 2.0 and 2.1 for the same time periods.

The North Zone (1.6/1,000 to 1.8/1,000) and South Zone (1.6/1,000 to 2.0/1,000) have not changed significantly between the two time periods while the Brandon Zone saw a significant decrease from 2.2/1,000 to 1.5/1,000.
Respiratory Disease among First Nations

Respiratory diseases are one of the leading causes of hospitalizations among First Nations in Manitoba for 2011/2012, and the prevalence of respiratory diseases are higher in males than in females. The most common respiratory diseases are related to tobacco use, including lung cancer and COPD. Manitoba’s Aboriginal population experiences similar respiratory health problems to those experienced by populations in many low- and middle-income communities. Multiple social and economic factors – often referred to as social determinants of health – influence lung health outcomes for this population (National Aboriginal Health Organization, 2011).
Asthma

Asthma is a chronic disease of the airways that makes breathing difficult due to inflammation of the air passages that results in a temporary narrowing of the airways that carry oxygen to the lungs. This results in asthma symptoms, including coughing, wheezing, shortness of breath, and chest tightness. If it is severe, asthma can result in decreased activity and inability to talk. Asthma prevalence is identified through diagnosis received during hospital visits or physician visits, or through asthma medication prescriptions. There are currently over 85,000 Manitobans living with asthma and over 34,000 are children (Lung Association of Manitoba, 2013).

The age and sex adjusted annual rate of asthma in Prairie Mountain Health (2.1/100) is not significantly different to the provincial rate (2.4/100) for 2010/11-2011/12 and neither has changed significantly from the 2005/06-2006/07 rates.

The South Zone (1.8/100 in 2010/11-2011/12) has remained significantly below the provincial average whilst the Brandon Zone (2.4/100 in 2010/11-2011/12) and the North Zone (2.3/100 in 2010/11-2011/12) are not significantly different. The North Zone has shown a significant increase over time from 2.0/100 in 2005/06-2006/07.

At a district level there are several districts that have a significantly lower rate of asthma per 100 residents than the provincial average in 2010/11-2011/12. These are Spruce Woods (1.5), Whitemud (1.8), Souris River (1.9), Asessippi (1.6), Porcupine Mountain (1.7), and Swan River (1.9). All other districts are not significantly different to the provincial average; however Dauphin and Duck Mountain have increased significantly since 2005/06-2006/07.
Figure 3.21  Asthma Rate by PMH District, 2005/06–2006/07 and 2010/11–2011/12
Age- and sex-adjusted annual rate per 100 residents per year

Source: Manitoba Health, Health Information Management, 2014

Asthma in Children

Asthma is the most common chronic condition in children. This condition involves inflammation of the airways that leads to restriction of airflow into and out of the lungs. Asthma prevalence in children 6 to 19 years old was identified through diagnosis received during hospital visits or physician visits, or through asthma medication prescriptions. Estimates of asthma prevalence in children less than 5 years old are often difficult to obtain because definitions of asthma based on symptoms, diagnosis, or drug prescription often cannot distinguish chronic asthma from wheezing (Brownell M et al., 2012).

Of the three PMH zones, asthma prevalence in children aged 6 to 19 years of age was highest in Brandon, followed by the South Zone and North Zone.
Figure 3.22  Asthma Prevalence in Children by PMH Zone, 2004/05 – 2005/06 to 2008/09 – 2009/10
Age and sex adjusted prevalence for children aged 6 – 19 per 100

Children diagnosed with a severe asthma condition have access to services through the Unified Referral and Intake System (URIS). This program provides support throughout the region to children with designated health care needs while they are attending school, licensed child care, or receiving respite services. More information on URIS can be found in the Public Health chapter.

**Asthma Care: Controller Medication Use**

Asthma care is defined as the percent of residents (all ages) with asthma receiving medication recommended for long-term control of their disease. A number of things can be done to manage asthma and asthma symptoms such as collaborating with a family physician, following an asthma care action plan, avoiding asthma triggers and inducers and always using asthma medications as prescribed.

In 2006/07 and 2011/12, the crude percent of Prairie Mountain Health asthmatics with appropriate long-term medications (63.6% and 62.4% respectively) were slightly below the provincial crude proportion (64.3% and 64.1% respectively). In 2011/12, all three PMH zones (South 64.0%, Brandon 61.8%, North 60.7%) were slightly lower than the provincial crude proportion (64.1%).
had a significant decrease between 2006/07 and 2011/2012 (65.4% to 60.7% respectively) (Fransoo R et al., October 2013).

Swan River (63.2% to 45.6%) and Riding Mountain (70.9% to 57.9%) districts show a significant decrease over time in the crude percent of asthmatics with appropriate long-term medications. In 2011/12, the Asessippi district (54.1%) and Swan River district (45.6%) were significantly lower than the provincial crude percent. In 2011/12, the PMH district crude percent ranged from a high of 71.0% in Spruce Woods to a low of 45.6% in the Swan River district.

Another significant influence of respiratory health is the use of tobacco products and exposure to second hand smoke, especially in children. This information is discussed in further detail in the Determinants of Health and Lifestyle chapter.

**Chronic Respiratory Disease Management**

Although some respiratory diseases such as COPD cannot be cured, they can be managed through a combination of medication, exercise and education. There are programs and services available in the region to assist with respiratory disease management.
Lung Health Clinic at the Brandon Regional Health Centre

The Respiratory Clinic (Lung Health Clinic) offers multidisciplinary education, exercise and rehabilitation for those diagnosed with a chronic respiratory disease such as COPD, emphysema, pulmonary fibrosis, chronic bronchitis, and asthma. Their goal is to help patients manage symptoms and flare-ups of their disease while living in the community from early diagnosis to end of life care. The Lung Health Clinic also offers support through hospital, home and office visits for in-patients and out-patients in the region. The clinic is located at the Brandon Regional Health Centre and employs one respiratory nurse that works a 0.8 EFT. Over 1,000 visits are completed each year; this includes individual and group visits.

Services and education are offered by the Lung Health Clinic such as breathing techniques, energy conservation, coaching and on-going support as individually needed. They also offer education and classes for patient and families that address medication use, proper use of inhalers and spacers, avoidance of triggers/irritants that will increase symptoms and action planning.

Patients of the Lung Health Clinic work on skill development for self-management of the disease and have access to all members of the multidisciplinary team. This team includes physicians, nurses, dietitians, and social workers. Anyone that needs help managing their chronic respiratory disease is eligible for the program.

Patients can be referred by a physician or other healthcare provider such as a nurse practitioner or RANA (see details in the next section). They can also self-enrol in the program by contacting the clinic directly. The clinic will see anyone that wants help whether they are residents of the region or not. Services are available to all ages; however, there is currently no Pediatric Allergy Asthma Clinic available due to a lack of paediatricians in the Brandon region. The Lung Health clinic triages children that are suffering from chronic respiratory illnesses such as asthma, cystic fibrosis, etc. In most cases these children are referred to Winnipeg for assistance.

RANA Respiratory Services

RANA Respiratory Care Group in partnership with PMH provides comprehensive community-based professional support for the prevention, diagnosis, health promotion and treatment of Chronic Respiratory Disease. The Tri-Regional Equipment Supplies Program and Community Respiratory Clinic Program work together to ensure patients obtain the most appropriate education, training and equipment to treat their respiratory disorder while also providing self-management skills and education. These programs also provide resources to local health care professionals for the diagnosis, treatment and management of chronic respiratory conditions.

Community Respiratory Clinics are located in Brandon, Minnedosa, Birtle, Neepawa, Russell, Glenboro, Killarney, Virden, and Deloraine. The Treherne clinic was discontinued in March of 2014 due to a decrease in the number of referrals, and the clinic time was reallocated to other sites. Home oxygen supplies and education are provided in clients homes across the region.
In 2013/14, 103 clinic days were held in nine communities across the South Zone with a total of 396 clinic visits of which 192 were new referrals. The number of new referrals is the same as 2012/13 and an increase from 2011/12. Spirometry (a test used to determine how well the lungs work) was the primary focus of these new referrals with Pulmonary Function Testing (PFT) being done at the PFT lab at the Brandon Regional Health Centre. COPD has become the most common respiratory disease diagnosis referred, changing from asthma in previous years. The top three age groups for which referrals were received were 41-60 (26%), 61-70 (22%) and 71-80 (21%).

The South Zone clinics also provided 204 follow up visits in 2013/14, down slightly from 2012/13 (220) primarily for ongoing education and scheduled bi-annual and annual check-ups, but also dealing medication issues and relapses.

<table>
<thead>
<tr>
<th></th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
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<tbody>
<tr>
<td>Asthma</td>
<td>64</td>
<td>63</td>
<td>37</td>
</tr>
<tr>
<td>PFT/Spirometry</td>
<td>36</td>
<td>70</td>
<td>72</td>
</tr>
<tr>
<td>COPD</td>
<td>38</td>
<td>31</td>
<td>48</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>192</td>
<td>192</td>
</tr>
</tbody>
</table>

Source: RANA Respiratory Care Group Annual Reports, 2011-2014

In 2013/14, 50 clinic days were at the RANA clinic in Brandon with a total of 220 clinic visits, of which 105 were new referrals. This has been slowly increasing since 2011/12. Asthma was the leading diagnosis associated with these new referrals as it was in 2012/13. The top three age groups for which referrals were received were 41-60 (26%), 0-12 (20%) and 61-70 (18%). Higher asthma prevalence rates in children in the Brandon Zone are likely the cause of the higher number of referrals in the 0-12 age group compared to the South Zone.

The Brandon clinic also provided 115 follow up visits in 2013/14, up slightly from 2012/13 (99) primarily for ongoing education and scheduled bi-annual and annual check-ups, but also dealing with a significant number of medication/inhaler issues.
Table 3.18  RANA Community Clinics in PMH Brandon Zone, New Referrals, 2011/12 to 2013/14

<table>
<thead>
<tr>
<th></th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
</tr>
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<tbody>
<tr>
<td>Asthma</td>
<td>24</td>
<td>37</td>
<td>38</td>
</tr>
<tr>
<td>PFT/Spirometry</td>
<td>29</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>COPD</td>
<td>19</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>97</td>
<td>105</td>
</tr>
</tbody>
</table>

Source: RANA Respiratory Care Group Annual Reports, 2011-2014

The Community Respiratory Clinic Program has demonstrated significant benefits from initial referral to follow-up visits by clients. A survey of both symptoms and health care utilization at each visit (conducted by RANA Respiratory Care Group and reported in their 2013/14 Annual Report) has shown a significant reduction in self-reported health care utilization (Physician, ER and Hospital Admissions) and improvements in quality of life (impact on daily living) for both asthma and COPD clients. In 2013/14 asthma clients reported a 60% improvement in the number of times they had to stop an activity due to symptoms and an 82% decrease in their nocturnal symptoms. COPD clients reported an 89% decrease in nocturnal symptoms between their initial and follow-up visit.

Client satisfaction surveys conducted on an ongoing basis by RANA have indicated that the clients attending the clinics are very satisfied with the education and location of the services provided and would recommend the service to others.

“The overall experience was positive. All the staff I dealt with has been friendly and helpful.”

RANA community clinic attendee 2013/14
Respiratory Disease Key Points

- Prairie Mountain Health has the highest total respiratory morbidity prevalence in the province. It is significantly higher than the Manitoba rate and in contrast to all other regions in the province is increasing over time. There are particularly high rates in the Brandon Zone with all districts reporting significantly higher rates, some of which are double the provincial average.

- Asthma is the most common chronic condition in children and there are high rates of the condition in the Brandon Zone.

- The North Zone has shown a significant decrease in the percentage of asthmatics with appropriate long-term medications. Particularly concerning is the Swan River district where less than half of those diagnosed are on the appropriate long-term medication.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Respiratory Morbidity (TRM) Prevalence</td>
<td>Significantly higher than province</td>
<td>↑ significantly from 11.5% to 12.1% between 2006/2007 and 2011/2012</td>
<td>All Brandon Zone and North Zone districts have significantly higher rates than the provincial average</td>
</tr>
<tr>
<td></td>
<td>12.1% PMH &gt; 9.53% MB (2011/2012)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory Potential Years of Life Lost (PYLL)</td>
<td>Similar to Province</td>
<td>No change: 1.8 in both 2002/03-2006/07 and 2007/08-2011/12</td>
<td>No district level data available</td>
</tr>
<tr>
<td></td>
<td>1.8 PMH &lt; 2.1 MB (2007/08-2011/12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma Rate (per 100 residents)</td>
<td>Similar to province</td>
<td>Between 2005/2006-2006/2007 to 2010/2011-2011/2012: No significant change: 2.0 to 2.1</td>
<td>Spruce Woods, Whitemud, Souris River, Assiniboine, Porcupine Mountain and Swan River all have significantly lower asthma rates</td>
</tr>
<tr>
<td>Asthma Care: Controller Medication Use (crude percent)</td>
<td>Similar to province</td>
<td>Between 2006/2007 and 2011/2012: No significant change: 63.6% to 62.4%</td>
<td>Assiniboine and Swan River districts had significantly lower values than the provincial average</td>
</tr>
<tr>
<td></td>
<td>62.4% PMH &lt; 64.1% MB (2011/2012)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Diabetes

More than nine million Canadians live with diabetes or prediabetes (Canadian Diabetes Association, 2014). Prediabetes means that blood sugar is elevated but not high enough to be diagnosed as diabetes. People with prediabetes are at risk for developing Type 2 diabetes. Diabetes is managed through diet, physical activity and medication but can lead to serious complications if blood sugar levels are too high. Complications of diabetes can include problems with the kidneys, eyes, feet and legs, as well as increased risk of nerve damage, heart disease, and stroke.

There are two main types of chronic diabetes, Type 1 and Type 2. In Type 1 diabetes the pancreas is not able to produce enough insulin and in Type 2 diabetes the body has difficulty using insulin. The following information does not include gestational diabetes, which can affect women during pregnancy.

There has been a significant increase in the prevalence of diabetes over time in all regions of Manitoba, including Prairie Mountain Health. About 800 adults were newly diagnosed with diabetes every year in PMH from 2009/10 to 2011/12.

In the period from 2009/10 to 2011/12 there were 14,059 PMH residents living with a diagnosis of diabetes, an increase of almost 2,000 people over 5 years. Just over 10% of PMH residents were living with diabetes, which was not significantly different than the provincial average (9.9%) (Fransoo R et al., October 2013).

These numbers are likely to increase because the criteria for diagnosing diabetes changed in 2013, with the addition of glycated hemoglobin (A1C) as a potential screening tool. The A1C test measures blood sugar levels over a longer period of time than a fasting blood glucose test, increasing the probability of detecting high blood sugar levels (although there are advantages and disadvantages to each test).

Diabetes Incidence

Incidence refers to the number of new cases of a certain condition over a period of time. It helps to quantify the volume of people coming into the health system who will require care for that condition. Diabetes incidence is the average number of new cases of residents aged 19 and older with diabetes (Type 1 or 2) per 100 person-years. The incidence of diabetes in Prairie Mountain Health (0.84 new cases per 100 person-years) was similar to the Manitoba average (0.85). This means that there was an average of 0.84 new cases of diabetes for every 100 PMH residents (aged 19 and older) who previously did not have diabetes.

There was some difference in diabetes incidence between the PMH districts. There was a significant decrease in the incidence of diabetes in the Turtle Mountain District between the two time periods but the most recent incidence was not significantly different than the provincial average. Two districts had significantly higher incidence of diabetes than the provincial average; Porcupine Mountain (1.21) and Brandon Downtown (1.17).
Diabetes Prevalence

Prevalence refers to the proportion of people diagnosed with and treated for a condition. Diabetes prevalence is the percent of residents aged 19 and older with diabetes (Type 1 or 2) in a three-year period. While the prevalence of diabetes in PMH (10.4%) was similar to the provincial average (9.9%), it was significantly higher than the provincial average in the North Zone (11.2%) of PMH. High prevalence can be deceiving because prevalence will increase if people are living longer with a condition or when more people are seeking care for that condition. Regardless of the reason, as more people are living with diabetes they will require primary care support to manage the condition.
In each of the PMH zones, the prevalence of diabetes was significantly higher for Métis people than it was for all other residents. Métis people in the North Zone of PMH had a significantly higher rate of diabetes (15.0%) than the provincial average for Métis people (11.7%).
The prevalence of diabetes was significantly higher than the provincial average in the districts of Agassiz, Porcupine Mountain and Brandon Downtown. National survey data consistently indicated that the age-adjusted prevalence of diabetes in Canada is 3 to 5 times higher for First Nations people than in the general population and screening has shown rates as high as 26% in individual communities (Canadian Diabetes Association, 2013). There is no recent data available on diabetes rates among First Nations people in PMH. Health staff working in First Nations communities within PMH stated that it appears that age of diagnosis is younger in First Nations peoples.

**Diabetes and Heart Health Program**

A key aspect of diabetes care is education for self-management. Keeping diabetes in control can reduce or delay complications. The Diabetes and Heart Health Program staff across the region provides self-management education and clinical follow-up for clients who are living with or at risk for diabetes and various heart health issues. Dietitians that work in the North Zone with the Diabetes and Heart Health Program also see clients for other conditions, such as celiac disease.
The staff of the PMH Diabetes and Heart Health Program work with individuals, their family/community and primary care provider (doctor, nurse practitioner) to help people take an active role in managing their health and to prevent/control chronic disease. Through individual assessment, counseling, and group classes, people learn to self-manage their condition(s) as part of healthy living. The nurse and dietitian teams travel to various communities, including First Nation communities, throughout Prairie Mountain Health on a regular basis.

A portion of the South Zone’s Registered Dietitian Educators’ role is dedicated to providing Community Health Nutritionist services. This includes presentations, group education, partnering and consulting with community groups around issues related to nutrition, healthy lifestyles, food security, and public policy. Other educators from the region also provide support to health promotion initiatives by request, usually in the form of health education.

The number of clients seen by the Diabetes and Heart Health program increased overall between 2012/13 and 2013/14. Based on figures as of September 2014, the program is on track to see a similar number of clients this year. It should be noted that the number of clients seen in the South Zone will be underestimated because the number of First Nations clients is not included in this figure. First Nation clients are included in the number of visits, however.

Table 3.19 Diabetes and Heart Health Program Clients and Visits by PMH Zone, 2012/13 to 2014/15

<table>
<thead>
<tr>
<th></th>
<th>2012/13</th>
<th>2013/14</th>
<th>2014/15 (as of Sept. 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clients</td>
<td>Visits</td>
<td>Clients</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>1,091</td>
<td>5,368</td>
<td>1,025</td>
</tr>
<tr>
<td>North/South Zones combined*</td>
<td>2,111</td>
<td>4,276</td>
<td>2,520</td>
</tr>
<tr>
<td>PMH</td>
<td>3,202</td>
<td>9,644</td>
<td>3,545</td>
</tr>
</tbody>
</table>

Source: PMH Diabetes and Heart Health Program Statistics, 2015

* Number of First Nation Clients in South Zone not included/available; Number of First Nation Client Visits in South Zone are included in the visits category.

Referrals come to the program mainly from physicians and nurse practitioners, as well as inpatient health providers. Other health providers, paraprofessionals, and agencies in the community setting also refer to the program. Clients may also self-refer.

The primary diagnosis for clients served by the program is Type 2 diabetes. Program staff have noted that there has been an increase in the complexity of cases seen, and there are also more clients on insulin. There are also many clients who have other health conditions in addition to diabetes.

Program staff noted that there is a substantial mental health component to their practice. Many of their clients suffer from some degree of anxiety, depression, or self-esteem issues. For clients facing...
numerous challenges in their lives, a diagnosis of diabetes with the lifestyle changes required to manage it can be overwhelming.

Prior to the regional amalgamation in 2012, the Manitoba Métis Federation (MMF) established a Knowledge Network partnership with each of the health regions. The Knowledge Networks were developed to share information, and improve the health system based on local knowledge gathered at a series of Wellness Workshops with MMF members.

Clients of the Diabetes and Heart Health Program may feel that they have failed if they are unable to adhere to their treatment plan. Emotional support is an important aspect of the program, because clients may believe that they have “been bad” for not following recommendations. The approach to diabetes education has evolved over the years to focus less on strict adherence to guidelines and more on supporting clients to make positive changes.

Participants at the Manitoba Métis Federation Wellness Workshops noted the impact of diabetes on relationships, highlighting the importance of supportive environments when dealing with a chronic disease.

Staff of the PMH Diabetes and Heart Health Program said that they are seeing many more people in their 30’s and 40’s with diabetes. The diagnostic criteria for diabetes have changed, which may be part of the reason staff are seeing younger clients.

Program staff in Brandon have noticed an increase in visits by new Canadians, especially for gestational diabetes. In the North Zone, the program has increased the number of First Nation communities to which they travel, that hadn’t been served previously. In the South Zone, the program also strives to offer services as close to the clients’ homes as possible.

While accessibility to the program is important, the hours of service can occasionally be a barrier for clients, particularly working clients who have difficulty getting time off work. Program staff try to accommodate requests from clients to schedule appointments later in the day or into early evening.

Ideally diabetes is diagnosed early, before high blood sugar levels have begun to cause damage within the body. PMH Diabetes and Heart Health Program staff estimate that approximately half of their newly diagnosed diabetic clients did not have obvious complications while the rest may have been diagnosed

“We need to empower diabetics, get them to admit it and not be ashamed of it...”

Client from Manitoba Métis Federation Wellness Workshops 2008-2011

“It can put a real strain on your relationship, depending on how you both treat it.”

Client from Manitoba Métis Federation Wellness Workshops 2008-2011
with having a high blood sugar over the previous few months or had symptoms of complications that brought them to the doctor.

**Lower Limb Amputation Rate**

Long term exposure to high blood sugar levels can cause nerve and blood vessel damage in the arms, hands, legs and feet. Sometimes this leads to amputation, most commonly of the lower extremities. The rate of lower limb (leg) amputation among PMH residents with diabetes was significantly higher than the provincial average (1.3%) in the North Zone (2.3%) but significantly lower (0.7%) for the Brandon Zone. Lower limb amputation rates were significantly higher for residents of the Agassiz Mountain (2.6%) and Porcupine Mountain (2.7%) districts (Fransoo R et al., October 2013).

There were too few lower limb amputations among Métis residents of the Brandon and South Zones (2002/03-2006/07) to report, but an annual rate of 28 amputations per 1,000 people with diabetes was reported for Métis residents of the North Zone. This was not significantly different than the amputation rate for all Métis residents of Manitoba, which was just over 24 per 1,000 (Martens PJ et al., June 2010).

PMH Diabetes and Heart Health program staff noted that cost can be a barrier for clients to access foot care. This is not a provincially insured service and therefore clients must pay for foot care services unless they have additional health care insurance coverage, or they are receiving income (social) assistance.

**Diabetes Care - Eye Exam**

It is particularly important for people with diabetes to receive good eye care to prevent or delay eye damage. There is some confusion about coverage for eye exams in Manitoba, and this has been described as a barrier to accessing the recommended eye exams for people living with diabetes. The Manitoba Health website states that “eye exams for all ages will be covered if deemed medically necessary by your physician or optometrist” (Manitoba Health, 2014).

Based on conversations at Manitoba Métis Federation Wellness Workshops described earlier, many residents with diabetes believe that their eye examinations might not be paid for by the province.

According to the Manitoba Association of Optometrists, as part of Medicare in Manitoba, the Provincial Government:

“**insures ocular health exams for Manitobans of any age with diagnosed eye disease or, preventively, for those Manitoba Health has defined as at risk for developing eye disease (eg. if you have diabetes).**

**Note that Manitoba Health does not insure all diagnostic tests your optometrist may conduct to ascertain a diagnosis, monitor a condition, or check for eye disease as part of a routine eye examination. So, even if you are eligible for an insured eye exam, there may be services the doctor cannot bill on your behalf to Manitoba Health and, so, may bill to you.**” (Manitoba Association of Optometrists, 2014)
The percentage of PMH adults with diabetes who received an annual eye examination increased over time between 2006/07 and 2011/12 to just over 40% (Fransoo R et al., October 2013). While this was significantly higher than the Manitoba average of 37%, it still means that over half of adults living with diabetes were not receiving the eye exams needed to prevent or delay eye damage. People living in lower income areas tend to access eye exams for diabetes less often than people in higher income areas, suggesting that cost may be a real or perceived barrier. There may be confusion about whether or not an eye exam is covered by the province, and lack of transportation may be a barrier for some clients.

**Living with Diabetes**

PMH Diabetes and Heart Health Program staff discussed the changing qualities of their clients. Many more clients are seeking information from the internet and other sources, such as television, which may not be accurate. Also of note was the lack of cooking skills among clients. Many clients do not have the skills or confidence to cook, therefore limiting the types of food they eat. Food cost and access to grocery stores also affect food choices.

Sometimes clients’ choices are limited by their perceptions, such as no time to cook or to be physically active, or a belief that cooking is difficult and requires a great deal of effort. Generally, it is the younger generations that lack knowledge or skills related to cooking. With a few exceptions, most older adults have the ability to cook.

The cost of medications and certain supplies may be a concern for some clients. Most drug plans do not cover the amount that a client with diabetes must pay each year. During one of the MMF Wellness Workshops, a member mentioned the financial challenges for people living with diabetes.

“Elders live on a fixed income and it’s expensive to be a diabetic…”

*Member from MMF Wellness Workshop 2008-2011*

The cost of medication may influence the treatment options available to a client. If the best regime is too expensive, a more affordable alternative may be prescribed. Some clients are not aware of the provincial Pharmacare program, and the Diabetes and Heart Health Program staff connects these clients with a pharmacist who can advise them of their coverage.

**Specialized Programs**

There were 152 children between the ages of 6 and 19 years in Prairie Mountain Health that had a diagnosis of diabetes between 2007/08 and 2009/10. (Brownell M et al., 2012). Many of these children may have had Type 1 diabetes, which typically develops in childhood or adolescence, but a growing number of youth are developing Type 2 diabetes. All children with diabetes should be referred to the Manitoba Diabetes Education Resource for Children and Adolescents, which offers specialty services to children and youth under age 18 with Type 1 or Type 2 diabetes, or other endocrine disorders that affect growth and development.
Several First Nation communities and schools have been initiating screening among children and are identifying risk factors for chronic disease and prediabetes among children. PMH Diabetes and Heart Health program staff also indicate that they are seeing more metabolic changes among children and youth. Some children are being diagnosed with diabetes through screening efforts, while others have had symptoms of diabetes, which led to their diagnosis.

Diabetes: Discovering our Options was a program that provided culturally appropriate information and workshops to Métis communities in the Southwest Region of the Manitoba Métis Federation. This program was well received by communities but unfortunately the federal funding was not renewed and the program was discontinued.

First Nations & Inuit Health supports health promotion and primary prevention of Type 2 diabetes in First Nation communities through the Aboriginal Diabetes Initiative. This initiative involves trained community diabetes workers and health service providers who use local knowledge to develop innovative, culturally relevant strategies to improve community wellness and reduce Type 2 diabetes (Health Canada website, 2013).

For more than a decade, a partnership has existed between 7 First Nation communities, RHAs, Canadian Diabetes Association, and MMF intermittently to hold an annual Diabetes Gathering in the southern portion of PMH. The Gathering is hosted by a different partner each year, giving local residents an opportunity to learn about diabetes prevention and management. At the 2014 Diabetes Gathering in Sioux Valley Dakota Nation, participants were asked about what helps them to manage diabetes. They were also asked about gaps and challenges in managing diabetes.

By far, healthy eating was identified as most important for managing diabetes. Unfortunately, food security and the cost of healthy food were also considered a significant challenge. Supports from the health system and family were also considered essential. Participants appreciated the support of nurses and dietitians who provide services in the community. The system is not without its limitations. Sometimes the need to travel to see health care providers, such as specialists for children with diabetes, can pose challenges.

Physical activity was often considered a challenge, with exercise groups and facilities mentioned as supports that would be helpful. Cost can be a barrier to physical activity as well. An example of this was inability to purchase bicycles for children and youth with diabetes.

A few clients at the Diabetes Gathering mentioned the importance of taking their medication regularly and monitoring their blood sugar, although remembering to do these things was also a challenge for
some. Several participants mentioned the stigma or shame associated with a diagnosis of diabetes and “coming to terms with having diabetes.”

Formulating more partnerships between services and health systems (federal and provincial) is beneficial not only for the clients served, but also helps reduce barriers, ease access to services, build capacity for service providers to know strengths and limitations, and find ways to bridge gaps.
Diabetes Key Points

- There were 14,059 PMH residents living with a diagnosis of diabetes from 2009/10 to 2011/12, an increase of almost 2,000 people over 5 years. Just over 10% of PMH residents were living with diabetes.

- While the prevalence of diabetes in PMH was similar to the provincial average, it was significantly higher than the provincial average in the North Zone.

- The prevalence of diabetes was significantly higher for Métis people in PMH than it was for all other residents.

- The rate of lower limb (leg) amputation among PMH North Zone residents with diabetes (2.3%) was significantly higher than the provincial average (1.3%). Lower limb amputation rates were significantly higher for residents of the Agassiz Mountain (2.6%) and Porcupine Mountain (2.7%) districts.

- Diabetes and Heart Health program staff indicate that they are seeing more metabolic changes among children and youth while First Nations community health staff mentioned that they are seeing young people being diagnosed with Type 2 diabetes at an earlier age than ever before.

- Over half of adults living with diabetes were not receiving the eye exams needed to prevent or delay eye damage.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region Trend</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Incidence (age and sex adjusted incidence rate per 100 person years aged 19+)</td>
<td>Similar to province PMH 0.84 = MB 0.84</td>
<td>No change over time</td>
<td>Significant decrease in Turtle Mountain; Significantly higher incidence in Porcupine Mountain &amp; Brandon Downtown than MB</td>
</tr>
<tr>
<td>Diabetes Prevalence (age and sex adjusted percent of residents aged 19+)</td>
<td>Similar to province PMH 10.4% &gt; MB 9.9%</td>
<td>Significant increase over time</td>
<td>Significantly higher than the provincial average in Agassiz Mountain, Porcupine Mountain &amp; Brandon Downtown</td>
</tr>
<tr>
<td>Diabetes Care: Eye Examinations (Crude percent of residents aged 19+ with diabetes who had an eye examination)</td>
<td>Significantly higher than province PMH 41.2% &gt; MB 37.5%</td>
<td>Significant increase over time</td>
<td>Significantly higher than the province in Brandon South End, Turtle Mountain, Spruce Woods, Whitemud, Souris River and Dauphin. Significantly lower in Brandon Downtown</td>
</tr>
<tr>
<td>Lower Limb Amputations (Age and sex adjusted percent of people with diabetes who had an amputation)</td>
<td>Similar to province PMH 1.3% = MB 1.3%</td>
<td>No change over time</td>
<td>Significantly higher than the province in Porcupine Mountain and Agassiz Mountain</td>
</tr>
</tbody>
</table>
Cross-Continuum Services

Spiritual Care

Spiritual care is an integral component of holistic health care. People find that their spirituality helps them maintain health and cope with illnesses, traumas, losses and life transitions by integrating body, mind and spirit. When facing a crisis, people often turn to their spirituality as a means of coping (Pargament, 1997) and many believe in the capacity to help in the recovery of disease (McNichol, 1996). Spiritual care encompasses more than religious care. For many, spiritual care is expressed through religious practice; for others who identify as spiritual but not religious, it involves attentive presence, and kindness and compassion (Manitoba Health, Healthy Living and Seniors website).

In 2007, a provincial Spiritual Care Advisory Committee was created to represent the cultural, religious and spiritual diversity of Manitoba’s population. The goal of the committee was to assist in envisioning and enabling the effective development of spiritual health care in Manitoba. The province also established a Spiritual Health Care Core Competency Ad Hoc Working Group. The working group developed a guide, *Core Competencies for Spiritual Health Care Practitioners*, to provide RHAs and other interested groups with a basic understanding of spiritual health as a specific aspect of health care and to define the necessary competencies of those providing this care (Manitoba Health Healthy Living and Seniors website).

The Spiritual Care Team at the Brandon Regional Health Centre includes Chaplains and an Aboriginal Spiritual Care Provider as well as trained Spiritual Care Associates who volunteer their time offering spiritual and emotional support to patients, residents and clients. Support is available 24 hours per day, seven days per week to all faiths and to those of no particular faith at all. The Spiritual Care team works in collaboration with other members of the health care team.

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*I was visiting a patient who had experienced multiple strokes which left him with very limited mobility. He complained to me that he didn’t have money for a new pair of pants or for cigarettes. Upon inquiring of the Social Worker, I learned that the patient had a family member appointed as Power of Attorney (POA).* 

*Though the patient had a good disability pension, he wasn’t getting the money. I discovered that the POA was spending the money on himself and not the patient. With help from the Social Worker, we successfully got him under the Public Trustee and now he has access to his own money.*

*Chaplain, May 2014*

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Services and ceremonies include the Angel Memorial Service for families who have experienced the loss of a child to miscarriage or stillbirth, a weekly Christian Worship Service in collaboration with a variety of
Christian churches in the Brandon area, and other rituals and ceremonies such as smudging, Holy Communion, Anointing, Last Rites and Sabbath candle lighting.

Members of the Spiritual Care Team report several challenges in providing compassionate care and support to clients as they strive to manage their journey in the health care system. Many life issues are the result of challenges with the social determinants of health including poverty/homelessness, addictions, and suicide.

The Spiritual Care Team is also available for health care staff as necessary. Care and compassionate support is provided for personal issues such as grief, loss and life transitions as well as joyous events such as officiating marriages. Team members are also called upon to assist with debriefing critical events such as the sudden death of a staff member or an act of violence in the workplace.

An increase in spiritual care service utilization at the Brandon Regional Health Centre was seen over the three reporting periods. A 70% increase in staff call-backs between 2012/13 and 2013/14 was observed.

There are also spiritual spaces at the Brandon Regional Health Centre which are quiet places for reflection or prayer, and gathering places for worship, fellowship or meditation. The Spiritual Centre is located on the main floor of the Assiniboine Centre and is open 24 hours a day, seven days a week to all faiths. Accessible space for Traditional Aboriginal Healing Ceremonies, including smudging, healing and sharing circles, has been created on the second floor of the General Centre.

Spiritual Care support is also provided in the rural areas of Prairie Mountain Health by many health care practitioners and community volunteers. In the fall of 2014, fourth year nursing students gathered information about the delivery of spiritual care services in the North and South zones of the region as

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Table 3.20  Spiritual Care Service Utilization, Brandon Regional Health Centre, 2011/12 to 2013/14

<table>
<thead>
<tr>
<th></th>
<th>2011/12</th>
<th>2012/13</th>
<th>2013/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Call-backs</td>
<td>38</td>
<td>40</td>
<td>68</td>
</tr>
<tr>
<td>Staff On-call hours</td>
<td>n/a</td>
<td>1,853</td>
<td>2,136</td>
</tr>
<tr>
<td>Client Contact Hours</td>
<td>n/a</td>
<td>1,838</td>
<td>2,176</td>
</tr>
<tr>
<td>Total Visits</td>
<td>2,716</td>
<td>2,608</td>
<td>3,052</td>
</tr>
</tbody>
</table>

Source: PMH – Spiritual Care Database, 2013

“Offering spiritual support in these areas can be difficult for me because change needs to come from the individual. In order to change, one needs to admit, accept and begin the healing process of heart, body, mind and soul. A long, spiritual process; one that I am willing to walk along side with.”

Aboriginal Spiritual Care Provider, May 2014
part of a Community Health practicum. The intent of this initiative was to better understand current service delivery and help inform future program development.

In the North Zone, three qualitative surveys were developed to seek input from specific target groups: spiritual care providers, healthcare professionals working in acute and long term care facilities, and recipients of spiritual care services. Key informant interviews were also conducted in the Swan River, Dauphin, Winnipegosis, Ste. Rose du Lac, and Gilbert Plains communities. Although spiritual care services and supports are delivered in different ways in each community/facility, the importance of spiritual care was consistent in survey responses.

Based on the findings from the investigation, the following recommendations were developed:

1. Offer an educational component regarding spiritual care and the relationship to health and healing for health care providers to enhance the delivery of holistic care.

2. Provide professional development opportunities for healthcare providers to enhance their knowledge and skills in providing spiritual support for patients, clients and residents.

3. Establish communication mechanisms within each facility to identify spiritual care providers and record spiritual care visits in the client health record (McMillan, A. & Spence, A., 2014).

“I am blessed to work in a facility that believes the care of the spirit is as important as the care of the body”.

Spiritual Care Provider, October 2014
In the South Zone, four questionnaires were developed to gather input from specific target groups including facility staff, key informants or facility champions, spiritual care providers, and recipients of care. Based on the findings from the investigation, the following recommendations were developed:

1. Identify opportunities to integrate spiritual care into existing health care services.

2. Provide professional and public education regarding the concept of spiritual care as an essential aspect of holistic care.

3. Establish communication mechanisms between health care providers and spiritual care providers through an interdisciplinary committee and documentation of spiritual care services in the client health care record.

4. Develop policy regarding the screening of spiritual care volunteers to ensure safe, competent care.

5. Explore opportunities to further support the delivery of spiritual care services across facilities (Lumgair, A. & Lockart, S., 2014).

“...the Brandon University 4-year BN program has limited spiritual care education - a 2-hour lecture from a guest speaker in the midst of a palliative care course. This project enlightened the need for further teaching in regards to Spiritual Care within our program”.

4th year nursing student, November 2014
Pain Management

Chronic pain is prevalent in the Canadian population with approximately one in five people affected. It is most prevalent among women and the older population. Chronic pain interferes with quality of life and the ability to work (Reitsma, ML., 2011). In the Prairie Mountain Health region, approximately 33,000 residents live with chronic pain (Wong, C., 2013).

There is support in the literature regarding the long-term efficacy of an interdisciplinary approach to chronic pain management. Improved patient outcomes related to pain intensity, negative mood, level of general health and physical functioning, and continued employment are observed (Patrick et al., 2004). As well, patients accessing interdisciplinary pain management services use other health services to a lesser extent than individuals living with chronic pain who do not access interdisciplinary pain management support (Weir et al., 1992).

In January 2014, a regional Pain Management Clinic was established at the Brandon Regional Health Centre. The intent of the program is to provide evidence-based, comprehensive multidisciplinary services to those living with pain, in order to help patients live to their optimal potential in their community setting.

Under the direction of a physician, the Brandon Pain Management Clinic comprises a team of specialists including a nurse, psychologist, physician, physiotherapist, pharmacist and physical rehabilitation specialist. Using a Shared-Care model, the pain management team works in conjunction with the patient’s primary health care provider, typically the patient’s family physician. It is anticipated that the Shared-Care model will lead to optimal patient self-management and primary health care provider confidence in caring for a patient with chronic pain. Client referrals are accepted through Physicians and Nurse Practitioners. Due to staffing challenges, clinic services were delivered in January, May and June and resumed in October 2014.

Table 3.21 Pain Management Clinic Utilization, Brandon Regional Health Centre, 2014

<table>
<thead>
<tr>
<th>Visit Types</th>
<th>January 2014</th>
<th>May 2014</th>
<th>June 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Patients</td>
<td>27</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Follow-Ups</td>
<td>-</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Interventions</td>
<td>-</td>
<td>5</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: PMH – Pain Management Clinic Database, 2014

There was substantial fluctuation in new patients, follow-up appointments and client appointments involving an intervention, largely due to the availability of clinical services. Between April and August 2014, the number of new referrals to the program had grown by 80%. The Pain Management Clinic began operating one week per month on a consistent basis beginning in October 2014.
A patient triage protocol has been developed to meet recommended wait time benchmarks. Triage levels are determined by condition including:

- **Emergent** – cancer pain or nerve damage following surgery or trauma
- **Urgent** – spinal/disc pain or exacerbation of chronic pain
- **Elective** – all other chronic pain.

Wait time benchmarks do not include subsequent waits for rehabilitation programs, psychology-based programs or interventional procedures that may be deemed appropriate after the initial consultation with a pain subspecialist.

**Table 3.22** Wait time benchmarks for initial assessment by a pain subspecialist after referral by primary physician, Brandon Regional Health Centre, 2014

<table>
<thead>
<tr>
<th>Condition</th>
<th>Wait time for initial assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nerve damage after surgery or trauma</td>
<td>30 days</td>
</tr>
<tr>
<td>Pain related to disc problems</td>
<td>3 months</td>
</tr>
<tr>
<td>Cancer pain</td>
<td>14 days</td>
</tr>
<tr>
<td>Exacerbations or flare-ups of chronic pain</td>
<td>3 months</td>
</tr>
<tr>
<td>Other types of chronic pain</td>
<td>6 months</td>
</tr>
</tbody>
</table>

Source: PMH – Pain Management Clinic database, 2014

Discharge from the Pain Management Clinic occurs when a management plan has been developed by the multidisciplinary team in consultation with the patient. Upon discharge, clients continue to receive care from their family physician or nurse practitioner. The Clinic uses existing technology such as Telehealth to deliver chronic pain care services including patient follow-up, conferences for referring family physician or nurse practitioner, as well as nursing and pharmacy support for patients and health care providers.

Continued patient support is available through a community-based self-management program. A nine week series of education classes for people living with chronic pain will be delivered three times per year depending on client interest. These sessions will be facilitated by the Clinical Psychologist and the Pain Nurse and address topics such as taking control of your pain, adapting healthy attitudes, nutrition, effective problem-solving and effective communication.
Palliative Care

Palliative care is also called comfort care. It helps to relieve suffering and improve the quality of life for those people who have an illness that cannot be cured. The PMH Palliative Care Program strives to provide comprehensive, interdisciplinary, integrated end of life care to clients and their family members throughout illness and bereavement. Palliative care involves a local team of specially trained health care workers and volunteers providing service to clients in hospital, community, and personal care homes with support and coordination from a Palliative Care Coordinator.

Referrals to this service can be made by anyone. The Palliative Care Coordinator, along with physician input, determines whether people meet the eligibility requirements. Currently, there are four Palliative Care Coordinators working across PMH. They complete an initial assessment to determine the needs of the client and support the development of a plan of care as needed.

Palliative Care Services

Palliative care helps people with physical, emotional, and spiritual needs, provides bereavement support and assists with end of life planning. Palliative care services include:

- Pain and symptom management
- Palliative Care Drug Access Program (PCDAP)
- Bereavement support
- Psychosocial support
- Professional, volunteer, and public education
- Volunteer support
- Camp Bridges
- Linkage with other PMH or community resources (e.g. Home Care, meal programs, counselling, etc.)

Pain and symptom management is an essential component in providing quality end of life care. Clients in the terminal phase of an illness require ongoing assessment of symptoms and appropriate interventions to relieve and control distress caused by the symptoms. In order to accurately assess and manage the pain experienced by palliative care clients, care providers strive to understand the mechanism of pain. In palliative care pain assessment, the client’s self-report is the primary source of information, as the best judge of a client’s pain is the client. Special considerations for children, the elderly and people with cognitive impairment are also addressed during pain assessment.
PMH has recently completed standing orders for pain and symptom management for acute, transitional care, long term care and personal care home facilities within the region. The Palliative Care Coordinators are in the process of educating staff on the use of these standing orders.

Manitoba Health’s PCDAP respects the dignity of people in the final stages of life, by supporting their decision to choose where they prefer to spend their final days. Clients who choose a hospital or personal care home for the final days of their life have many of their drug costs covered by the health care system. PCDAP is set up so that drug coverage applies to clients who choose to die at home or in another residence. By covering most of the cost of these eligible drugs for use in the home, a major financial burden is removed for the client and their family.

Psychosocial supports are aimed at improving the overall well-being of the client as well as their family members. These supports take into consideration all the circumstances that influence clients and their families’ life, including their unique emotional, psychological, social, spiritual, and practical needs. Psychosocial support aims to strengthen client and family members’ capabilities and encourages utilization of their own resources for overcoming challenges.

Palliative Care Coordinators also plan annual education events in the PMH region. One education event is aimed at Health Care Professionals and the content is related to pain and symptom management. The other workshop is geared towards volunteers and professionals and the content is related to psychosocial supports.

Bereavement support is provided for those who have suffered the loss of a loved one. Coping with grief and finding support after a loss is critical. Support is provided to family members and loved ones through group settings (such as Camp Bridges), one-on-one supports, or via telephone.

Camp Bridges is a special weekend camp for children between the ages of 7 and 17 who have experienced a recent death of someone significant in their lives. This camp is meant to provide a safe, supportive and fun environment where grieving children and teens learn that they are not alone in their grief and feel free to share their thoughts and feelings with peers who have also experienced the death of someone they loved. The camp offers opportunities for participants to enjoy typical camp activities such as arts and crafts, swimming, campfires, and wall climbing as well as memorial activities that are designed to help the campers share grief, honour memories, and have some fun, too. Between 2010 and 2014, over 210 campers have attended Camp Bridges, and over half of these campers were from Prairie Mountain Health communities. Volunteers are vital to the success of this camp with over 125 volunteers assisting during the past 5 years.
Palliative Care Program Data

In the past few years, Palliative Care Program data has been collected differently across the three former RHA’s; however, based on a review of available data some general comments can be made about the program. Over the past 3 years, palliative care clientele have generally had the following profile:

- approximately half were male and half were female
- the majority (almost 60%) were aged 75+
- almost 40% were between 45 and 74 years of age with only a very small percentage under 44 years of age
- primarily referred to the program from acute care/hospitals (over 40%) and physicians (over 20%)
- majority (almost 60%) were clients with a cancer diagnosis, and
- the most utilized services were pain and symptom management, PCDAP, home care, and bereavement support.

In 2012-13, several interviews were conducted with clients currently participating in the palliative care program in Brandon. Some were interviewed in their homes and some were interviewed in the Palliative Care Unit at Brandon Regional Health Centre (Assiniboine Centre). Data was gathered from both male and female palliative care clients. Every participant was questioned about symptom management including pain, nausea, fatigue, anxiety and depression. Client responses varied depending on the particular symptom. For example, every participant reported that their nausea was easily treated with an antiemetic and by not eating certain foods that trigger nausea. Those who experienced anxiety accessed counselling supports and participants learned to adjust their sleep/nap routines to address challenges with fatigue. The exception was related to pain; only one participant reported that their pain was well controlled.

“The pain killers were working and then I started to get breakthrough episodes [of pain] so they increased the Hydromorph and added some Lorazepam. The Pain Nurse is great – she’s really valuable to us.”

Palliative Care client
When asked about supports at home, every participant identified family members as their key resource. However, participants described the toll on family members when providing palliative care in the home and that family members often require more support from the healthcare system than the patient.

“The impression is that we can handle it so well at home but it’s really hard. It would be good to have an assessment by someone with an eye for the details of what to look for because adult children don’t always know when things are starting to fall apart. The spouse is the forgotten patient.”

(Daughter describing her experience of watching her father care for her mother at home.)
Cross-Continuum Services Key Points

- An 80% increase in new client referrals over four months supports the need for chronic pain management services in PMH.

- The Shared Care model will ensure an effective partnership between the Pain Management Clinic and primary health care providers.

- Spiritual care is an integral component of holistic health care and extends beyond religious care.

- Spiritual Care providers are in a unique position to explore social determinants of health with the people they serve.

- A 70% increase in staff call-backs between 2012/13 and 2013/14 supports the need for spiritual care provision beyond the traditional work day.

- There are opportunities through local health education programs to enhance health care providers understanding and skill development in relation to spiritual care.

- The majority of Palliative Care clients have a cancer diagnosis.

- The most utilized palliative care services were pain and symptom management, PCDAP, home care, and bereavement support.

- Based on client interviews, there may be some merit into looking at pain management and family support resources within the Palliative Care program to ensure they are meeting the needs of the population.
Chapter 4 Public Health

The Prairie Mountain Health Public Health programs work with residents and their families, the community and partners to ensure that they have the information, skills, and support to make decisions about personal and family health. Public Health Nurses work to strengthen communities by providing health care and the information and resources necessary to maintain and strengthen health. They work with all to promote health, prevent disease and injury, as well as to create healthy places and relationships. Their goal is to educate, advocate and work with people and communities to reduce health differences and to improve everyone’s health. Public Health staff identified client-centered care as a priority, providing care that is respectful of and responsive to individual client preferences, needs, and values, and ensuring that client values guide all decisions.

Pregnancy and Child Birth

Prenatal Care and Education

Prenatal care is one of the most widely used preventive healthcare services in developed countries. The Chief Public Health Officer’s Report on the State of Public Health in Canada emphasizes that “ongoing prenatal care is important to achieving a healthy pregnancy and birth, and positively influencing the health of the child in the early years. It provides a pregnant woman with the opportunity to access health information and identify risks and underlying factors that can influence her health and the health of her fetus/child” (Butler-Jones, 2009).

According to results of the national survey, What Mothers Say: The Canadian Maternity Experiences Survey (Public Health Agency of Canada, 2009), Manitoba had the highest proportion of women who reported not getting prenatal care as early as they wanted and a high proportion of women who initiated prenatal care after the first trimester, compared to the other provinces. The proportion of women receiving no or inadequate prenatal care (using the Revised Graduated Index of Prenatal Care Utilization R-GINDEX) in 2007/08-2008/09 was 10.9% in PMH, significantly lower than the provincial average of 12.3% for the same time period. At a zone level there was considerable variation with values of 8.9% in the South Zone and 5.2% in Brandon, both of which are significantly lower than the Manitoba average. The North Zone however, at 21.3% in the same time period was significantly higher than the Manitoba average. Inadequate prenatal care was more likely to be found in women who had less than a Grade 12 education or were younger (less than 25), living in lower income areas, on income assistance, a lone parent, socially isolated, or multiparous (Heaman et al., 2012).

Prenatal care in Prairie Mountain Health is provided by a variety of healthcare professionals, including obstetricians/gynecologists, family physicians, midwives, nurses and nurse practitioners. The provider of a women’s prenatal care can be assigned to one of four groups: General Practitioner or Family Physician, Obstetrician/Gynecologist, Midwife, or a mix of providers (where two-thirds or more of a woman’s prenatal care was not provided by a single provider type).
By far the most common provider of prenatal care in PMH is the General Practitioner or Family Physician ranging from 76% in Brandon to 90% in the North Zone. This is indicative of access issues related to specialist prenatal care available from obstetricians/gynecologists and/or midwives.

There are currently four midwives practicing in the PMH region with an additional two expected to start by January of 2015.

Table 4.1 Proportion of Women Receiving Prenatal Care by PMH Zone and Provider Type, 2007/08-2008/09

<table>
<thead>
<tr>
<th>Zone</th>
<th>GP/Family Physician</th>
<th>Obstetrician/Gynecologist</th>
<th>Midwife</th>
<th>Mixed Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>78.1%</td>
<td>5.6%</td>
<td>4.5%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>76.0%</td>
<td>7.9%</td>
<td>8.3%</td>
<td>7.3%</td>
</tr>
<tr>
<td>North Zone</td>
<td>90.3%</td>
<td>1.6%</td>
<td>s</td>
<td>7.4%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>35.5%</td>
<td>40.7%</td>
<td>4.5%</td>
<td>18.7%</td>
</tr>
</tbody>
</table>

(s) suppressed due to small numbers  
Source: MCHP - Perinatal Services and Outcomes, 2012

Prairie Mountain Health offers prenatal education across the region. The sessions are conducted by local Public Health Nurses in a variety of community and Public Health office locations. Classes are held in the evenings and on weekends and are available online in alternative languages such as Mandarin and Spanish.

Afternoon prenatal sessions in partnership with Child and Family Services of Western Manitoba are held in Brandon specifically for adolescent and young women and their supports.

Topics covered in these prenatal education sessions are Healthy Pregnancies, Labour and Birth, Comfort Measures including breathing techniques, Pain Control, Postpartum Care and Breastfeeding. All prenatal classes in Brandon include a hospital tour at Brandon Regional Health Centre. In 2013/14, 382 expectant mothers along with their supports attended prenatal education classes held across the region.

Public Health Nurses may also meet with a prenatal woman and do one-to-one education on request in the office or home setting.

In addition to prenatal education classes, Healthy Baby Community Support Programs [Baby Steps (South), Growing Healthy Families (North), and Healthy Beginnings (Brandon)] are offered throughout the region for expectant mothers and mothers with babies up to the age of one.
The programs are designed to help pregnant women and new parents connect with other parents, families and health professionals in an informal setting. Group sessions offer social support and informal learning opportunities to encourage early, regular prenatal care and promote healthy infant development. These programs encourage healthy eating through nutrition activities and information, promote breastfeeding, promote awareness of health and healthy lifestyle choices, provide parenting ideas and positive parenting choices and foster awareness of babies' nurturing needs, growth and development. Participation in prenatal Community Support Programs is associated with increases in adequate prenatal care and increased breastfeeding initiation (Brownell M et al., 2010). The proportion of women who participated in the Healthy Baby Community Support Programs in 2006/07-2007/08 in the South (31%) and the North (25%) was significantly higher than the Manitoba average (14%) whilst Brandon (12%) showed a similar participation level to Manitoba as a whole (Heaman et al., 2012).

In addition to the community support programs Healthy Child Manitoba offers the Manitoba Prenatal Benefit. All Manitoba women who have a family income less than $32,000 are eligible for this monthly supplement beginning in the 14th week of pregnancy. Prenatal Benefit receipt is associated with a reduction in low birth weight births, increased breastfeeding initiation and a reduction in pre-term births (Brownell M et al., 2010). The proportion of women receiving the Prenatal Benefit in 2006/07-2007/08 in the South (31%) and Brandon (28%) was not significantly different to the Manitoba average (29%); however the North (44%) showed a significantly higher uptake (Heaman et al., 2012).

**Pregnancy**

The age-adjusted rate of pregnancies per 1,000 female residents ages 15 to 49 in PMH (67.2/1,000) for 2011/12 was not significantly different to Manitoba as a whole (65.0/1,000). There was also very little zone variation between the North (71.0/1,000), the South (67.0/1,000) and Brandon (67.0/1,000). In Brandon and the South Zone pregnancy rates have increased from their 2010/11 values (Brandon 63.0, South 64.6) and decreased in the North (72.9).

**Teenage Pregnancy**

Teenage pregnancy is associated with risk activities such as substance abuse, smoking during pregnancy, and physical or sexual abuse. These risks can lead to complications during pregnancy such as anemia, toxaemia, eclampsia, and hypertension. Teenage mothers tend to have lower socioeconomic status, as well as reduced educational opportunities (Brownell M et al., 2012).

The rate of teenage pregnancy in the South Zone was significantly lower than the Manitoba average whereas the rates in Brandon and the North Zone were not significantly different.
Table 4.2 Rate of Teenage Pregnancy by PMH Zone, 2000/01-2004/05 and 2005/06-2009/10
Crude rate per 1,000 Female Children aged 15-19

<table>
<thead>
<tr>
<th></th>
<th>2000/01-2004/05</th>
<th>2005/06-2009/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>29.6</td>
<td>29.7</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>52.1</td>
<td>50.4</td>
</tr>
<tr>
<td>North Zone</td>
<td>56.1</td>
<td>60.5</td>
</tr>
<tr>
<td>Manitoba</td>
<td>52.2</td>
<td>47.0</td>
</tr>
</tbody>
</table>

Source: MCHP - How are Manitoba’s Children Doing, 2012

Alcohol, Smoking and Drug Use during Pregnancy

Alcohol consumption during pregnancy is associated with several adverse outcomes for the mother, fetus and child including intrauterine growth restriction (IUGR) (poor growth of a baby while in the mother’s womb during pregnancy), stillbirth, birth defects, neurodevelopmental disorders, and fetal alcohol spectrum disorders (FASD). It is estimated that every year in Canada, more than 3,000 babies are born with FASD and currently about 300,000 people are living with FASD (Health Canada, 2006).

Alcohol consumption, smoking and illicit drug use during pregnancy in PMH is detailed in table 4.3. Alcohol consumption was significantly higher than the Manitoba average in both the South and Brandon.

Prenatal smoking is one of the preventable causes of maternal and fetal/neonatal morbidity. Maternal smoking has been linked with several adverse outcomes including pre-term birth, low birth weight, placenta previa, placental abruption, and sudden infant death syndrome (Gardener et al., 2011).

Smoking during pregnancy in PMH is significantly higher than the Manitoba average in both the North and Brandon.

Women using illicit drugs during pregnancy are at increased risk of adverse obstetric and perinatal outcomes such as pre-term birth, low birth weight, and intrauterine growth restriction (Pinto et al., 2010). Illicit drug use during pregnancy in PMH was not significantly different to the Manitoba average in the North, South or Brandon zones.

Younger women, those on income assistance, those with less than grade 12 education, lone parents, those who are socially isolated and those with inadequate prenatal care are more likely to consume alcohol, smoke and/or use illicit drugs during pregnancy (Heaman et al., 2012).
Table 4.3 Proportion of Women Reporting Alcohol Consumption, Smoking and Illicit Drug Use during Pregnancy by PMH Zone, 2007/08-2008/09

<table>
<thead>
<tr>
<th>Zone</th>
<th>Alcohol Consumption</th>
<th>Smoking</th>
<th>Illicit Drug Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>25%</td>
<td>17%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>19%</td>
<td>24%</td>
<td>2.8%</td>
</tr>
<tr>
<td>North Zone</td>
<td>14%</td>
<td>27%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>14%</td>
<td>18%</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Source: MCHP - Perinatal Services and Outcomes, 2012

Prenatal Psychological Distress and Antenatal Hospitalization

Prenatal psychological distress (anxiety and/or depression) is one of the most common pregnancy-related morbidities. It can have serious adverse effects on mothers, children, and families including pre-term birth and low birth weight (Hobel et al., 2008), child developmental delay (Kingston, Tough, & Whitfield, 2012), attention deficit/hyperactivity disorder (Martini et al., 2010), and parenting stress (Cornish et al., 2006).

In Prairie Mountain Health for 2007/08-2008/09, mothers in the South Zone (5.7%) had significantly lower rates of prenatal psychological distress in the eight months prior to giving birth than Manitoba (7.5%) as a whole. Conversely the North (11.4%) and Brandon (13.4%) had significantly higher rates. Mothers on income assistance, those with less than grade 12 education, lone parents, those who are socially isolated and those with maternal hypertension or maternal diabetes are more likely to suffer from prenatal psychological distress (Heaman et al., 2012).

Antenatal hospitalization is an indicator of maternal morbidity, and is defined as admission to hospital for physical or psychological conditions resulting from, or aggravated by, pregnancy which does not lead to birth.

In Prairie Mountain Health for 2007/08-2008/09, mothers in Brandon (7.4%) had significantly lower rates of antenatal hospitalization than Manitoba (11.4%) as a whole. Conversely the North (21.0%) had a significantly higher rate whilst the South (10.8%) was not significantly different from the Manitoba average.

The most frequent diagnoses associated with antenatal hospitalization in Manitoba were threatened pre-term labour, antenatal hemorrhage, diabetes, and hypertensive disorders. A higher rate of antenatal hospitalization was evident among women who were aged 24 and younger, on income assistance, a lone parent, socially isolated, or primiparous, less than a Grade 12 education, lived in a low income quintile, or had a multiple birth (Heaman et al., 2012).
Childbirth

Prairie Mountain Health birth rates (detailed in the table below) have remained fairly consistent from 2009/10-2011/12 with the number of births increasing only slightly (+3.3%). The female population aged 15-49 has remained static (+0.9%) in the same time period causing the marginal increase in the birth rate. Birth rates were also remarkably similar across the region with the South having a slightly higher birth rate than either the North or Brandon in 2011/12.

Table 4.4 Rate and Number of Births by PMH Zone, 2009/10, 2010/11 and 2011/12

<table>
<thead>
<tr>
<th></th>
<th>2009/10</th>
<th></th>
<th>2010/11</th>
<th></th>
<th>2011/12</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate / 1,000</td>
<td>Births</td>
<td>Rate / 1,000</td>
<td>Births</td>
<td>Rate / 1,000</td>
<td>Births</td>
</tr>
<tr>
<td>South Zone</td>
<td>55.1</td>
<td>772</td>
<td>58.8</td>
<td>821</td>
<td>60.9</td>
<td>850</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>57.3</td>
<td>751</td>
<td>52.5</td>
<td>706</td>
<td>59.8</td>
<td>814</td>
</tr>
<tr>
<td>North Zone</td>
<td>67.1</td>
<td>573</td>
<td>59.1</td>
<td>503</td>
<td>59.8</td>
<td>502</td>
</tr>
<tr>
<td>PMH</td>
<td>58.8</td>
<td>2,096</td>
<td>56.5</td>
<td>2,030</td>
<td>60.2</td>
<td>2,166</td>
</tr>
</tbody>
</table>

Source: Manitoba Healthy, Health Information Management, 2014

Manitoba Population Projections (2015 – 2042) give us an idea of the expected number of children aged less than one year old who are projected to be residents of our region between now and 2042. The following graph shows three scenarios using low, medium and high fertility models. A higher fertility rate would have a significant impact on service demands for the Public Health programs.
Figure 4.1 Projected Population Growth of Children (Aged Less Than 1-Year) for PMH (2015-2040)

Source: Manitoba Population Projections, 2015-2042

Teenage Births

The rate of teenage births in Prairie Mountain (detailed in Table 4.5) has increased between 2000/01-2004/05 and 2005/06-2009/10 in all areas except Brandon. The rates remain significantly lower than the Manitoba average (30.8/1,000 in 2000/01-2004/05 and 30.7/1,000 in 2005/06-2009/10) in the South, similar in Brandon and significantly higher in the North.

The reduced opportunities and negative outcomes that teenage mothers often experience can lead to a greater risk of poor health and educational outcomes (Brownell M et al., 2010) in their children. The risk of negative outcomes is equally high in the children of prior teen mothers and the health, social, and education effects can extend from childhood into early adulthood (Jutte et al., 2010).
Table 4.5 Rate of Teenage Births by PMH Zone, 2000/01-2004/05 and 2005/06-2009/10
Crude Rate per 1,000 Female Residents aged 15-19

<table>
<thead>
<tr>
<th>Zone</th>
<th>2000/01-2004/05</th>
<th></th>
<th>2005/06-2009/10</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>17.3</td>
<td>44.4</td>
<td>21.5</td>
<td>53.2</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>31.2</td>
<td>53.0</td>
<td>28.1</td>
<td>47.6</td>
</tr>
<tr>
<td>North Zone</td>
<td>42.3</td>
<td>64.2</td>
<td>47.6</td>
<td>71.6</td>
</tr>
<tr>
<td>PMH</td>
<td>28.0</td>
<td>161.6</td>
<td>30.4</td>
<td>172.4</td>
</tr>
</tbody>
</table>

Source: MCHP - How are Manitoba’s Children Doing, 2012

In 2007, the Community Partnership for Pregnant and Parenting Youth established the Crocus Plains Early Learning Centre as a partnership between the Brandon Regional Health Authority, Child and Family Services of Western Manitoba, and the Brandon School Division. Eight infant spaces are available. There are 2 key components to the program. The first is the education component. All students must be enrolled in school and take the required two parenting courses. The second component is the child care component. All parents and infants attending the centre must follow and maintain the requirements of the Province of Manitoba Child Care Subsidization Program. The centre has been very successful in supporting teen parents to get the education they need to graduate.

InSight Mentoring

InSight is a Fetal Alcohol Syndrome Disorder prevention program funded provincially by Healthy Child Manitoba that provides a unique three-year service involving intensive case management, support, and advocacy for women who struggle with substance use. The program is aimed at women who have used alcohol and/or drugs heavily during pregnancy and have had little or no success in other community programs and services. By helping to create healthy environments for women and their children, women can be empowered to achieve their goals and make connections within their community.

The InSight program works from a woman-centered, culturally grounded perspective and uses harm reduction and trauma informed approaches when working with women to reach their goals.

The InSight program is currently only available in Dauphin. There are 17 women currently enrolled in the program. The program helps them to identify personal goals, choose a family planning method, access alcohol/drug treatment, get health care for themselves and their children, connect with community services, get transportation to appointments, address housing, domestic violence and child custody problems, and generally overcome barriers to service.
Mothers

A number of sociodemographic factors can contribute to increased morbidity and poorer outcomes in mothers and infants. Table 4.6 lists some of those factors to show a profile of potentially at-risk mothers who gave birth in the PMH region.

When compared to Manitoba as a whole, the South Zone had significantly lower rates of older mothers (35+), mothers on income assistance and lone parents, but a significantly higher rate of mothers with less than a grade 12 education. Brandon had a significantly lower rate of teenage mothers, but a significantly higher rate of mothers suffering from social isolation. The North had significantly higher rates of teenage mothers, mothers with less than a grade 12 education, lone parents and mothers on income assistance. The North also had a significantly lower rate of older mothers (35+).

<table>
<thead>
<tr>
<th></th>
<th>Mothers Age</th>
<th>Less than Grade 12 education</th>
<th>Lone Parents</th>
<th>Socially Isolated</th>
<th>On Income Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12-19</td>
<td>20-34</td>
<td>35+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Zone</td>
<td>7.6%</td>
<td>82.2%</td>
<td>10.3%</td>
<td>22.4%+</td>
<td>7.2%-</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>7.0%-</td>
<td>81.8%</td>
<td>11.2%</td>
<td>16.9%</td>
<td>11.9%</td>
</tr>
<tr>
<td>North Zone</td>
<td>15.1%+</td>
<td>76.4%</td>
<td>8.4%-</td>
<td>25.3%+</td>
<td>14.9%+</td>
</tr>
<tr>
<td>Manitoba</td>
<td>9.1%</td>
<td>77.7%</td>
<td>13.3%</td>
<td>18.9%</td>
<td>11.2%</td>
</tr>
</tbody>
</table>

Source: MCHP - Perinatal Services and Outcomes, 2012

Where Do Mothers Give Birth and How Far Do They Travel

In 2011/12, the majority of Prairie Mountain mothers gave birth in a facility within the region (85.7%), mostly in the Brandon Regional Health Centre (68.2%) or Dauphin Regional Health Centre (11.7%) with smaller numbers in Neepawa Health Centre and Swan River Health Centre. Other facilities in Manitoba account for 7.7% of deliveries along with 6.6% outside Manitoba (mostly in Saskatchewan).

A recent study showed that rural pregnant women who have to travel to access maternity services have increased rates of perinatal mortality, their newborns have increased numbers of Neonatal Intensive Care Unit care days, they have increased rates of induction of labour for logistical reasons, and more unplanned out of hospital deliveries (Grzybowski et al., 2011). Pregnant women who had to travel more than one hour to access maternity services are 7.4 times more likely to experience moderate or severe stress compared to women who had local access to maternity services (Kornelsen et al., 2011).

In Prairie Mountain Health (2007/08-2008/09) 3.8% of Brandon women, 11.3% of women from the South and 26.8% of women from the North travelled more than 113.8km to give birth (Heaman et al., 2012).
In an effort to mitigate the risks associated with women travelling to give birth, PMH has defined a protocol where if an expectant mother presents at a non-delivering hospital, the mother is assessed, and if travel time permits, they are to be transferred via ambulance to a delivering hospital. In the event that this is not medically advisable, physicians and nursing staff have been provided with emergent birth education and have birthing bundles at rural facilities throughout the region.

**Healthcare Provider and Delivery Type**

The vast majority of women in Brandon and the South Zone receive their delivery care from a specialist Obstetrician/Gynecologist. In contrast in the North Zone only 13.8% have access to specialist care and the majority receive their delivery care from a Family Physician.

Midwives based in Brandon provide delivery care to 8.5% of Brandon women and to a lesser extent in the South Zone. Midwifery services are not available in the North Zone. Women were more likely to receive delivery care from a midwife if they lived in high income areas, were married/partnered, multiparous, or not on income assistance, or had a Grade 12 education. Women of younger (aged 24 and younger) and older age (aged 35 to 39) were less likely to receive delivery care from a midwife (Heaman et al., 2012).

Midwives are primary care providers and part of the health care team. They can order tests, prescribe medications related to maternal/newborn care, diagnose and treat minor problems, and attend births as the primary attendant. Midwives can also refer to family physicians and specialists, and to public health nurses as well as community resources.

Manitoba Health, Healthy Living and Seniors asks that midwifery services be targeted towards at risk priority populations (women that are single, adolescent (under 20 years), an immigrant or newcomer to the country, aboriginal, socially isolated and/or of low income). As of 2013/14, more than fifty percent of clients accessing PMH midwifery services came from this priority population and the program continues to work on engagement initiatives that will help them maintain and/or increase this proportion.

We are proud to offer this service and can see the value it has provided to not only the identified priority population, but also to the other women who accessed this comprehensive client centered service.

Midwifery Program Staff 2014.
### Table 4.7 Proportion of Women Receiving Delivery Care by PMH Zone and Provider Type, 2007/08-2008/09

<table>
<thead>
<tr>
<th>Zone</th>
<th>GP/Family Physician</th>
<th>Obstetrician/Gynecologist</th>
<th>Midwife</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>16.2%</td>
<td>79.1%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>14.9%</td>
<td>76.6%</td>
<td>8.5%</td>
</tr>
<tr>
<td>North Zone</td>
<td>79.1%</td>
<td>13.8%</td>
<td>(s)</td>
</tr>
<tr>
<td>Manitoba</td>
<td>21.3%</td>
<td>73.4%</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

(s) suppressed due to small numbers

Source: MCHP - Perinatal Services and Outcomes, 2012

The type of birth can have an impact on the newborn’s health. Babies delivered via Caesarean Section are at increased risk of a number of complications including respiratory problems and difficulties breastfeeding. Caesarean Sections are also more costly than vaginal births and increase the risk of complications to the mother (Canadian Institute for Health Information, 2004).

Manitoba had one of the lowest caesarean birth rates, significantly lower than the national average in 2010. In contrast Prairie Mountain Health has seen a caesarean birth rate significantly higher than the provincial average in recent years. These significantly higher rates can be found in all three zones in the region.

The rate of vaginal births after caesarean sections (VBAC) in Prairie Mountain was also significantly lower than the provincial average across the region.

### Table 4.8 Percent of Caesarean Sections by PMH Zone, 2010/11 and 2011/12 and Vaginal Births after Caesarean Section (VBAC) by PMH Zone, 2007/08-2011/12

<table>
<thead>
<tr>
<th>Zone</th>
<th>Caesarean Sections 2010/11</th>
<th>Caesarean Sections 2011/12</th>
<th>VBAC 2007/08-2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>26.5</td>
<td>26.6</td>
<td>19.3</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>29.9</td>
<td>31.7</td>
<td>15.2</td>
</tr>
<tr>
<td>North Zone</td>
<td>27.4</td>
<td>31.6</td>
<td>16.7</td>
</tr>
<tr>
<td>PMH</td>
<td>N/A</td>
<td>29.9</td>
<td>17.2</td>
</tr>
<tr>
<td>Manitoba</td>
<td>21.6</td>
<td>21.5</td>
<td>32.1</td>
</tr>
</tbody>
</table>

Source: Manitoba Healthy, Health Information Management, 2014
Infant Health

Size for Gestational Age

An infant is considered to be small for gestational age (SGA) if the birth weight is at less than the 10th percentile for its gestational age and sex using a Canadian standard. Infants who are born SGA are at greater risk for neonatal mortality and morbidity (Grisaru-Granovsky et al., 2012) and adverse long–term outcomes, such as reduced neurocognitive abilities and school performance (Pyhälä et al., 2011), autism (Guinchat et al., 2012), depression as young adults (Raikkonen et al., 2008), and adult cardiovascular disease (Rogers & Velten, 2011).

The proportion of infants that were considered SGA in Prairie Mountain (6.7% in 2007/08-2008/09) ranged from 6.2% in the South to 7.0% in Brandon, values that were not significantly different to the Manitoba average of 7.3% (Heaman et al., 2012).

An infant is considered to be large for gestational age (LGA) if the birth weight is above the standard 90th percentile for their gestational age and sex using a Canadian standard. Infants born LGA are more likely to require greater intervention at birth, including caesarean birth, resuscitation, and special care nursery admission (Ng et al., 2010). LGA birth has also been associated with long–term sequelae, such as an increased risk of metabolic syndrome in childhood (obesity, hypertension, dyslipidemia, glucose intolerance) (Boney et al., 2005), childhood obesity (de Hoog et al., 2011), and adult obesity (Cnattingius, 2004).

The proportion of infants that were considered LGA in Prairie Mountain (15.5% in 2007/08-2008/09) ranged from 14.1% in Brandon to 18.3% in the North. The proportion of LGA births in the North was significantly higher than the Manitoba average of 15.0% whilst the other zones were not significantly different (Heaman et al., 2012).

Pre-term and Post-term births

A pre-term birth is a birth that occurs with a gestational age of less than 37 complete weeks. Pre-term birth is the leading cause of neonatal and infant mortality in industrialized countries and accounts for a substantial portion of all neonatal morbidity (Public Health Agency of Canada, 2008, p. 123).

The proportion of pre-term births in Prairie Mountain (2005/06-2008/09) ranged from 6.7% in the South Zone to 8.1% in Brandon, values which are not significantly different to the Manitoba average of 7.8% (Heaman et al., 2012).

A post-term birth is a birth that occurs with a gestational age of 42 or more weeks of completed pregnancy. Post-term births are associated with increased perinatal morbidity and mortality, as well as maternal complications (Olesen et al., 2003).

The proportion of post-term births in Prairie Mountain (2005/06-2008/09) ranged from 0.5% in Brandon, (0.7% in the South Zone) to 1.1% in the North Zone. Values in Brandon and the South were
significantly lower than the Manitoba average of 1.7% and the North was not significantly different (Heaman et al., 2012).

**Neonatal Special Care Unit (SCU) Admissions**

Infants that are admitted to SCUs are frequently pre-term or small–for–gestational–age or are multiple births. Despite these factors not being significantly different within PMH from the Manitoba averages, the rates of admissions to special care units were significantly higher than the Manitoba average admission rates for residents of both Brandon and the South Zone and significantly lower for residents in the North Zone. There are four neonatal special care units in Manitoba, two in Winnipeg, one in Brandon and one in Thompson.

**Table 4.9 Proportion of births admitted to a Special Care Unit Prior to Hospital Discharge by PMH Zone, 2007/08-2008/09**

<table>
<thead>
<tr>
<th></th>
<th>Births Admitted to SCU</th>
<th>Pre-term Births</th>
<th>SGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>13.6%*</td>
<td>6.7%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>17.9%*</td>
<td>8.1%</td>
<td>7.0%</td>
</tr>
<tr>
<td>North Zone</td>
<td>5.6%*</td>
<td>7.7%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>9.1%</td>
<td>7.8%</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

*significantly different than the Manitoba average  
Source: MCHP - Perinatal Services and Outcomes, 2012

**Breastfeeding**

The multitude of health related, social, and economic benefits of breastfeeding (to both the mother and infant) in both the immediate and long term are well documented. Despite this, mothers continue either not to initiate breastfeeding or to discontinue nursing very quickly, most often because of barriers at home, in the workplace, and even from healthcare providers in the form of early discharge from hospital and inconsistent advice. Some of the most significant predictors of lower breastfeeding initiation rates in Manitoba are low income, less than a grade 12 education, and inadequate prenatal care (Heaman et al., 2012).

Breastfeeding initiation rates in PMH (78.7% in 2007/08-2008/09) ranged from 83.8% in Brandon and 83.4% in the South Zone to only 64.8% in the North Zone. Both Brandon and the South had significantly higher rates than the Manitoba average of 79.0% whereas the North had a significantly lower rate (Heaman et al., 2012).

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*During client focus groups with Healthy Baby program participants in 2013, there was strong support for breastfeeding, access to a breast pump while in hospital and a loaner program in the community as well as improved access to community-based lactation supports and breastfeeding clinics.*
Métis breastfeeding initiation rates were significantly lower than for all other newborns throughout PMH. In the North Zone the rate was significantly lower than the provincial Métis rate.

Table 4.10 Métis Breastfeeding Initiation Rates by PMH Zone, 2004/05-2006/07

<table>
<thead>
<tr>
<th>Zone</th>
<th>Métis</th>
<th>All Other newborns</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>73.9%</td>
<td>85.1%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>77.9%</td>
<td>84.5%</td>
</tr>
<tr>
<td>North Zone</td>
<td>56.1%</td>
<td>73.6%</td>
</tr>
<tr>
<td>Manitoba</td>
<td>76.0%</td>
<td>81.7%</td>
</tr>
</tbody>
</table>

Source: MCHP – Métis Health Status and Healthcare Utilization in Manitoba, 2010

As part of the Manitoba Baby Friendly Initiative (BFI), PMH Public Health Nurses in collaboration with birthing facilities encourage breastfeeding continuation in the community setting. Mothers who access Public Health services for postpartum home visits and immunization services for their infant are encouraged to exclusively breastfeed for at least six months, as recommended by the Canadian Paediatric Society and the Public Health Agency of Canada. All Public Health offices are working towards BFI designation with a variety of interventions throughout the region. Manitoba Health recognizes breastfeeding’s positive impact on the health of all Manitobans. As the normal nutritional choice for infants, breastfeeding optimizes child health and has been associated with reduced obesity, reduced chronic diseases including type 2 Diabetes, improved oral health, and improved early childhood development especially for children born to low income mothers. Breastfeeding provides health care cost savings both in the present and in the future.

Table 4.11 Breastfeeding Initiation and Duration by PMH Zone, 2013/14
(Data excludes those clients who do not access PMH Public Health services postpartum)

<table>
<thead>
<tr>
<th>Zone</th>
<th>Initiation / Hospital Discharge</th>
<th>First Community Contact</th>
<th>Two Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>92.0%</td>
<td>90.7%</td>
<td>79.2%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>83.4%</td>
<td>83.4%</td>
<td>67.4%</td>
</tr>
<tr>
<td>North Zone</td>
<td>71.8%</td>
<td>70.3%</td>
<td>53.3%</td>
</tr>
</tbody>
</table>

Source: PMH - Public Health Program, 2014

There are lower breastfeeding rates in the North of the region and in all areas a significant decline between the first community contact (generally within one week postpartum) and the first child health clinic which occurs around

During staff focus groups as part of a postpartum program evaluation in 2013, many Public Health Nurses identified breastfeeding as the primary challenge in the service they provide.
two months postpartum. This data only includes those clients who seek services from PMH Public Health.

**Postpartum Psychological Distress**

Postpartum psychological distress is defined as any form of psychological distress (e.g., anxiety, depression) occurring between birth and one–year postpartum. It is common, with evidence suggesting that it is not always self–remitting and, if untreated, can continue beyond the postpartum period (Beeghly et al., 2002). It has been associated with adverse maternal, child, and family outcomes, including maternal substance abuse (Bowen et al., 2012), family dysfunction, child developmental delay, and poor school performance (Kingston et al., 2012).

The rate of postpartum psychological distress (2007/08-2008/09) was significantly higher than the Manitoba average (13.8%) in both Brandon (19.4%) and the North Zone (23.2%). The rate in the South Zone (15.4%) was not significantly different. Amongst the most significant predictors in Manitoba of postpartum psychological distress were mothers on income assistance, less than grade 12 education, lone parents, and mothers who were socially isolated (Heaman et al., 2012).

**Maternal Postpartum Readmission**

Maternal readmission during the postpartum period refers to hospital admissions which occur within 90 days following childbirth and may involve either complications related to pregnancy and/or birth or unrelated medical conditions. Maternal postpartum readmission is an important indicator of maternal morbidity as well as having significant implications for maternal/infant bonding, breastfeeding, and family function (Liu et al., 2005).

In PMH the rates of maternal postpartum readmission (2007/08-2008/09) in Brandon (2.1%) and the North Zone (4.3%) were not significantly different from the Manitoba average (3.0%) whereas the rate in the South Zone (1.8%) was significantly lower (Heaman et al., 2012).

**Neonatal Readmission**

The rate of neonatal hospital readmission after discharge following birth is defined as the number of readmissions of newborns within 28 days of birth. The health care costs associated with neonatal readmission are substantial (Burgos et al., 2008).

In PMH the rates of neonatal hospital readmission (2007/08-2008/09) were significantly higher than the Manitoba average (2.0%) in both Brandon (3.4%) and the North Zone (2.8%). In the South Zone (2.2%) the rate was not significantly different. The main reasons for neonatal readmission in Manitoba were: jaundice (26.1%), respiratory problems (17.1%), infection/parasite (12.2%), congenital anomalies (10.7%), digestive problems (6.4%), feeding problems (4.9%), and dehydration/fever (4.3%) (Heaman et al., 2012).
In the Métis population, neonatal readmissions rates were similar to the rest of the population except in the North Zone where the crude annual rate (2002-2006) was 61/1,000 newborns, significantly higher than the Manitoba Métis average of 36/1,000 (Martens PJ et al., June 2010).

Still Births

The stillbirth rate is defined as the number of stillbirths (fetal deaths) with a gestation of 20 weeks or greater or a birth weight of at least 500 grams per 1,000 total births. Mothers aged 40 and over, those living with diabetes and mothers undergoing multiple births were more likely to experience stillbirths (Heaman et al., 2012).

Stillbirth rates (2004/05-2008/09) did not vary significantly across PMH and were not significantly different from the Manitoba average of 6.0/1,000.

Neonatal and Postneonatal Mortality

In Canada, neonatal deaths constituted 72% of infant deaths in 2007. The most common causes of death during the neonatal period are immaturity and congenital anomalies (Public Health Agency of Canada, 2012). The neonatal mortality rate is defined as the number of deaths of live born babies weighing 500 grams or more within 27 days of birth per 1,000 live births. Neonatal Mortality rates (2001/02-2008/09) did not vary significantly across PMH and were not significantly different from the Manitoba average of 3.2/1,000 (Heaman et al., 2012).

The postneonatal mortality rate is defined as the number of deaths of live born babies weighing 500 grams or more between 28 and 364 days after birth per 1,000 live births. Postneonatal mortality rates (2001/02-2008/09) did not vary significantly across PMH and were not significantly different from the Manitoba average of 2.0/1,000. The main causes of post-neonatal death were congenital anomalies (21.5%), Sudden Infant Death Syndrome (13.9%), and injury (11.7%) (Heaman et al., 2012).

Infant Mortality

The infant mortality rate is considered to be one of the most important indicators of the health of a population (Ma & Finch, 2010). The infant mortality rate is defined as the proportion of live births weighing 500 grams or more that die within 364 days of birth. Infant Mortality rates (2001/02-2008/09) did not vary significantly across PMH (5.0/1,000) and were not significantly different from the Manitoba average of 5.2/1,000 (Heaman et al., 2012).

In a Manitoba study, infant mortality rates were significantly higher (roughly double) among First Nations compared to non–First Nations. In addition, low neighbourhood socioeconomic status was associated with a higher relative risk of infant mortality for both First Nations and non–First Nations (Luo et al., 2010).
Table 4.12 Neonatal, Postneonatal and Infant Mortality by PMH Zone, 2001/02-2008/09

<table>
<thead>
<tr>
<th>Zone</th>
<th>Neonatal Mortality</th>
<th>Postneonatal Mortality</th>
<th>Infant Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>3.4</td>
<td>1.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>2.4</td>
<td>1.6</td>
<td>4.0</td>
</tr>
<tr>
<td>North Zone</td>
<td>4.8</td>
<td>2.0</td>
<td>6.7</td>
</tr>
<tr>
<td>Manitoba</td>
<td>3.2</td>
<td>2.0</td>
<td>5.2</td>
</tr>
</tbody>
</table>

Source: MCHP – Perinatal Services and Outcomes, 2012

Neonatal, postneonatal and infant mortality rates amongst the Métis population were not significantly different to that of Manitoba as a whole (Martens et al., 2010).

More recent data from Manitoba Health gives the crude rate of infant deaths for 2007/2008 to 2011/2012 as 5.7/1,000 for the PMH region. This was not significantly different than the Manitoba rate of 6.1/1,000 for the same time period.

**Family Supports**

**Postpartum Program**

The PMH postpartum program provides support and information for new mothers and families on postnatal maternal and infant care, breastfeeding, infant feeding, attachment, parenting of newborn and family adjustment. Service is provided through phone contact, office-based and home-based visits.

"the nurse was very accommodating and made you feel that you could come back with any questions"

Postpartum Focus Group Mother, 2013

In Brandon the Community Postpartum Program is operated seven days a week from 8:30 am to 4:30 pm. Registered nurses provide support for mothers and newborns who reside in or are discharged to an address within the Brandon Health Unit limits.

All births to PMH residents excluding those who are under the care of a midwife or who are currently residing on a First Nation reserve are referred to the PMH Public Health Postpartum Program. In 2012/13 this was a total of 1,930 referrals, an increase of 10% from 2010/11.
Each family can expect a minimum of one home-based visit from a Public Health Nurse and often more depending on the needs and health status of the infant. Office-based visits are also offered where they are more convenient for the family. Postpartum services are offered from 44 community health offices and sub-offices across the region.

**Families First Program**

Assessing health risk is one of the central tasks of Public Health. The early years comprise a significant period of brain development and set the foundation for health and success in all aspects of life. The family environment is very influential in child development, making it essential to identify which situations, stressors, or behaviours are known to be associated with family difficulties. These situations, stressors or behaviours are called risk factors.

Prairie Mountain Health, in partnership with Healthy Child Manitoba, attempts to screen all families with newborns for risk factors associated with child outcomes, using the Families First Screening Form. This screening form is a brief measure of biological (e.g., congenital anomalies, prematurity), social (e.g., social isolation, relationship distress), behavioural (e.g., maternal smoking, alcohol use during pregnancy) and demographic (e.g., age, level of education) risk factors. The screening process does not include families from First Nations communities because they are under federal jurisdiction.

Public Health Nurses gather information from post-partum referrals and open-ended interviews that usually occur within one week of a family being discharged from the hospital. The purpose of the

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**Table 4.13 Postpartum Referrals by PMH Zone, 2010/11 to 2012/13**

<table>
<thead>
<tr>
<th>Zone</th>
<th>2010/11</th>
<th>2011/12</th>
<th>2012/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>746</td>
<td>765</td>
<td>720</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>637</td>
<td>749</td>
<td>761</td>
</tr>
<tr>
<td>North Zone</td>
<td>370</td>
<td>431</td>
<td>449</td>
</tr>
<tr>
<td>PMH</td>
<td>1,753</td>
<td>1,945</td>
<td>1,930</td>
</tr>
</tbody>
</table>

Source: PMH - Regional Postpartum Program, 2013
universal screening process is two-fold. First, the screening process is used to engage families in a dialogue and provide support by connecting families to appropriate resources, such as child care, parenting programs, financial assistance, or home visiting programs. Second, the information is used to assess and track risk factors over time so that appropriate services and policies can be developed.

When three or more risk factors are identified through a Families First Screen, a more detailed parental survey is undertaken to determine whether the family is offered enrolment into the Families First Home Visitor program. This program offers weekly visits in the family's home for approximately one year, and then depending on the needs of the family, gradually decreases in frequency. The program is designed to provide long term support lasting for about 3 years.

Home Visitors work directly with the families using a parenting curriculum and work under the direction of a Public Health Nurse. The curriculum supports families in the following areas:

- Healthy childhood growth, development, and learning
- Building strong family relationships and parenting skills
- Sharing information about child development
- Providing information on health, safety, and nutrition
- Learning through play
- Exploring solutions to challenging situations
- Providing information about pregnancy and spacing of children
- Accessing health and social services
- Connecting to community resources

In July 2014 there were 263 families enrolled in the Families First Home Visiting program across the region: 35 in the North, 120 in the South and 108 in Brandon Zone.

A profile of the risk factors assessed in the Families First screen between 2007 and 2011 can be seen in Table 4.14.
In the South Zone there were significant increases in the percentage of screens reporting difficult labour/delivery, infant trauma/illness, maternal anxiety disorder and harsh discipline practices. There were significant decreases in the percentage of screens reporting alcohol use during pregnancy, multiple births, smoking during pregnancy and mothers with less than a grade 12 education.

In Brandon there were significant increases in the percentage of screens reporting in-utero infections, and maternal anxiety disorders. There were significant decreases in the percentage of screens reporting high birth weight, infant trauma/illness, multiple births and smoking during pregnancy.

In the North Zone there were significant increases in the percentage of screens reporting smoking during pregnancy, maternal anxiety disorder and mothers with an existing child protection file. There were significant decreases in the percentage of screens reporting alcohol use during pregnancy and lone parents.

Particularly noteworthy was the high percentage of screens reporting maternal depression in the South and Brandon zones along with significantly increasing rates of maternal anxiety disorders in all three zones.
Table 4.14 Families First Risk Factor Prevalence, Percent of Infants Screen by PMH Zone, 2007-2011

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Manitoba</th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congenital Abnormality/Disability</td>
<td>1.4</td>
<td>2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Birth Weight</td>
<td>5.1</td>
<td>3.2</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>High Birth Weight</td>
<td>13.9</td>
<td>12.7</td>
<td>12.6</td>
<td>18.8</td>
</tr>
<tr>
<td>Premature</td>
<td>7.2</td>
<td>5.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Utero Infections</td>
<td>0.9</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol Use During Pregnancy</td>
<td>14.1</td>
<td>23.1</td>
<td>18.4</td>
<td></td>
</tr>
<tr>
<td>Drug Use During Pregnancy</td>
<td>4.2</td>
<td>2.0</td>
<td>3.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Difficult Labour/Delivery</td>
<td>17</td>
<td>+</td>
<td>23.8</td>
<td>19.6</td>
</tr>
<tr>
<td>Infant Trauma/ Illness</td>
<td>3.5</td>
<td>+</td>
<td>6.4</td>
<td>2.7</td>
</tr>
<tr>
<td>Family History Of Disability</td>
<td>3.1</td>
<td>5.3</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>Multiple Births</td>
<td>2.8</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking During Pregnancy</td>
<td>18.7</td>
<td>16.0</td>
<td>22.0</td>
<td>30.5</td>
</tr>
<tr>
<td>Teenage Mother</td>
<td>7.4</td>
<td>4.0</td>
<td></td>
<td>12.1</td>
</tr>
<tr>
<td>Less Than Grade 12 Education</td>
<td>19.4</td>
<td>21.4</td>
<td>15.9</td>
<td>27.2</td>
</tr>
<tr>
<td>Financial Difficulties</td>
<td>16.5</td>
<td>10.5</td>
<td>21.1</td>
<td>24.8</td>
</tr>
<tr>
<td>Lone Parent</td>
<td>11.8</td>
<td>8.1</td>
<td>13.6</td>
<td>15.9</td>
</tr>
<tr>
<td>No Prenatal Care</td>
<td>2.2</td>
<td>0.9</td>
<td>1.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Maternal Depression</td>
<td>14.2</td>
<td>17.2</td>
<td>20.3</td>
<td></td>
</tr>
<tr>
<td>Maternal Anxiety Disorder</td>
<td>5.2</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Current Substance Abuse (Mom)</td>
<td>0.7</td>
<td>0.3</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Social Isolation/Lack Of Support</td>
<td>5.1</td>
<td>8.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship Distress</td>
<td>5.4</td>
<td>4.7</td>
<td>6.8</td>
<td></td>
</tr>
<tr>
<td>Relationship Violence</td>
<td>2.3</td>
<td>1.5</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>Harsh Discipline</td>
<td>0.5</td>
<td>1.5</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>Existing File Child Protection</td>
<td>5.4</td>
<td>3.2</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>History Of Child Abuse (Mom)</td>
<td>7.8</td>
<td>6.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three Or More Risk Factors</td>
<td>25.3</td>
<td>33.6</td>
<td>34.5</td>
<td></td>
</tr>
</tbody>
</table>

Source: Healthy Child Manitoba, 2013

h/l – significantly higher/lower than Manitoba average
+- significantly increasing/decreasing

Unreported values (blank cells) are not significantly different to the Manitoba average values but may be significantly increasing or decreasing over time
Children’s Health

Child Health Services

Child Health or Well Baby Clinics are offered by public health nurses in the region to provide education and counselling regarding child care, nutrition, safety, breastfeeding, parenting, and community resources. Immunization is also offered at these clinics according to the provincial childhood immunization schedule.

One of the most common concerns among parents of young children is the development of their child. Public Health Nurses in the PMH region offer developmental screening at an early age to address any concerns that may revolve around the development of crawling or walking, feeding issues, behaviour concerns, or sensory issues (when the child does not like to be touched or is always running into things, will only eat certain foods, will not explore new textures in the environment, seems to overreact or under-react to sounds, etc.).

Many developmental delays, if detected early enough, can be corrected and will not be a problem later in the child’s life. However, when left untreated, these delays may affect the child’s education, social life, and general health and happiness. The screens are offered at Well Baby/Child Health Clinics and pre-school wellness fairs throughout the region.

Children’s Therapy Initiative

The goal of the PMH Children’s Therapy Initiative is the provision of therapy services including occupational therapy, physiotherapy, speech and language therapy, and audiology for children in the region from birth to when they leave school. Therapy services are available to assist children in reaching their full potential through assessment and intervention of identified concerns in the area of hearing, speech, language, movement, learning, self-care, and social development. Services are provided using a child/family centered team approach which may include assessment, direct intervention, consultation, education, specialized equipment, and environmental adaptations.

Unified Referral Intake System (URIS)

The Unified Referral and Intake System (URIS) is a program offered in the region aimed at providing support for children with designated health care needs while they are attending school or licensed child care, or receiving respite services. A child may be eligible for URIS services if they have any of the following health care needs: asthma, diabetes, seizures, life-threatening allergies, a cardiac condition, a bleeding disorder, steroid dependence, or if they require gastrostomy care, ostomy care, intermittent catheterization, pre-set oxygen, or oral/nasal suctioning.

A registered nurse works with the parent/guardian to develop a health care plan and an emergency response plan to meet the child’s specific health care need. The registered nurse is also involved in the provision of training to staff (i.e. school educators, bus drivers, child care attendants, respite providers) for the child’s health care needs.
The registered nurse then monitors personnel involved with the child as necessary to ensure competencies are maintained, perform assessments and update health care plans annually.

In July of 2014 there were health care plans in place for 224 medical interventions in childcare facilities and 1,848 in schools within the region. Additionally there were 40 respite and recreation plans in place in Brandon and the South Zone.

The health care plans were primarily for asthma (61%), anaphylaxis (20%), and seizure disorders (9%). Others (11%) include healthcare issues such as diabetes, ostomy care, gastrostomy care, intermittent catheterization, pre-set oxygen, suctioning, cardiac conditions, bleeding disorders, and steroid dependence.

Table 4.15  URIS Health Care Plans in Place by PMH Zone, July 2014

<table>
<thead>
<tr>
<th>Daycares</th>
<th>Asthma</th>
<th>Anaphylaxis</th>
<th>Seizure Disorders</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>67</td>
<td>33</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>35</td>
<td>19</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>North Zone</td>
<td>20</td>
<td>15</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Zone</td>
<td>432</td>
<td>126</td>
<td>53</td>
<td>39</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>472</td>
<td>147</td>
<td>62</td>
<td>92</td>
</tr>
<tr>
<td>North Zone</td>
<td>250</td>
<td>80</td>
<td>38</td>
<td>57</td>
</tr>
</tbody>
</table>

(s) suppressed due to small numbers  
Source: PMH - Regional URIS Program, 2014

Parent Child Coalitions

Parent Child Coalitions bring together individuals and organizations that have a vested interest in healthy families and optimal child development, and that are interested in working with parents, caregivers, and service providers to support families and their children. Coalitions support existing programs and activities within communities and initiate new activities that reflect each community’s diversity and unique needs. PMH partners with these coalitions which are funded by Healthy Child Manitoba throughout the Province.

Coalition partners encourage a broad range of services and programming for children aged 0-6 years and their families, based on the priorities of positive parenting, nutrition and physical health, literacy and learning, and community capacity.

Recognizing that parents are the first, most important and most lasting teachers in a child’s life, coalition activities create opportunities for parents and children to participate in quality programming together, and offer supports to families.
There are five Parent Child Coalitions within the region:

- Assiniboine South (Promise Years) Parent Child Program covering the far south of the region from the US border to Brandon
- Brandon Healthy Families Team which covers the city of Brandon and surrounding area
- Assiniboine North Parent Child Coalition which covers the central part of the region from Brandon to Riding Mountain National Park
- South Parkland Healthy Child Coalition which covers the southern part of the Parkland
- North Parkland (Better Beginnings) Program which covers the northern part of the Parkland.

Parent child coalitions are encouraged to reflect upon local-level Early Development Instrument (EDI) results to help make informed decisions about their early years programming.

**School Readiness (EDI)**

‘Readiness for school’ is a baseline of children’s readiness to begin Grade One. As children’s readiness for school is influenced by their early years – and the family and community factors that shape children’s early years – *Early Development Instrument* (EDI) results are a reflection of the strengths and needs of children’s communities. The EDI is an annual questionnaire measuring Kindergarten children’s ‘readiness for school’ across several areas of child development:

- Physical health and well-being  
  (Children are healthy, independent, well rested each day)
- Social competence  
  (Children play and get along with others, share, show self-confidence)
- Emotional maturity  
  (Children are able to concentrate on tasks, help others, show patience, are not often aggressive or angry)
- Language and thinking skills  
  (Children are interested in reading and writing, can count and recognize numbers, shapes)
- Communication skills and general knowledge  
  (Children can tell a story, communicate with adults and other children).

EDI results assist communities in planning for the services and programs children need in order to learn and enjoy their school experience. More information on the EDI in Manitoba can be found at [www.gov.mb.ca/healthychild/edi/index.html](http://www.gov.mb.ca/healthychild/edi/index.html).
EDI results for the PMH region are reported in four zones aligned with the region’s Parent Child Coalitions (Parkland North and Parkland South have been combined). The average EDI scores for four years 2005/06-2010/11 for the regions compared to the Manitoba baseline year of 2005/06 can be seen below, with 10 being the best possible score.

Table 4.16 Average EDI scores by PMH Parent Child Coalitions, 2005/2006-2010/2011

<table>
<thead>
<tr>
<th>Category</th>
<th>Manitoba (2005-06)</th>
<th>Assiniboine South</th>
<th>Brandon</th>
<th>Assiniboine North</th>
<th>Parkland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical health and well-being</td>
<td>8.8</td>
<td>9.0 l</td>
<td>8.5 l</td>
<td>9.0 h</td>
<td>8.9 h</td>
</tr>
<tr>
<td>Social competence</td>
<td>8.3</td>
<td>8.5 h</td>
<td>8.1 l</td>
<td>8.5 h</td>
<td>8.4 h</td>
</tr>
<tr>
<td>Emotional maturity</td>
<td>7.9</td>
<td>8.1 h</td>
<td>7.8 l</td>
<td>8.1 h</td>
<td>8.1 h</td>
</tr>
<tr>
<td>Language and thinking skills</td>
<td>8.1</td>
<td>8.5 h</td>
<td>7.8 l</td>
<td>8.5 h</td>
<td>8.1 h</td>
</tr>
<tr>
<td>Communication skills and general knowledge</td>
<td>7.6</td>
<td>8.0 h</td>
<td>7.3 l</td>
<td>8.0 h</td>
<td>8.0 h</td>
</tr>
</tbody>
</table>

Source: Healthy Child Manitoba EDI Reports, 2005-2011
h/l – significantly higher/lower than Manitoba 2005/06 baseline

In general the four year average EDI scores in the Assiniboine North and South regions along with Parkland were consistently higher in all categories than in Manitoba as a whole. Conversely in Brandon scores were consistently lower than the Manitoba baseline.

Using percentile rankings, there is an expectation that 30% of EDI scores should fall within the ‘very ready’ category in each of the five areas of development. More than 30% indicates strength in that area of development. The following table details the percent of children who were ‘very ready’ for school in each of the regions compared to that in the rest of Manitoba.

Table 4.17 Percentage of children considered ‘very ready’ for school by PMH Parent Child Coalitions, 2005/2006-2010/2011

<table>
<thead>
<tr>
<th>Category</th>
<th>Manitoba (2005-06)</th>
<th>Assiniboine South</th>
<th>Brandon</th>
<th>Assiniboine North</th>
<th>Parkland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical health and well-being</td>
<td>32</td>
<td>38 h</td>
<td>29 l</td>
<td>38 h</td>
<td>41 h</td>
</tr>
<tr>
<td>Social competence</td>
<td>34</td>
<td>36 h</td>
<td>32 l</td>
<td>37 h</td>
<td>40 h</td>
</tr>
<tr>
<td>Emotional maturity</td>
<td>28</td>
<td>31 h</td>
<td>28 l</td>
<td>29 h</td>
<td>34 h</td>
</tr>
<tr>
<td>Language and thinking skills</td>
<td>30</td>
<td>39 h</td>
<td>29 l</td>
<td>40 h</td>
<td>34 h</td>
</tr>
<tr>
<td>Communication skills and general knowledge</td>
<td>34</td>
<td>39 h</td>
<td>33 l</td>
<td>36 l</td>
<td>42 h</td>
</tr>
</tbody>
</table>

Source: Healthy Child Manitoba EDI Reports, 2005-2011
h/l – significantly higher/lower than Manitoba 2005/06 baseline (>30% considered strength)
PMH shows strength in several of the EDI categories particularly in Parkland and Assiniboine South. Emotional maturity (in Brandon and Assiniboine North) continues to be a weakness, in common with the Province as a whole.

Similarly, there is an expectation that 10% of scores should fall within the ‘not ready’ category in each of the five areas of development. More than 10% would indicate a ‘need’ in that area. The following table details the percent of children who were ‘not ready’ for school compared to that in the rest of Manitoba.

Table 4.18 Percentage of children considered ‘not ready’ for school by PMH Parent Child Coalition, 2005/2006-2010/2011

<table>
<thead>
<tr>
<th>Area</th>
<th>Manitoba (2005-06)</th>
<th>Assiniboine South</th>
<th>Brandon</th>
<th>Assiniboine North</th>
<th>Parkland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical health and well-being</td>
<td>11</td>
<td>8</td>
<td>16</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Social competence</td>
<td>9</td>
<td>8</td>
<td>13</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Emotional maturity</td>
<td>12</td>
<td>8</td>
<td>15</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Language and thinking skills</td>
<td>12</td>
<td>7</td>
<td>17</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Communication skills and general knowledge</td>
<td>11</td>
<td>9</td>
<td>14</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Healthy Child Manitoba EDI Reports 2005-2011
h/l – significantly higher/lower than Manitoba 2005/06 baseline (>10% considered strength)

Brandon has a high percentage of children ‘not ready’ for school in all areas of development particularly in physical health and well-being and language and thinking skills. Parkland also demonstrates a need in the language and thinking skills area.

In the PMH region as a whole:

- Girls scored significantly higher in all categories than boys.

- Recently immigrated children (moved to Manitoba within the last two years) showed no significant differences in scores other than in Assiniboine North where they scored significantly lower in the category of communication skills and general knowledge and in Brandon where they scored significantly lower in all categories.

- Children with English as an additional language (EAL) scored significantly lower in all categories except physical health and well-being, other than in Parkland where there were no significant differences. The numbers of children with EAL have increased significantly in both Brandon (3% in 2005/06 to 13% in 2010/11) and Assiniboine North (4% in 2005/06 to 8% in 2010/11).

- Aboriginal children scored significantly lower in all categories in all regions other than Assiniboine South where only language and thinking skills showed a significantly lower score.
(When this data was controlled for parental income, education and other risk factors, there were no significant differences in the scores with non-Aboriginal children. This indicates that the lower scores among Aboriginal children were mostly due to socioeconomic status and other risk factors and not Aboriginal identity).

- The numbers of children with special needs have remained relatively stable across the region from 2005/06-2010/11.

There are many societal expectations placed on the school system, with school settings viewed as an ideal place to convey social and health promotion messages to students. Schools do their best to accommodate these types of requests within their capacity. It is being increasingly recognized that healthy child development is ideally a shared responsibility, with the best outcomes achieved when there are partnerships among families, schools, and communities.

**Immunization**

Immunization is a health protection intervention to initiate or increase resistance against infectious disease. It is arguably the single most important Public Health achievement in the past century, as infectious diseases have dropped from being the leading cause of death a century ago to accounting for less than 5% of the deaths in Canada today.

The majority of early childhood immunizations are given through Child Health Clinics. These clinics, conducted by Public Health Nurses, provide an opportunity for assessment of the child’s health and development and provide education and anticipatory guidance about infant feeding and injury prevention.

Once children reach school-age, immunizations are given through the school system, with some exceptions on an individual basis. Adult immunizations may be given in the Public Health office or in flu clinics held across the region, and are offered by some physician clinics and pharmacies.

**Childhood Immunization**

The recommended immunization schedule for children, published by Manitoba Health, Healthy Living and Seniors, is a list of the immunizations recommended at certain ages. When an individual has received all the immunizations recommended for their age group they are considered ‘complete for age’. Obtaining and monitoring immunization status can be a challenge if families have to move often or when individuals or families come from a different country without a record of immunizations given previously.
Table 4.19 Recommended immunization schedule for infants and pre-school children

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>2 months</th>
<th>4 months</th>
<th>6 months</th>
<th>12 months</th>
<th>18 months</th>
<th>4-6 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>DtaP-IPV-Hib*</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal Conjugate 13 valent</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella</td>
<td></td>
<td></td>
<td>×</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, Mumps, Rubella (MMR)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal C Conjugate (Men-C-C) Vaccine</td>
<td></td>
<td></td>
<td></td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DtaP-IPV*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Immunization Schedule
* Diphtheria, Tetanus, Pertussis, Polio, (Haemophilus influenzae Type b)

Table 4.20 Recommended school immunization schedule

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Grade 4</th>
<th>Grade 6</th>
<th>14-16 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meningococcal C Conjugate (Men-C-C) Vaccine</td>
<td>×</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B Vaccine</td>
<td>×××</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Papillomavirus (HPV) Girls Only</td>
<td>xxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, Diphtheria, Pertussis (Tdap)</td>
<td></td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Immunization Schedule
xxx - three doses over a six-month period

All three zones show higher rates of immunization than Manitoba as a whole. The Brandon Zone shows a significantly lower coverage from age seven onwards than either the South or the North zones. The percent coverage at each age group is shown in Table 4.21 for each of the zones.
Table 4.21 Percentage of children considered ‘complete for age’ for Immunizations by PMH Zone, 2008-10

Three-Year average and 2011

<table>
<thead>
<tr>
<th>Age</th>
<th>3-YEAR AVERAGE 2008-2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manitoba</td>
<td>South Zone</td>
</tr>
<tr>
<td>Age 1</td>
<td>76.2</td>
<td>79.8</td>
</tr>
<tr>
<td>Age 2</td>
<td>61.2</td>
<td>63.9</td>
</tr>
<tr>
<td>Age 7</td>
<td>67.8</td>
<td>79.8</td>
</tr>
<tr>
<td>Age 11</td>
<td>53.0</td>
<td>69.2</td>
</tr>
<tr>
<td>Age 17</td>
<td>47.3</td>
<td>61.1</td>
</tr>
</tbody>
</table>

Source: Manitoba Annual Immunization Report, 2011

Adult Health

Adult Immunization

Adult immunizations on the Manitoba Health immunization schedule are confined to residents aged 65 and over who are recommended to have an annual influenza (flu) immunization and a ‘once in a lifetime’ pneumococcal (Polysaccharide PPV-23) immunization.

The annual influenza immunization rate in 2011/12 for PMH (54.4%) was similar to the rate in Manitoba as a whole (56.6%) and in common with most other regional health authorities, has declined significantly since 2006/07 (PMH – 60.9%, MB – 62.3%). The North Zone (51.6% in 2011/12) has significantly lower rates in both 2006/07 and 2011/12 than Manitoba, whilst Brandon (55.4% in 2011/12) and the South Zone (55.2% in 2011/12) were not significantly different.
Figure 4.2  Influenza Immunization Rate by Manitoba RHA and PMH Zone, 2006/07 and 2011/12
Age- and sex-adjusted percent of residents 65+ who received influenza vaccination

At a district level, Riding Mountain (46.2%), Little Saskatchewan (50.3%) and Porcupine Mountain (45.6%) all had significantly lower rates in 2011/12 than the Manitoba average whilst the others were not significantly different. All districts other than Dauphin and Swan River showed a significant decline in rates between 2006/07 and 2011/12.

There were significant associations with flu shot rates and income for both rural and urban areas with residents of lower income areas having lower vaccination rates (Fransoo R et al., October 2013).

“Overall very good, didn’t have to wait long, great nurse – didn’t feel the shot”.

“Volunteers and Nurses were very accommodating – Great job!”

*Flu Clinic Clients 2013 Flu Season*
The 2011/12 Pneumococcal immunization rate in PMH (65.0%) was similar to the Manitoba average (65.8%) and has not changed significantly from 2006/07 (67.6%). The lowest coverage rates were found in the Souris River (60.2%) and Porcupine Mountain (57.4%) districts which were both significantly lower than the Manitoba average in 2011/12. The highest rate was found in Brandon East End (72.2%) which was the only district to show a significantly higher rate than the Manitoba average in 2011/12. All other districts were not significantly different than the Manitoba average.

There were significant associations with Pneumococcal vaccination rates and income in rural areas with residents of lower income areas having lower vaccination rates. This pattern was not seen for residents of urban areas (Fransoo R et al., October 2013).

**Sexual/Reproductive Health**

The goals of PMH Sexual/Reproductive Health Services are to prevent unplanned pregnancies, prevent sexually transmitted infections and support sexual health by enhancing access to reproductive health services for sexually active men and women.

Confidential services include reproductive health education and counselling (one-on-one and small groups) on sexual health and harm reduction choices, assistance with birth control supplies for persons in financial need, pregnancy tests, emergency contraception, physical exams, pap testing and sexually transmitted infection (STI) testing and treatment.

Services are offered on an appointment basis in Public Health offices across the region and in Teen Health clinics which are held monthly in three schools in Brandon, and in schools in Forrest, Rossburn, Russell, Birtle, Strathclair, Dauphin, Robin and Swan River. A sexual health clinic with an attending physician is also held twice a month at the Public Health Office in Brandon.

Most Teen Health clinics also offer mental health services and addictions counselling in conjunction with staff from the Addictions Foundation of Manitoba.

In the spring of 2012, focused discussions were held with students accessing the Teen Health Clinic at each high school.
in the Brandon School Division and in Forrest, Manitoba. The intent of these discussions was to hear about their personal experience of receiving services, and to identify elements of the program that are working well and which elements require improvements.

Students identified the friendly and approachable staff, convenience and privacy of clinic access, lack of required parental consent and access to birth control supplies and pregnancy / STI testing as strengths of the program.

Students also identified the lack of privacy whilst waiting for appointments, wait times and the absence of services for the male population as improvements that could be made.

**Travel Health**

Prairie Mountain Health offers a comprehensive fee for service Travel Health program which provides health information and immunizations to individuals travelling to foreign countries.

The pre-travel, by appointment service based in Brandon provides information on all health risks in the country or region, immunization services and information about preventing travel related illnesses.

In 2013/2014 the Travel Health clinic was not fully operational throughout the year because of staff resource challenges. Despite this, 420 clients made use of the service in 522 visits.

**Communicable Diseases**

As part of its role, the Public Health program of Prairie Mountain Health is tasked with the prevention, management and control of communicable diseases within the region as legislated under the Public Health Act of Manitoba.

**Sexually Transmitted and Blood Borne Infections**

The number of reported sexually transmitted and blood borne infections (STBBI) has continued to increase over the three year period 2011-2013 in PMH. There has been a 16% increase from 2011-2013 with the vast majority of these being chlamydia infections; however increases have been seen across all types.

In an effort to increase access to residents for testing and treatment of STIs, PMH has a number of Public Health Nurses who have been trained and under delegation of function are able to test and treat these conditions. Nurses visit the Sapotaweyak Cree Nation (Shoal River) and Wuskwi Sipihk (Indian Birch) First Nation reserves and the Brandon Correctional Institute to offer this service, and also see clients in the Brandon and Swan River Public Health Offices.
Table 4.22 Sexually Transmitted and Blood Borne Infections in PMH (excluding HIV), 2011 to 2013 Calendar Years

<table>
<thead>
<tr>
<th>Disease</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>3-YEAR AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis C</td>
<td>37</td>
<td>36</td>
<td>45</td>
<td>39</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>40</td>
<td>53</td>
<td>53</td>
<td>49</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>603</td>
<td>633</td>
<td>688</td>
<td>641</td>
</tr>
<tr>
<td>Other STBBI</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Communicable Disease Surveillance Unit, 2014

Enteric Diseases

Enteric diseases are infections caused by viruses and bacteria that enter the body through the mouth or intestinal system, primarily as a result of eating, drinking and digesting contaminated foods or liquids. Direct contact with contaminated feces or vomit is a secondary method of contracting enteric ailments.

The Public Health Agency of Canada estimates that each year roughly one in eight Canadians (or four million people) get sick with a domestically acquired food-borne illness.

The number of reported enteric diseases in PMH has remained relatively stable in the last three years (with minimal annual fluctuations) with the most common being campylobacteriosis and salmonellosis.

Table 4.23 Enteric Diseases in PMH, 2011 to 2013 Calendar Years

<table>
<thead>
<tr>
<th>Disease</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>3-YEAR AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campylobacteriosis</td>
<td>50</td>
<td>61</td>
<td>43</td>
<td>51</td>
</tr>
<tr>
<td>Salmonellosis</td>
<td>25</td>
<td>31</td>
<td>44</td>
<td>33</td>
</tr>
<tr>
<td>Giardiasis</td>
<td>16</td>
<td>18</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Cryptosporidium</td>
<td>3</td>
<td>15</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>Shigellosis</td>
<td>6</td>
<td>19</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Verotoxin Producing Organisms</td>
<td>5</td>
<td></td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Other Enterics</td>
<td>8</td>
<td>11</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Communicable Disease Surveillance Unit, 2014

Respiratory Infections

As a group, acute respiratory diseases are one of the leading causes of death from any infectious disease. Many of the organisms that cause respiratory diseases are spread via respiratory droplets generated by coughing and sneezing. These organisms are also spread from person to person when they...
are in close contact with one another, or through touching something with organisms on it and then
touching their mouth, nose or eyes.

In PMH there has been a large increase (more than double) in the last three years in the number of
reported respiratory infections particularly in Influenza A and Influenza B type infections.

Table 4.24 Respiratory Infections in PMH (excluding TB), 2011 to 2013

<table>
<thead>
<tr>
<th>Disease</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>3-YEAR AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A</td>
<td>41</td>
<td>59</td>
<td>100</td>
<td>67</td>
</tr>
<tr>
<td>Invasive Streptococcal Disease</td>
<td>19</td>
<td>34</td>
<td>29</td>
<td>27</td>
</tr>
<tr>
<td>Influenza B</td>
<td>1</td>
<td>19</td>
<td>39</td>
<td>20</td>
</tr>
<tr>
<td>Invasive Pneumococcal Disease</td>
<td>16</td>
<td>16</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Other Respiratory</td>
<td>7</td>
<td>14</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Communicable Disease Surveillance Unit, 2014

**Vector-Borne Diseases**

Vectors are organisms that transmit pathogens and parasites from one infected person (or animal) to
another, causing serious diseases in human populations. These diseases are more commonly found in
tropical and sub-tropical regions and places where access to safe drinking-water and sanitation systems
is problematic. Examples of vector-borne diseases are Malaria, Dengue and Lyme disease. PMH has seen
relatively few cases of these with an average of 4 in each of the calendar years 2011, 2012 and 2013.

**Animal Exposures**

Public Health provides follow up for all reports of animal exposure where a human is involved. Animal
exposures include bites, scratches, and even inhalation of virus from bat feces. All animal exposures
where a human is involved should be reported to Public Health. The Public Health team (Public Health
Nurses and Medical Officer of Health) work together with clients to provide education and follow up as
needed depending on the exposure. Public Health follow up may include monitoring the health of the
animal, quarantine periods, and possible administration of immune globulin and rabies vaccine. In PMH
there were 154 animal exposure investigations in the first six months of the fiscal year 2014/2015.

**Tuberculosis**

Tuberculosis (TB) has been identified as one of the main causes of death from an infectious disease in
the world. In particular, extensively drug-resistant TB is considered one of the top five global infectious
threats. In 2011 there were approximately 8.7 million new cases of TB and 1.4 million deaths attributed
to TB around the world.
While significant progress has been made in lowering incidence rates, TB rates are still higher than expected in Canada. Over the past decades the burden of TB has become increasingly concentrated among three populations: First Nations (FN) persons, foreign-born Canadians, and socially marginalized individuals. Among the total reported TB cases in Canada, the majority were among foreign-born individuals (67%), followed by FNs (19%), and then Canadian-born non-FNs (12%).

The incidence rates of active TB in PMH have remained relatively low ranging between zero and 5.2 cases per 100,000 people between 2002 and 2012. This compares to Manitoba rates of between 8.5 and 12.8 for the same time period.

Most newcomers to Canada undergo a health examination prior to arrival in Canada. This examination identifies individuals who need treatment for active TB before they are allowed entry to Canada, and also identify individuals who require follow up with primary care providers and Public Health due to inactive (non-infectious) TB. Public Health Nurses work with primary care providers to ensure clients complete the required follow up defined by Citizenship and Immigration Canada (CIC). This follow up includes annual check-ups with both Public Health and their primary care provider.

There are challenges for some individuals completing their CIC required follow up due to the lack of local, readily accessible primary care, transportation issues and/or costs, employer relations and language barriers. As of October 2014 there were 62 PMH clients being followed up due to CIC requirements for inactive TB.

Latent Tuberculosis Infection (LTBI) is an inactive form of TB that cannot be transmitted from one person to another. Individuals can be found to have LTBI after having screening tests done for a variety of reasons including contact investigations, educational screening or occupational screening. Clients with LTBI do not feel sick and do not have any symptoms. Without treatment, about 5 to 10% of individuals with LTBI develop active TB disease at some time in their lives. LTBI can be treated with medication in most situations. This therapy often lasts for anywhere from 4-9 months. Some clients are required to have a health care provider administer their medication.

**Human Immunodeficiency Virus (HIV)**

The human immunodeficiency virus is a lentivirus that causes acquired immunodeficiency syndrome, a condition in humans in which progressive failure of the immune system allows life-threatening opportunistic infections and cancers to thrive.

HIV rates in PMH between 2010 and 2012 have remained relatively low with residents accounting for approximately 5% of new HIV cases in the province, an average of less than 6 new cases a year. In 2013 the region saw a large increase in new HIV cases with 17 new reported cases. Common to the majority of these new cases was the Risk Exposure Category (Primary Mode of Transmission) which was noted as Injection Drug Use. This has prompted PMH to implement additional measures in an effort to mitigate the spread of blood-borne infections related to injection drug use in the region. Brandon Public Health is a provincially designated anonymous testing site for HIV. Clients may ask to be tested anonymously and receive their results without fear of identification.
Public Health Key Points

- A significant proportion of pregnant women in the North Zone do not receive adequate prenatal care potentially resulting in less healthy pregnancies and poorer birth experiences than elsewhere in the region. This correlates with a significantly higher rate of antenatal hospitalization.

- Alcohol consumption during pregnancy (significantly higher than the Manitoba average in the South Zone and Brandon) and smoking during pregnancy (significantly higher in the North Zone and Brandon) have the potential to lead to adverse outcomes for both the mother and child.

- The North Zone and Brandon have significantly higher rates of pre and postnatal psychological distress than is seen in Manitoba as a whole, which can have serious adverse effects on both mothers and children. This is reinforced by the results of the Families First screen conducted soon after birth which showed a high prevalence of maternal depression in the South Zone and Brandon along with significantly increasing rates of maternal anxiety disorders across the region.

- More than a quarter of women from the North Zone travel for longer than an hour to give birth, and studies suggest, they are seven times more likely to suffer from moderate or severe stress potentially impacting the health of both mother and infant.

- Prairie Mountain Health has seen a caesarean birth rate significantly higher than the provincial average in recent years and across all three zones of the region. The rate of vaginal births after caesarean sections (VBAC) in Prairie Mountain was also significantly lower than the provincial average. Infants delivered via Caesarean Section are at increased risk of a number of complications including respiratory problems and difficulties breastfeeding.

- The percentage of infants considered large for gestational age in the North Zone is significantly higher than the Manitoba average, which may lead to increased childhood and adult obesity.

- A significant focus of Public Health is breastfeeding where high initiation rates were found in the South Zone and Brandon. Lower rates however can be found in the North zone and in the Métis population across the region.

- The Early Development Instrument (EDI) scores in Brandon are significantly lower than the Manitoba averages in all five areas of child development measured. This may in part be due to a ten percent increase in the number of children with English as an Additional Language (EAL) between 2005/06 and 2010/11, and if so identifies a significant need in this area. In contrast to this children, in the South and North zones scored significantly higher than the Manitoba average.

- Childhood immunization rates are higher than the provincial averages in all age groups across the region.
## CHAPTER 4: PUBLIC HEALTH

<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region</th>
<th>PMH Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-term Birth Rate</td>
<td>PMH (6.7%) similar to Provincial rate (7.8%)</td>
<td>South Zone (6.7%), North Zone (7.5%, Brandon (8.1%) all similar to Provincial rate</td>
</tr>
<tr>
<td>Small for Gestational Age</td>
<td>PMH (6.7%) similar to Provincial rate (7.3%)</td>
<td>South Zone (6.2%), North Zone (6.9%), Brandon (7.0%) all similar to Provincial rate</td>
</tr>
<tr>
<td>Large for Gestational Age</td>
<td>PMH (15.5%) similar to Provincial rate (15.0%)</td>
<td>South Zone (15.0%), Brandon (14.1%) similar to Provincial average. North Zone (18.3%) <strong>significantly higher</strong> than Provincial average</td>
</tr>
<tr>
<td>STI: Chlamydia</td>
<td>PMH 3-year average 641 cases, increasing year on year 2011-2013</td>
<td>Zone breakdown not available</td>
</tr>
<tr>
<td>STI: Gonorrhea</td>
<td>PMH 3-year average 49 cases, increasing year on year 2011-2013</td>
<td>Zone breakdown not available</td>
</tr>
<tr>
<td>Infant Mortality</td>
<td>PMH (5.0/1,000) similar to Provincial rate (5.2/1,000)</td>
<td>South Zone (5.0/1,000), Brandon (4.0/1,000), North Zone (6.7/1,000) all similar to Provincial rate</td>
</tr>
<tr>
<td>Breastfeeding Initiation</td>
<td>PMH (78.7%) similar to Provincial rate (79.0%)</td>
<td>South Zone (83.4%), Brandon (83.8%) were <strong>significantly higher</strong> than the Provincial average whilst the North Zone (64.8%) was <strong>significantly lower</strong></td>
</tr>
<tr>
<td>Childhood Immunization</td>
<td>Rates at each age group are detailed in the Immunization section</td>
<td>All three zones show higher rates of immunization at every age group than the Provincial average.</td>
</tr>
<tr>
<td>Adult Influenza Immunization Rates (65+)</td>
<td>PMH (54.4%) similar to Provincial rate (56.6%)</td>
<td>South Zone (55.2%) and Brandon (55.4%) similar to Provincial average, North Zone (51.6) was <strong>significantly lower</strong></td>
</tr>
<tr>
<td>Indicator</td>
<td>PMH Region</td>
<td>PMH Zone</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Teenage Pregnancy</td>
<td>Provincial rate (47.0)</td>
<td>South Zone (29.7) was <strong>significantly lower</strong> than the Provincial average whilst Brandon (50.4) and the North Zone (60.5) were not significantly different</td>
</tr>
<tr>
<td>Teenage Birth Rates</td>
<td>PMH (30.4) similar to the Provincial rate (30.7)</td>
<td>South Zone (21.5) was <strong>significantly lower</strong> than the Provincial average whilst Brandon (28.1) was similar and the North Zone (47.6) was <strong>significantly higher</strong></td>
</tr>
<tr>
<td>Inadequate Prenatal Care</td>
<td>PMH (10.9%) <strong>significantly lower</strong> than the Provincial rate (12.3%)</td>
<td>South Zone (8.9%) and Brandon (5.2%) were <strong>significantly lower</strong> than the Provincial average whilst the North Zone (21.3%) was <strong>significantly higher</strong></td>
</tr>
<tr>
<td>EDI – readiness for school</td>
<td>PMH scores similar to Provincial values in all areas of development</td>
<td>Assiniboine (South and North) scores <strong>higher</strong> than Province in all areas. Parkland <strong>higher</strong> than Province in all areas except Language and Thinking skills Brandon <strong>lower</strong> than Province in all areas</td>
</tr>
</tbody>
</table>
Chapter 5 Mental Health

Mental health is an important aspect of overall health, affecting the way we think, feel and cope with everyday challenges. There is increasing evidence of the strong connection between physical and mental health. Some populations are particularly affected by mental health concerns. This chapter describes indicators of mental health status in Prairie Mountain Health, the continuum of mental health services offered, and utilization data where available.

General Mental Health

The Canadian Community Health Survey (CCHS) asks respondents a series of questions about their perceptions of their own health, including mental health. One set of questions provides a score in terms of general mental health.

The following graph depicts these results, with higher scores representing better perceived mental health. Lower scores indicate poorer perceived mental health. The proportion of people in PMH districts reporting poor mental health was 24% overall and ranged from a low of 18% in Whitemud to a high of 33% in Brandon Downtown.
Figure 5.1 SF-36 General Mental Health Scale by Prairie Mountain Health District
Age- and sex-adjusted percent of weighted sample aged 12+
from combined CCHS cycles 3.1 (2005), 2007-2008, and 2009-2010

Source: Manitoba Health, Health Information Management, 2014

According to the provincial mental health strategy, *Rising to the Challenge* (Manitoba Health Healthy Living and Seniors, 2011), it is estimated that one in four Manitobans received a mental health diagnosis between 2001 and 2006, 20% of Manitoba children under 5 experienced social or emotional problems, and between 20% and 25% of seniors experience mental health problems or illness.

Mental illnesses are characterized by alterations in thinking, mood, or behaviour (or some combination thereof), associated with significant distress and impaired functioning over an extended period of time (Public Health Agency of Canada, 2002).

Mental health issues, including emotional health problems, can manifest at any time across the lifespan and are often related to challenges associated with changing roles and responsibilities. Staff from the PMH Mental Health program noted that mental illness often manifests during adolescence or early
adulthood. They have noticed that an increasing number of students are being referred to mental health programs while pursuing post-secondary education such as university or community college.

Prairie Mountain Health offers a wide variety of services to people of all ages, ranging from mental health promotion to treatment of mental illness. Unless noted, data sources for this chapter were PMH Mental Health program statistics. Much of the information in this chapter was provided by the managers responsible for Mental Health programs in PMH, with many segments being taken directly from their 2013/14 Annual Reports. Their words provide a compelling and accurate description of the program. The continuum of mental health services ranges from mental health promotion and community-based peer support and professional services, to emergency response and hospital-based services for very acute needs.

**Child & Adolescent Mental Health**

Early childhood experience, including during the prenatal period, is a key determinant of health, setting the foundation for the trajectory of a child’s life. Children who are exposed to stressors such as prenatal alcohol intake and maternal depression are at risk for future life challenges.
Fetal Alcohol Spectrum Disorder

Fetal Alcohol Spectrum Disorder (FASD) is a brain-based injury caused by prenatal exposure to alcohol. There are a wide range of effects but often there are common characteristics for children, youth & adults diagnosed with FASD. There is currently funding for four FASD Diagnostic Coordinator positions in Prairie Mountain Health, although not all positions were filled at the time of writing. These coordinators work with the Manitoba FASD Network in partnership with the Manitoba FASD Centre. Their role includes facilitating FASD referrals and assessments for children and youth living in PMH and helping families to access community resources following a FASD diagnosis. The coordinators also facilitate a “Building Circles of Support” FASD Education series.

The criteria for assessment are:

- Known prenatal alcohol exposure
- The consent of the child’s legal guardian
- Developmental and learning concerns (Source: Manitoba FASD Centre website, 2014)

Towards Flourishing

It has been suggested that between 11% and 14% of women in Manitoba experience some degree of postpartum depression or anxiety. A new program, Towards Flourishing, was funded recently to support clients of the Families First program. This program is a new initiative which promotes the mental well-being of parents and their families through the development and addition of a mental health promotion strategy to Manitoba’s Families First Home Visiting Program. The Towards Flourishing Mental Health Promotion Strategy focuses on positive mental health as well as mental illness and distress (Manitoba Health website, 2014).

This project was initially implemented in the South Zone of PMH with families in the Families First Home Visiting (FFHV) Program but public health nurses may use the materials with clients who are not involved in the FFHV Program Towards Flourishing project. Most adult community mental health workers in the South Zone were trained in the curriculum and are also free to use the materials with their clients. Public health staff from Dauphin, Swan River, and Brandon have recently received training and are able to use the curriculum with their clients.

The project materials were developed for use with new mothers & families in the FFHV Program during the perinatal period but a modified version is being developed for providers working with the general population. An orientation for this new Towards Flourishing for All material for all users is being developed for early 2015.

Coping skills and resilience are learned early in life. Often symptoms of mental illness arise in youth but are not recognized. Early recognition and intervention is critical to developing healthy emotional and social development. There is greater demand for resources to support developing resilience and coping skills. Although it is much needed, there is currently no system that is responsible for this.
Youth Health Survey

A Youth Health Survey was done with students from Grades 7 to 12 across Prairie Mountain Health in the fall & winter of 2011/12. The following results are from that survey. A British Columbia youth study showed that the more connected youth felt to family or school, the more likely they were to report excellent general health and higher self-esteem, and the less likely they were to have considered suicide (Smith et al., 2011). Youth who are able to identify adults in the community who know and care about them tend to experience a greater sense of wellbeing (Morrison & Kirby, 2010).

Table 5.1 Perceptions of School and Community Connectedness in PMH Students, 2012

<table>
<thead>
<tr>
<th>Perception</th>
<th>% Agree</th>
<th>% Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel safe in my home</td>
<td>98%</td>
<td>2%</td>
</tr>
<tr>
<td>I have at least one close friend that I can share things with</td>
<td>93%</td>
<td>7%</td>
</tr>
<tr>
<td>I feel my family supports me</td>
<td>93%</td>
<td>7%</td>
</tr>
<tr>
<td>I feel safe in my community</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td>I feel safe in my community</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td>I feel safe at my school</td>
<td>90%</td>
<td>10%</td>
</tr>
<tr>
<td>I feel I am a part of this school</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>At my school adults care about people my age</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>I am happy to be at this school</td>
<td>82%</td>
<td>18%</td>
</tr>
<tr>
<td>I feel close to the people at this school</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>If I need help, I believe a counselor or other adult could help me</td>
<td>79%</td>
<td>21%</td>
</tr>
<tr>
<td>At my school there is an adult who I trust</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>I feel involved in my community</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>If I need help, I would talk to a counselor or other adult</td>
<td>67%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Source: PMH Youth Health Survey, 2012

Bullying is receiving more attention nationally as a result of youth suicides revealed to be triggered by harassment from peers. In 2013, the Legislative Assembly of Manitoba passed the Public Schools Amendment Act (Safe and Inclusive Schools), amending The Public Schools Act in the areas of bullying and respect for human diversity.

The Bill defines bullying. The definition recognizes that bullying can take a variety of forms, including cyberbullying. A school employee, or a person in charge of pupils during school-approved activities, must make a report to the principal if they think a pupil has engaged in, or is negatively affected by, cyberbullying.

Under the legislation, school boards must expand their policies about the appropriate use of the Internet to include social media, text messaging and instant messaging.
The Bill also requires each school board to establish a respect for human diversity policy. The policy is to promote the acceptance of and respect for others in a safe, caring and inclusive school environment. The policy must accommodate student activity that promotes the school environment as being inclusive of all pupils, including student activities and organizations that use the name "gay-straight alliance" (Legislative Assembly of Manitoba, 2013).

We asked students about bullying and personal threats in the previous year. One quarter of PMH students reported being physically threatened or injured in the previous year. Almost 40% of students said they had been bullied, taunted or ridiculed at least once in the past year. Physical changes can cause many adolescents to be self-conscious about their bodies, yet 38% of PMH students reported that someone had said something bad about their body shape or size.

Table 5.2 PMH Student Experiences with Being Bullied or Personally Threatened, 2012

<table>
<thead>
<tr>
<th>Experience</th>
<th>Never in the past year</th>
<th>1 or more times in the past year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullied, taunted or ridiculed</td>
<td>61%</td>
<td>39%</td>
</tr>
<tr>
<td>Said something bad about your body shape or size</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>Physically threatened or injured</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>Said something bad about your race or culture</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>Asked for personal information over the internet (e.g. address, phone # or last name)</td>
<td>82%</td>
<td>18%</td>
</tr>
<tr>
<td>Bullied or picked on through the internet (e.g. posted something on Facebook or emailed you)</td>
<td>84%</td>
<td>16%</td>
</tr>
<tr>
<td>Said something bad about your sexual orientation or gender identity</td>
<td>89%</td>
<td>11%</td>
</tr>
<tr>
<td>Made you feel unsafe when you were in contact with them over the internet</td>
<td>91%</td>
<td>9%</td>
</tr>
<tr>
<td>Threatened or injured with a weapon such as a gun, knife or club</td>
<td>94%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: PMH Youth Health Survey, 2012

In recent years there has been work done with youth in PMH around the topic of self-regulation, using a resource entitled, *The Zones of Regulation*. This is a curriculum comprised of lessons and activities designed by Leah Kuypers, M. A. Ed., OTR/L to help students gain skills in the area of self-regulation. The lessons and learning activities are designed to help the students recognize when they are in the different Zones (states of alertness/moods) as well as learn how to use strategies (including sensory supports, calming techniques, and thinking strategies) to regulate the Zone they are in.

In addition to addressing self-regulation, the curriculum helps students gain an increased vocabulary of emotional terms, skills in reading facial expressions, perspective on how others see and react to their behavior, insight on events that trigger their behavior, calming and alerting strategies, problem solving skills and much more.
In the Youth Health Survey, students were asked to respond to a number of statements related to emotional, psychological, and social wellbeing that were then analyzed using the Keyes Mental Health Continuum. This continuum classifies students into three categories of mental health:

- **Flourishing** was defined as being filled with positive emotion and functioning well psychologically and socially...

- **Languishing** was defined as possessing a low level of wellbeing and may be conceived as a life of emptiness and stagnation...

- **Moderate** was neither flourishing nor languishing.

According to the Mental Health Continuum tool, 60% of PMH students reported flourishing (positive) mental health, 35% reported moderate mental health, and 5% reported languishing (poor) mental health.

Anything less than flourishing mental health is not optimal and may in fact be a potential warning sign for poor mental health in the future. Actions to sustain flourishing states of mental health and actions...
to enhance moderate or languishing states of mental health are necessary to protect and promote mental health (Keyes, 2006).

Almost half (44%) of students in PMH reported feeling so sad or hopeless in the past 12 months that they stopped doing some usual activities for a while. This result can be difficult to interpret because feelings of sadness or hopelessness may be frequent but fleeting during the teenage years. Of concern are the youth who do not possess the resilience to overcome these feelings, which was not measured through this survey.

Adequate sleep is a critical factor in youth health and health-related behaviors (Chen, Wang, & Jeng, 2006). There is a significant correlation between sleep quality and mental wellbeing (British Columbia Ministry of Health, 2007).

Students were asked how many hours of sleep that they get on an average school night (Sunday to Thursday) and weekend night (Friday and Saturday).

Figure 5.3 Amount of Sleep on an Average School Night and Weekend Night for PMH Students, 2012

Students were asked how often they had trouble going to or staying asleep, and staying awake during class or at school. Over one-third (37%) of students reported that they ‘often’ or ‘always’ have trouble
going to sleep or staying asleep. Twenty-three percent of students reported that they ‘often’ or ‘always’ find it difficult to stay awake during class or school.

**Child & Adolescent Mental Health Services**

Child and Adolescent Community Mental Health services are available throughout Prairie Mountain Health. These services include a wide range of programs and services such as assessment, individual therapy, family therapy, mental health education, parenting groups, positive parenting program, active parenting of teens, psycho-educational groups, public awareness, consultation and other services based on need.

Last year, there were 2,309 referrals to Child and Adolescent Mental Health services, with 22% of referrals in the North, 25% in the South, and 53% in Brandon. The numbers in Brandon also include 600 crisis calls that were received in 2013/14.

Child and Adolescent Mental Health Workers provide direct client services as well as mental health promotion and prevention initiatives through Teen Clinics across the region. The model is a wrap-around and collaborative approach with primary health care and public health as a one stop resource for youth within the high schools. Teen Clinics offer a multidisciplinary team of health care providers within the three high schools in Brandon, as well as Elton Collegiate and several schools in the Park West School Division. Mental health support was also added to the Swan River Teen Clinic.

Based on an evaluation of the Teen Clinics operated within the Brandon Zone, there is still some stigma attached to seeking mental health services. It appeared that many youth would attend the Teen Clinic under the premise of seeking reproductive health services when they were really seeking mental health support, which seems to be perceived as less socially acceptable to their peers. In the program annual report, it was suggested that this model could be explored for service provision of transitional services for the 16 to 24 year population.

**School Presentations and Mental Health Promotion**

Child and Adolescent Mental Health staff deliver presentations in schools and the community as requested on numerous topics, from living with divorce to resiliency-based promotion presentations.

The South Zone has historically held a number of mental health promotion activities, most recently a Mental Health Awareness day that involved 200 students. This successful program of health promotion also oversees and delivers presentations in rural school divisions on healthy body image and other mental health promotion topics.

The Youth Revolution program in Brandon hosts an annual event with all three Brandon high schools to build resilience and social connectedness. The program is a Healthy Together Now initiative that includes partners from many sectors, including education, health and social services, law enforcement, businesses, and community organizations. The project lead is the Coordinator of the Brandon Community Drug and Alcohol Coalition.
The Child and Adolescent Mental Health staff across the region are involved in collaborative committees with community partners, demonstrating a commitment to mental health promotion for youth. The team is committed to Manitoba’s Youth Suicide Prevention Strategy, Reclaiming Hope, through delivery of safeTALK (Tell, Ask, Listen, Keep Safe) and education sessions on Mental Health First Aid for Adults who Interact with Youth. These standardized and nationally supported programs provide information to the public on how to respond to and assist youth experiencing a mental health problem, or having thoughts of suicide.

The Child and Adolescent Mental Health team strives to build, maintain, and strengthen community partnerships. A few of these include First Nations organizations, school divisions, Child and Family Service agencies, Family Services, police services and the justice system. These partnerships are considered essential to ensure that the program provides appropriate care to clients.

**Child and Adolescent Treatment Centre**

The Child and Adolescent Treatment Centre (CATC) in Brandon is a key component of the wide range of child and adolescent mental health programs and services available throughout the PMH region. CATC offers 24/7 Crisis Stabilization Unit (CSU) services to children/adolescents, plus other service components. Clients and families can self-refer, or can be referred by their family physician, a Social Worker in another agency, a School Guidance Counsellor, or almost anyone connected to a child with a concern.

Specific services that are provided through CATC include:

- Anxiety Clinic at the Child and Adolescent Treatment Centre
- Family Therapy
- Psychology services (also available in the South Zone)
- Group programming
- Triple P Positive Parenting Program groups

Adolescent Day Treatment Program is a 12 week intensive program of assessment, treatment, and skill building for youth aged 11 to 14 attending school in Brandon. This program involves strong collaboration with schools and each client’s individualized treatment plan is based on their unique opportunities for learning, such as social skills, communication, coping skills, friendship building, stress management, and healthy lifestyles.

The Morning Program, also a 12 week program of assessment, treatment and skill building is offered to youth aged 7 to 11 years. This program also involves strong linkages with schools and parents. Primary focus areas for this program include social skills, communication skills, grooming and hygiene, coping and listening skills. Parents of clients in the Morning Program complete Triple P Parenting training.
The Day and Morning Programs had decreasing referral rates in 2013/14, although each program has been running at full or nearly full capacity.

Child and Adolescent Treatment Centre (CATC) staff are directly involved in the SPIN (Suicide Prevention Implementation Network) that hosts a Youth Wellness Day for all Grade 10 students in the Brandon School Division. The annual wellness event is an asset in promoting positive mental health and decreasing stigma.

**Crisis Stabilization Unit**

The CATC Crisis Stabilization Unit (CSU) is a 10 bed unit that provides 24 hour care to youth in crisis from PMH and Southern Health regions. Treatment focuses on alleviating the crisis, assessing underlying contributing factors, and developing an individualized treatment plan that can be successfully transitioned to the community upon discharge. Many clients are referred to Community Mental Health Workers and other partner agencies according to needs.

In 2013/14, the CSU saw more youth than any year before, including the period prior to the transition from an inpatient unit. The highest number of annual admissions as an inpatient unit was 128. There was also a 5% increase in the proportion of admissions of youth from the North Zone (20%). This increase could be related to greater awareness of the service since amalgamation, staffing challenges in the North Zone, and improved access through broader admission criteria.

There has also been an increase in admissions of youth from outside PMH due to a review of referral processes and redistribution of appropriate referrals within the province.
For the 2014 calendar year, youth were admitted to CATC for the following diagnoses:

- Anxiety (30%)
- Attachment (30%)
- Parent-Child Relational Problem (20%)
- Depression (20%)

Over half of admissions were for Brandon youth, and the majority (65%) of youth admitted were female.

**Early Intervention Service**

Initiated in 2006, the Early Intervention Service (EIS) provides early identification and intensive case management to clients with early symptoms of psychosis. Psychiatric care is established and acute psychosis and/or bipolar illness symptoms are stabilized. Services are brokered to secure financial, educational, or employment requirements. Recovery and rehabilitation counseling is provided, in addition to family support.
The overall goal of the EIS program is to improve the mental health and quality of life of young people with psychosis through early identification and providing optimal interventions as soon as possible. The program serves people between the ages of 15 and 30 and their families, bridging youth with mental health services and linking community with hospital.

Devoting much of its effort to early detection and assessment, EIS provides support services to Community Mental Health Workers in the South Zone and consultation services to the North Zone and portions of Southern RHA.

The EIS program staff have noted increasing complexity of referrals in the 18 to 22 year-old male population. The program has been providing screening for these young males with co-occurring disorders (mental health and addictions) and diminished adaptive functioning. It has been noted that because these clients are not clearly candidates for EIS there is a need for transitional services that support individuals between the ages of 16 and 24 who are not experiencing psychosis.

Psychiatry services are available for children and youth across Prairie Mountain Health. Several psychiatrists are available to see clients in Brandon. In the North Zone this is provided through Telehealth and in person clinics with Child and Adolescent Mental Health Workers. In the South Zone psychiatry is also available through Telehealth.

Child and Adolescent Psychiatry in Brandon is part of the Primary Care Network Advanced Access Initiative. Advanced Access initiatives are improvement projects designed to minimize the wait time to see a health care provider.

**Adult Mental Health**

The Community Mental Health program provides a welcoming, client-based, recovery oriented service for those who are experiencing difficulty in coping with a wide range of mental health difficulties including co-occurring addictions. Services are voluntary (except as outlined under the Mental Health Act) and provided as determined appropriate and available in each individual’s circumstance.

Adult Community Mental Health Services provide assessment, consultation, crisis intervention and counseling services to persons who are experiencing psychiatric disorders, or serious stressful reactions to problem issues. The Adult Community Mental Health program in the North also offers crisis intervention.

Adult Community Mental Health staff work out of rural community health offices, the Mental Health offices at the Town Center in Brandon, and at the 7th Street Health Access Centre. When there is a need, a client can be referred to a program Psychiatrist or Psychologist for further assessment, diagnosis and Psychiatric Medical Services or counseling respectively. The Adult Community Mental Health program components differ between the southern and northern areas of PMH. The following table depicts these program components.
Table 5.3 Adult Community Mental Health Program Components by PMH North and South Zone

<table>
<thead>
<tr>
<th>South</th>
<th>North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake Services</td>
<td>Intake Services</td>
</tr>
<tr>
<td>Clinical Services</td>
<td>Clinical Services</td>
</tr>
<tr>
<td>Clinical Service Specialist</td>
<td>Mental Health Crisis Response Services</td>
</tr>
<tr>
<td>Rural Proctor Services</td>
<td></td>
</tr>
<tr>
<td>Portable Housing Benefit</td>
<td></td>
</tr>
</tbody>
</table>

Source: PMH Mental Health Programs, 2014

The program works closely with family physicians and other health care providers to help people understand and resolve the distress they are experiencing and to find ways to change these circumstances. The person may be counseled, taught skills to problem solve and cope better, or receive medications to assist with symptom management.

The primary mental and emotional health conditions for which services are provided include: depression, anxiety disorders, adjustment disorders, post-traumatic stress disorder, psychotic disorders, grief/loss reactions, and addiction in combination with any of the above conditions.

Currently there is information available for the primary and secondary diagnoses of mental health clients only in the southern portion of PMH. Almost 70% of these adult clients had a primary diagnosis of mood disorders and 19% had a diagnosis of anxiety or panic disorder. Just over 30% of these clients had a secondary diagnosis that was alcohol or drug related.

Working collaboratively with other providers, the Mental Health program is involved in the Primary Care Network (My Health Team). Through this initiative, the Mental Health program is implementing an Advanced Access approach to scheduling appointments in the Brandon office. The Advanced Access program is designed to reduce that amount of time a client must wait in order to access services.

In the North Zone, an innovations project in 2013 substantially reduced the adult wait list for the Riding Mountain, Agassiz Mountain and Dauphin districts. The number of days that clients waited was reduced from 69.5 days to 34.1 days.

A 9 week therapy group was also implemented in an effort to reduce the waiting list for Community Mental Health Services in the North Zone. All participants in the program reported a decrease in symptoms, appreciation for the group, and feeling empowered to handle stressors more effectively.

The following activities are also available to program clients:

- Walking Program (Minnedosa and Killarney)
- HERO Club day program (Russell and area, Roblin, Dauphin and Ste. Rose)
• Coping Skills Group (offered to all adult clients of the program)
• Wise Minds Skills Group (emotional, cognitive and behavioural regulation)
• Men’s Group (sexual abuse survivors)
• Obsessive Compulsive Disorder Skills Group
• Managing Pain Before Pain Manages You.

There are also a number of mental health promotion activities including:

• Body Image Awareness
• Coffee On Us
• World Suicide Awareness Day
• Suicide Prevention in First Nations Communities
• Mental Illness Awareness Week.

The Health Promotion Team in Prairie Mountain Health is currently developing an integrated Mental Health Promotion Strategy. Mental Wellness is one of the four pillars of the provincial Healthy Together Now initiative, which provides support for community-led health promotion activities. Please refer to the Determinants of Health and Lifestyles chapter for more information about Healthy Together Now.

Self-Perceived Life and Work Stress

Stress is an important contributing factor to mental health. People feel stress with both good and bad experiences. It becomes a problem when someone has difficulty coping with stress. Based on the CCHS, 20% of PMH residents aged 15 to 75 years rate their life stress as high, while 23% rate their level of work stress as high.

Table 5.4 Self-Perceived Life Stress by Prairie Mountain Health Zone
Age - and sex- adjusted percent of weighted sample aged 15+
from combined CCHS 2007-2008, and 2009-2010, and 2011-2012

<table>
<thead>
<tr>
<th>Zone</th>
<th>High Perceived Life Stress</th>
<th>High Perceived Work Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>18%</td>
<td>22%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>22%</td>
<td>23%</td>
</tr>
<tr>
<td>North Zone</td>
<td>19%</td>
<td>24%</td>
</tr>
<tr>
<td>PMH</td>
<td>20%</td>
<td>23%</td>
</tr>
</tbody>
</table>

Source: Manitoba Health, Health Information Management, 2014
A group that is particularly affected by stressors within PMH is agricultural producers. There are many factors that influence their livelihood that are beyond their control, such as weather conditions, crop and livestock disease, input costs and commodity prices.

A rural health researcher in the United States has found that long-term exposure to multiple stressors wears down coping abilities, leading to accumulated stress and ensuing problems. Challenges encountered within the agricultural population included the following, listed in the order of their frequency of occurrence: breakdown of interpersonal relationships (divorce, parent-child problems, and abusive relationships), depression, anxiety, and addictive disorders, as well as temporary adjustment disorders that subside when stress lessens (Rosmann M., 2008).

Manitoba Farm and Rural Support Service (MFRSS) offers free and confidential information, support, counselling, public education and training, and other outreach services to farming families and rural Manitobans.

The Saskatchewan Farm Stress Unit and the Manitoba Farm and Rural Stress Line have developed extensive manuals to train their telephone responders how to appropriately respond to calls from the agricultural and rural populations in their respective provinces.

**Crisis Services**

The service model for crisis services structures differs between areas of the region. In the North, Crisis Response Services are integrated with Adult Community Mental Health Services.

This service operates outside of Community Health Services regular office hours, providing intervention to individuals of any age experiencing a mental health crisis. The team is often able to provide onsite assessments in the emergency rooms of local hospitals. Mental Health Crisis Response Services in the North provide:

- Assessment
- Crisis intervention
- Liaison and referral to other social service agencies
- Consultation and support to other service providers.

The program also liaises with staff of the Parkland Mental Health Centre (PMHC) in Dauphin for after-hours crisis service. During the night PMHC staff provide first response telephone consultation to the Mental Health Crisis Response services line and will dispatch on call staff from Mental Health Crisis Response Services as needed.

In 2013/14, 44% of intakes were through the Mental Health Crisis Response Services versus daytime intake, although there were differences across the North. The majority of intakes in the Porcupine Mountain and Swan River districts were through Mental Health Crisis Response Services.
Table 5.5 Distribution of Intake to Mental Health Crisis Response in PMH North Zone, 2013/14

<table>
<thead>
<tr>
<th>District</th>
<th>Number of Intakes by MH Crisis Response Services</th>
<th>Percent of Intakes by MH Crisis Response Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porcupine Mountain / Swan River</td>
<td>1,093</td>
<td>55%</td>
</tr>
<tr>
<td>Riding Mountain/Dauphin</td>
<td>636</td>
<td>40%</td>
</tr>
<tr>
<td>Agassiz Mountain</td>
<td>125</td>
<td>35%</td>
</tr>
<tr>
<td>Duck Mountain</td>
<td>50</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: Mental Health Program Statistics, 2014

In the South, Westman Crisis Service is a nurse-managed facility comprised of two integrated services: an eight-bed Crisis Stabilization Unit and a Mobile Crisis Unit. These two units work together to provide the help clients need.

- The Crisis Stabilization Unit (CSU) provides crisis intervention, short-term intensive care and treatment to voluntary adults who are experiencing a mental health or psychosocial crisis. It is available to all residents within Prairie Mountain Health.

- The Mobile Crisis Unit (MCU) assists in the stabilization of situations for adults experiencing an apparent mental health or psychosocial crisis. The team is often able to provide on-site assessments and regularly provides telephone support and interventions. This service is available to residents of the South Zone.

Westman Crisis Service provides mental health assessments, screening, crisis intervention and short-term treatment, suicide risk assessment and prevention, brief residential care of about 5 days, consultation and support to other service providers, proctor support, education and support, and referrals and linkages to community resources.

Westman Crisis Service assists clients by helping them identify what went wrong, helping them identify strengths and resources, and exploring the connections with natural and formal support systems. The goal of crisis intervention is to return people, minimally, to their pre-crisis level of function.

The Crisis Stabilization Unit admitted 225 clients in 2013/14, with an average length of stay of just over 6 days. An increased length of stay has been noted in recent years, which the program attributes to increased acuity and complexity of crisis situations and to the lack of safe and affordable housing in the area. Westman Crisis Services responded to 3,845 service requests in 2013/14 and that number includes both admissions to the Crisis Stabilization Unit and calls to the Mobile Crisis Unit. People who use the telephone crisis service are most often residents of the Brandon Zone and almost three-quarters have used the service more than once. There are fewer callers from the South Zone, most of whom are first-time callers.
Table 5.6 Westman Crisis Services Intake Calls, 2013/14

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Number of Callers</th>
<th>Percentage of Total Intake Calls</th>
<th>Percentage New Clients</th>
<th>Percentage Repeat Clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandon Zone</td>
<td>1,158</td>
<td>69%</td>
<td>27%</td>
<td>73%</td>
</tr>
<tr>
<td>South Zone</td>
<td>409</td>
<td>25%</td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>Other</td>
<td>101</td>
<td>6%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Source: Westman Crisis Services, 2014

The Mobile Crisis Unit (MCU) receives an average of 36 calls a month from people who are thinking about suicide. Callers can be at different stages of contemplation and some call in the midst of a suicide attempt. The greatest number of calls relate to a situational crisis and those with difficulties in this category could be experiencing a variety of problems. They may have relationship problems, or have lost their job. Some may be new to the country and be overcome by stressors. Others may be struggling with an addiction, problems at work, or a crisis pregnancy.

People who access crisis services, both the Mobile Crisis Unit and the Crisis Stabilization Unit, potentially need fewer days in an inpatient psychiatric facility and present less often in emergency departments.

One of the goals of the Mobile Crisis Unit is to provide an intervention in the least restrictive manner possible. Whenever possible, staff support people in a way that allows them to remain at home, which was the outcome in the majority (66%) of cases in 2013/14. In the same year, 26% of clients were admitted to the Crisis Stabilization Unit. Only 8.5% were admitted to the Centre for Adult Psychiatry.

Mental Health Supported Transition, Evaluation and Planning (STEP)

A strong and unique partnership between staff from the Mobile Crisis Unit (MCU) and the Centre for Adult Psychiatry (CAP) was created in 2010 to review practices that support people at risk for suicide. According to the research, the two-week period following discharge is particularly dangerous for those leaving an inpatient psychiatric facility after a suicide attempt (Mental Health STEP Evaluation).

After a thorough review of the literature and consultations with clients and care-providers, Mental Health STEP was launched in September 2011. In this area, people leaving the inpatient psychiatric unit are provided with immediate and intensive support during their transition home from the hospital. Seven daily post-discharge visits are provided by the Mobile Crisis Team and begin the day of discharge, or the following day. There is a specific, yet flexible, plan for each of the visits.

There are many positive outcomes, the most important of which is that 100% of those who completed the Mental Health STEP are alive at the time of writing. Care providers say that confidence in discharge plans is improved, partnerships are stronger and gaps in service at discharge are reduced.
Clients said they felt more supported as a direct result of the program. Feedback also identified the value of flexibility in designing a discharge follow-up plan. Some clients appreciated daily visits while others did not have the energy to manage frequent appointments. There were also generational differences in the preferred method of follow-up, with younger clients preferring to connect via technology versus in home contact desired by older clients.

The program has been presented at three major conferences, winning the Partnership Award at the Health Innovation Conference. This award recognizes improvements that have been achieved through linking previously separate processes, removing obstacles and fostering new relationships to create a more efficient and effective system.

**Suicide**

The rate of suicide among Prairie Mountain Health residents was similar to the provincial average. While the rate among North Zone residents appeared to be higher, it was not significantly different than the Manitoba average.

**Suicide** is known to be associated with a complex interaction of biological, psychological, and social risk factors including mental illness and/or addictions and a history of trauma, multiple personal problems, ill health and loss. Protective factors include healthy individual coping strategies, family, social and community supports (Manitoba Health, Healthy Living and Seniors, 2011).
Figure 5.5 Suicide Rate by Manitoba RHA and PMH Zone, 2000-2004 and 2007-2011
Age- and sex- adjusted average annual rate of suicide per 1,000 residents aged 10+

Although the rate of suicide was similar to the provincial average, it was the leading cause of injury deaths (12.6 deaths per 100,000) among all PMH residents from 2000-2012. The rate of suicides among PMH women may appear to have been trending upward slightly, however the numbers have been quite small.
Suicide rates were higher among Manitoba residents in the lowest income quintiles in both rural and urban areas. In PMH, hospitalizations due to self-inflicted injuries were much higher among residents in the lowest income group compared to those at higher income levels.

Hospitalizations for self-inflicted injuries are higher among females than males in PMH but the rates have been trending upward for both. PMH residents are hospitalized for self-inflicted injuries at higher rates (110.5 per 100,000) than all other Manitobans (66.9 per 100,000). Self-inflicted injuries were the leading cause of injury hospitalizations for PMH residents aged 15 to 34 years and the second leading cause of injury hospitalization for PMH residents aged 35 to 54 years.
Activities related to suicide within PMH span the spectrum from suicide prevention to post-intervention and bereavement support.

A comprehensive Suicide Assessment Documentation Guideline, developed in PMH, has been adopted by the Mental Health program, and is regarded as a significant resource for various sectors in the province. The focus of this resource, which is available in both paper and electronic form, is safety planning by helping staff to identify suicide risk among clients through consistent documentation practices. Staff from the Brandon and South zones have received training in using the Guideline, with training for North Zone staff scheduled in January 2015.

A new partnership with Canadian Forces Base Shilo has received positive reviews from Mental Health program staff. This partnership, based on The Practical Art of Suicide Assessment by Shawn Shea, has included a conference attended by 117 staff as well as training of 28 staff members in specialized experiential interviewing.

There are two interagency suicide prevention committees that operate in PMH; the Suicide Prevention Task Force in the North Zone, and SPIN (Suicide Prevention Implementation Network).
PMH offers a number of suicide prevention training options for adults and youth, including Mental Health First Aid training. This training has been embraced by several school divisions and Brandon University.

There are 5 ASIST (Applied Suicide Interventions Skills Training) facilitators in PMH, who partner with a facilitator from Manitoba Health, Healthy Living, and Seniors, as well as 4 facilitators from Corrections to deliver the programs. Approximately 100 people received the ASIST training through PMH in 2014, with 169 receiving the TuneUp ASIST refresher. These numbers do not include people that have been trained exclusively by partners, such as Corrections.

SafeTALK training, which teaches people how to recognize signs of suicide risk and connect them with professional help, is also offered to the public. There were 139 people who received safeTALK training and PMH is beginning to utilize the condensed Suicide Talk with groups that require a shorter presentation.

**Mood & Anxiety Disorders**

The prevalence of mood and anxiety disorders increased significantly over time among PMH residents overall (22.8% to 24.8%) and among residents of the Brandon (26.3% to 28.1%) and North zones (22.3% to 26.6%). In 2007/08-2011/12, prevalence was significantly higher than the provincial average (23.3%) in the Brandon (28.1%) and North (26.6%) zones, particularly in the Dauphin (31.5%), Downtown Brandon (33.7%), and Swan River (28.1%) districts. Staff in the Mental Health program indicated that this is mainly due to clients relocating to these areas in order to access suitable housing and to be closer to relevant health and social services.
The prevalence of depression and/or anxiety disorders was significantly higher for Métis people than all other residents in each PMH Zone from 2002/03 to 2006/07 (22% in South Zone, 32% in Brandon, 22% in North Zone). The prevalence was significantly higher for Métis residents of Brandon (32%) than for all Métis residents in Manitoba (24%) (Sanguins, J., Bartlett, J. Carter, S. et al., 2013).

Prior to the regional amalgamation in 2012, the Manitoba Métis Federation (MMF) established a Knowledge Network partnership with each of the health regions. The Knowledge Networks were developed to share information, and improve the health system based on local knowledge gathered at a series of Wellness Workshops with MMF members.

“...suffocating, paralyzed, hopeless, fatigue, can’t power yourself up to pick up the phone.”

Manitoba Métis Federation Wellness Workshop Participant 2008-2010
Quality of care is very important to the Mental Health team. One recognized indicator of quality care is follow-up by the physician after an antidepressant has been newly prescribed. The recommended follow-up is at least three physician visits within four months after the prescription was filled. Antidepressant prescription follow-up was higher for PMH residents, although this was mainly due to high rates of follow-up for clients in the Brandon Zone. The rate of follow-up was significantly higher than the Manitoba average in the Brandon districts. It is possible that some of the follow-up in rural areas may be done by Community Mental Health Workers instead of physicians. These visits may not be reflected in the following data.

Figure 5.9 Antidepressant Prescription Follow-Up by Manitoba RHA and PMH Zone, 2002/03-2006/07 and 2007/08-2011/12
Crude percent of new depression patients who received 3+ physician visits in four months

Community Partnerships

Over the course of June 2013, PMH Executive Staff traveled to all 14 First Nation communities in the new region. Some common themes that emerged regarding mental health included:
• the ongoing need and support for partnerships to ensure that “on the ground” staff are working together to meet the needs of the PMH population of which First Nation communities are a part

• an expression in many communities for the need for more mental health supports

• First Nation communities are very concerned about the significant prescription drug abuse that is plaguing their communities.

In June 2014, during the PMH’s annual community stakeholder visits, conversations with First Nation health care providers that work with First Nations people in the North Zone described mental health and addictions as the top concern for the people with whom they work. These providers noted the following in their communities: increased anxiety, increased mental health related prescriptions and an increase in suicide attempts.

Community members from First Nations communities described many mental health challenges during Aboriginal Health Transition Fund (AHTF) project focus groups in West Region Tribal Council communities:

There is a …“revolving door of addictions and mental health treatment...we are not getting to the root cause of people’s problems.”

WRTC AHTF focus group 2010

Social determinants of health were cited as frequent contributors to mental health issues. Clients may lack coping mechanisms and support systems. Women in a First Nations community focus group discussed the need for more mental health care, including grief counseling. With limited education opportunities (waiting list, lack of money), there may be no dreams or future planning, leading to feelings of hopelessness.

“Men do not understand emotional conditions and instead try to get ‘depression pills’. “

WRTC AHTF focus group 2010

There was concern from First Nations community members about appropriateness of prescribing medications for anxiety and depression as well as lack of referral to mental health services. Counselors and services are usually only available in the community on an itinerant basis. In some cases, clients are selling their prescriptions in order to pay their bills, contributing to the problem of prescription drug abuse in communities.

Communication was also a concern, as occasionally clients recovering from serious events, such as a suicide attempt, have returned to the remote community without a discharge plan or notification of the health staff.

During a focus group in 2014, staff from the Mental Health program also said that it is important for the region to ensure that residents and health staff from First Nations communities are aware of the
services that are available in order to help them navigate the system. To this end, much work has been
done by the Regional Coordinator of Aboriginal Health to build a mutual understanding of both the
federal and regional health systems. At community meetings over the last few years, First Nations health
staff expressed interest in accessing training such as Mental Health First Aid to learn how to help people
in crisis.

Service providers indicated that there is more awareness of mental health issues in communities.
Networks that have been created, include: West Region Treaty 2 & 4 Health Service’s AMMA
(Anishinabe Mekina Mino-Ayawin; translates to Road to Good Health) Project that assists their seven
Tribal First Nations communities in the development of community teams to deal with mental health
crises, raise awareness, build capacity to act in the short-term, and build confidence and skills to
support others. Through the Dakota Ojibway Health Services (DOHS) Wellness Quarterly Team
meetings, DOHS coordinators bring their community front-line workers together to hear and learn about
different resources (outside of their communities) that have included PMH Mental Health programs and
services. Linkages throughout the region continue to be established and communication between
service providers is increasing.

The PMH Mental Health team attempts to practice with a philosophy of cultural responsiveness:
“What do you need and what is the best way that we can provide it to you?”

Aboriginal Healing and Wellness Program

Aboriginal Healing and Wellness Program is a partnership between PMH and the Brandon Friendship
Centre. The program involves a counseling and wellness center that integrates traditional Aboriginal
healing ways and contemporary mental health practices within its services and programs. The purpose
of the service is to assist Aboriginal people on their healing journey, which operates on a belief of
walking with Aboriginal people to help themselves to take ownership for their healing and wellbeing.
The goal of the service is to strengthen the balance between the physical, emotional, spiritual, and
mental health of the individual, through holistic healing. The program offers a number of services to the community, including:

- Counseling and healing
- Community wellness activities
- Mental health promotion and education.

Other cultural groups in our communities face particular challenges also as a result of past trauma. Mental Health Program staff indicated that newcomers to Canada are over-represented in their client caseloads. Many new residents are coming to Canada from extremely traumatic situations that have lasting effects on mental and emotional health.

The Mental Health program also operates using a trauma-informed approach. It has been estimated that 1 in 4 Canadians has experienced a traumatic event. These events can lead to enduring effects if unaddressed. Trauma is frequently a root cause of serious issues such as poverty, crime, violence, domestic abuse, sexual exploitation, low academic achievement, mental health problems, and addiction (Manitoba Trauma Information and Education Centre website, 2014).

It is particularly important to identify prior trauma in order to prevent re-traumatization and support trauma recovery. This approach changes the philosophy of a program, in which staff contemplate “what has happened to them” rather than “what is wrong with them”.

**Centre for Adult Psychiatry**

The Centre for Adult Psychiatry (CAP) is a 25-bed facility functioning under the Mental Health Act of Manitoba. Admission criteria include adults, ages 18 to 64 years, who reside in PMH and are experiencing psychiatric illness or a severe psychosocial crisis that is unable to be managed in a less intrusive manner. There are some clients who are not eligible for admission, such as those that are medically unstable, require detoxification, have acquired brain injuries, or have longer term needs.

The Centre consists of a comprehensive interdisciplinary treatment team that works in partnership with the patient and their community network to provide assessment, stabilization, short term interventions, transitional programming, linkage and referral to community services.

There were 471 admissions to CAP in 2013/14, with occupancy remaining steady at 90%. There were more admissions for males than females. The average length of stay was 16.5 days. Of the admissions that year, 76% were the first admission for that client. Eight percent of CAP patients had three or more admissions within the year. The readmission rate within 30 days of discharge was 8%. There were 31 clients on the wait list in 2013/14.

The top three reasons for stays at CAP were:

- Mental and behavioural disorders due to psychoactive substance use
• Reaction to severe stress, and adjustment disorder

• Bipolar affective disorder.

In 2013/14, almost a third (30.2%) of CAP clients had both a psychiatric and substance use diagnosis. This was an increase from the previous year (27.5%).

Staff from CAP provide consultations to the Brandon Regional Health Centre (BRHC) emergency department, with 72 consultations in 2013/14, compared to 51 the previous year. The ability of CAP staff to respond depends upon staffing capacity and the needs of the client. The staff at CAP and the Mobile Crisis Unit work collaboratively to respond to consultation requests from the BRHC emergency department.

According to client surveys, CAP clients perceive their mental health care treatment positively although they would like more individual attention from staff.

**Parkland Mental Health Centre**

Parkland Mental Health Centre (PMHC) is a 10 bed unit functioning under the legislation of the Mental Health Act of Manitoba. Admission criteria are similar to those of the Centre for Adult Psychiatry. PMHC also consists of a comprehensive interdisciplinary team that works in partnership with the patient and their community network to provide assessment, stabilization, short term interventions, transitional programming, linkage and referral to community services.

There were 221 admissions to PMHC in 2013/14, with a stable occupancy rate of 93.6%. In contrast to CAP, there were more female admissions than male at PMHC. The average length of stay was 15.1 days. A smaller proportion of clients (53.4%) were first-time admissions at PMHC compared to CAP (76%). A slightly higher readmission rate within 30 days of discharge, at 10.6%, might be one possible contributing factor. There were 89 clients on the wait list in 2013/14. As mentioned earlier, PMHC and Mental Health Crisis response services staff liaise to provide after-hours crisis service.

In 2012, PMHC was the first inpatient psychiatric unit in Manitoba chosen to implement the Releasing Time to Care (RTC) model. RTC is a health improvement program that empowers staff to make positive changes that will benefit clients and staff. PMHC has completed the foundation modules and 4 of the process modules. Thus far, the RTC activities have created efficiencies that resulted in an increase in time available for staff to provide patient care.

**Psychosocial Rehab**

The Psychosocial Rehabilitation (PSR) Program provides care and service to individuals with a severe and persistent mental illness which impacts functioning in the areas of living, learning, working and socializing. Services are based in the community and involve a case management model with a focus on the individual and community integration. A range of other services offer additional supports including transitional housing, employment supports, and recreational/social supports. Proctor Programs add additional supports for individuals in assisting them with activities of daily living. Clients add meaning to
their lives through participation in individual and community activities that are organized, integrated and of the client’s choice. Recovery is enhanced and supported through community participation including volunteerism and employment; the range is limitless, inspiring, and captures the unique and individual passions in clients’ lives.

The model of service delivery for clients living with severe and persistent illness and their families differs in the three PMH zones. Since planning for Mental Health Reform in Manitoba and the closure of the Brandon Mental Health Centre (BMHC) in 1998, Brandon and the North Zone have had a twenty year history of case management following the Boston University PSR model. Intensive Case Managers and Employment Development Counselors with smaller caseloads have existed since 1994 in Brandon and later in the North Zone, whereas Community Mental Health Workers in Adult Community Mental Health in the South Zone have integrated PSR clients within existing caseloads.

With the closure of BMHC and a large number of clients choosing to remain in Brandon, PSR-South has also included a Residential and Community Support program, including a transitional housing, a 24-hour setting known as McTavish Manor, Amberwood Apartments (clustered apartments) and Community and Support Services (group and individual recreational and activity-based services.) Clients often relocate to Brandon from the surrounding region to access transitional housing services.

The model of delivery of services to support better housing outcomes has evolved to include fourteen Proctor-Supported settings with tenancy held by clients within the city of Brandon. At this point there are more ‘supported’ settings (proctor-supported) compared to ‘supportive settings’ (24-hour professional and paraprofessional supported).

Additionally, PSR-South includes a Mental Health Promotion Clinic for medication management and mental health promotion activities as well as Ventures, a vocational skills assessment and training setting. A number of clients struggle with managing their medications in the community, which impacts their mental health. A Mobile Medication Clinic has operated out of the Mental Health Promotion Clinic in PSR-South for over two years, reaching on average 8 clients for each clinic. On long weekends a nurse and proctor meet with clients at their homes to remind them about medication and to offer support. This has achieved positive results with respect to clients’ mental health and compliance with treatment. It would be beneficial to a small number of clients who routinely receive medications five days per week through the Mental Health Promotion Clinic if they could also receive weekend services year-round.

The Ventures program provides vocational skills assessment and training in partnership with community resources for individuals with mental health issues. In 2013/14, Ventures provided employment-related services to 48 individuals. Of the current clients, 12 have been in the program less than two years. Five clients either obtained part-time employment or had work experience in the same year. There was a slight increase in the number of clients working 14 or fewer hours per week, indicating client interest in work in casual employment settings.

There has been a major decline in family operated custodial Residential Care settings throughout the same period. All three PMH zones have had well-established Proctor Services in the community to
support clients. In 2013, PSR was divided into PSR-North and PSR-South as steps towards amalgamation. PSR-North is primarily focused on services within the communities of Dauphin and Swan River, whereas PSR-South is focused mainly within the city of Brandon. It is a well-known fact that rural clients will migrate to these larger communities where opportunities exist for them to receive services and supports, attend school or to seek gainful employment.

The PSR-North Team supports 3 unique HERO (Helping Everyone Reach Out) Clubs, in Dauphin, Roblin and Swan River. The clubs work independently and collaboratively in their efforts to create meaningful activities that include community participation and volunteerism. Membership with a HERO Club has been significant for some individuals’ recovery, evidenced by long term membership and the support and empowerment that is valued in the clubhouses. The Dauphin HERO Club celebrated their 20th Anniversary in 2014. In Brandon, Community Support Services supports clients in recreational and volunteer activities in partnership with Brandon Community Welcome and other community partners.

In the South Zone, client satisfaction surveys consistently reflect satisfaction with PSR service. The last survey was conducted in March 2013 with favourable results. Areas to improve included a desire to increase review of medication side effects with clients, and to ensure clients are made aware of community resources, including linkages to Crisis Services.

Family/significant other involvement with clients in the South Zone has consistently been 90% or higher; in 2013/14, 87% of clients had family involved in their recovery. Planned overnight vacations with family not only are a positive indicator of support but also promote recovery and quality of life.

The following information is from the PSR program Annual Report. Admissions to psychiatric facilities have remained stable in the past five years in the South Zone. Very few admissions to Selkirk Mental Health Centre have occurred in the past five years and none in the past year. The average days in hospital stay is impacted by long-stay clients waiting PCH placement or who spent long periods at Selkirk Mental Health Centre. Data for admissions to Selkirk from PSR-South show that admission rates of PMH residents to Selkirk for the past 15 years are very low in comparison to other regions in the province, suggesting that local resources are, for the most part, able to support clients with enduring mental health concerns.

The vast majority (87.5%) of primary diagnoses for PSR-South clients in 2013/14 were schizophrenia and mood disorders. This is consistent with recent years. Other diagnostic categories include autism spectrum and neuro-cognitive disorders, including acquired brain injury. Of the clients of the PSR-South program, 34% of clients were identified as having a co-occurring disorder. The ratio of males to females involved in PSR-South has consistently been 3:1.

PSR-South has noted that, consistent with national and international findings, the population they serve tend to age much sooner than the general population. As PSR clients age, they require more help to manage physical concerns and support following medical procedures (e.g., dental or eye surgery, colonoscopy) and bear the burden of many chronic diseases similar to the general population (i.e., heart and lung disease, diabetes and cancer). PSR-South clients enter personal care homes at a younger age,
with the average age at admission to PCH of 62.5 years. The average age of mortality for PSR-South clients over the last 7 years was 54 years.

In addition to their health concerns, many PSR clients have complex needs including the need for safe, affordable housing with appropriate resources in the community. For example, clients may live with an enduring psychiatric illness and an intellectual disability and/or an addiction plus physical health concerns. This complexity often leads to new and innovative ways to meet needs outside of existing systems and resources.

One example is the expressed need for harm reduction housing within PMH. Capacity has increased in the past 5 years in the area of co-occurring disorders through involvement in education and application of integrated assessment and plans. For a few individuals who are at high risk for homelessness, a harm reduction setting has operated successfully for over two years in Brandon in partnership with the Canadian Mental Health Association. There are other clients across PMH who could benefit from this model.

In PSR-South, the five-year trend shows an increase in clients being involved with the Courts and incarcerations. Work began in September 2013 with meetings between the justice system and other community partners to establish Mental Health Courts in Brandon following Winnipeg’s successful launch two years earlier. This approach is beneficial for individuals when a comprehensive community support plan between Mental Health Services and the Courts can act as an alternative to incarceration, and help to promote recovery in the community.

Intensive Case Managers (ICM) and Employment Development Counselors (EDC) provide assertive long-term case management while assisting individuals to be satisfied and successful in the living, learning, working and social environments of their choice. These services provide counselling for adults with persistent psychiatric disorders that affect the ability to handle routines of daily living over the long term. Both the ICM and EDC programs help people develop skills and support them through the 'choose, get, keep' model of psychosocial rehabilitation. Employment development counselling includes vocational planning, training, support services and job placement for those who choose to pursue employment.

The Volunteer Incentive through Employment & Income Assistance continues to be popular with clients. Many clients volunteer in addition to work training and employment. Thirteen clients in PSR-South identified an employment goal and continued to pursue their dream in 2013/14.

In PSR-North the Employment Development Counselor works collaboratively with the Almost New Store Corporation in Dauphin. Participants report an increase in employability, social interaction and self-esteem as well as mental wellbeing. As a result, there have been several successful employment stories over the last 5 years.

Overall, clients’ engagement with volunteerism, education, and paid work demonstrates their willingness to achieve personal goals and to live full lives in the community.
Seniors Mental Health

Mental health care increases in complexity as age advances, and many physical problems in the elderly mimic psychiatric disorders. The importance of collaboration and communication between members of the Seniors Mental Health (SMH) Interdisciplinary team and with physical medicine and geriatric medicine is essential.

It is normal to experience coexisting conditions, especially as age progresses; however, many seniors with high and complex needs remain undiagnosed and not effectively connected to mental health services. The experience of coexisting conditions frequently goes hand in hand with socioeconomic hardships, isolation and a lack of personal, family and social support at many transition points. It is especially important for services to be responsive regardless of a person’s entry point to service or condition. Responses need to be interdisciplinary in nature and include strong partnerships with family, primary health care and specialist health services to be effective.

The SMH team of professionals have specialized training and expertise working with older people experiencing mental health challenges. Working closely with other health care providers and the Centre for Geriatric Psychiatry, the team is able to address a broad range of concerns. The SMH interdisciplinary team of psychogeriatric clinicians provide assessment, consultation and treatment for mental health problems that are most commonly associated with aging, help clarify concerns about mental health issues, and provide linkage with the most appropriate resource.

The most common concerns are often related to the onset of or changes in psychiatric conditions such as cognitive disorders (dementia), anxiety disorders or major depression. There are a number of priorities for effectively addressing the mental health needs of seniors.

Community Mental Health Workers establish partnerships among mental health services, general practitioners, community nursing, aged care services, accommodation and residential facilities, disability support, Home Care and other community support services.

Service delivery in rural and remote communities is challenged by issues related to distance, isolation and fewer formal services, higher levels of stigma associated with mental health issues and an independent nature that influences people’s help-seeking behaviours. Services must foster partnerships that increase local access to primary health care, specialist and allied health care.

Servicing more remote communities with fewer formal services requires broad collaboration with non-health services, community groups, and local leaders. Naturally occurring support networks are vital recovery partners in rural and remote communities, as are schools, churches, the police, local businesses and clubs.

The SMH service focuses primarily on persons who experience their first onset of mental illness at age of 65 or over; however individuals under 65 whose cognitive impairment is related to a disease associated with aging may also be more appropriately served by SMH. As well, there are individuals who have
experienced mental illness during their lifetime who may require the specialized mental health services in their advanced years.

The Seniors Mental Health interdisciplinary team includes:

- Psychiatry
- Psychology
- Psychiatric Nursing
- Occupational Therapy
- Social Work
- Activity Instructors/Community Support Workers
- Other Allied Professionals.

**Community Seniors Mental Health Assessment and Treatment**

Community Seniors Community Mental Health clinicians provide specialized consultation, assessment and short-term treatment; individualized treatment plans, and education and support in the home or office setting. Assessment by one or more members of the team occurs within or as close to the individual's own home as possible or through the use of Telehealth when available to reduce the need for travel.

Clinical findings are provided to the physician or other health care provider to ensure that the mental health concerns are addressed. In some situations, it may be more effective for the family doctor or another provider to address the concern.

In some instances ongoing care and support through Seniors Mental Health may be indicated, such as when someone experiences a persistent or recurring mental illness. Social isolation becomes particularly acute as a person ages. Community Mental Health Workers provide Mental Health Case Management for older people at risk for relapse of their psychiatric illness. There is a focus on symptom monitoring and follow-up, daily living skill preservation and teaching, and leisure and social supports. Ongoing follow-up and support is provided to clients and their caregivers utilizing both individual and group interventions.

Approximately 1,500 persons aged 65+ presented to Seniors Community Mental Health in 2013/14. The majority of presenting concerns were related to Cognitive Disorders (dementia) and Mood Disorders (depression). Over 160 persons aged 65+ required admission to an inpatient Psychiatric Facility. Over the same time period, 57% of Seniors Mental Health referrals in PMH had no previous history of contact with Mental Health. A smaller proportion of SMH clients from the North (52%) had not previously accessed mental health services than clients from the South (67%).
Seniors Mental Health community based services saw more women than men. This is congruent with the demographics of seniors in PMH, as women tend to have a longer life expectancy than men. A slightly higher proportion of SMH clients (62%) from the North Zone were women compared to South Zone clients (58%). The majority of SMH clients were over 80 years.

Prime Time Day Program enables community mental health clients to remain living successfully in the community through regular attendance in a specialized group setting located in Brandon at Fairview Home. In 2013/14, a total of 63 clients participated in Prime Time. Fourteen clients have attended Prime Time for more than 5 continuous years. Over the past 10 years 156 clients have been members of and attended Prime Time.

**Seniors Mental Health Resource Team**

Mental Health Resource Nurses (MHRNs) provide mental health clinical support and assessment to patients, residents and staff within assigned long term care facilities. In the South Zone communities, this resource is available within local hospitals and emergency departments, in addition to the Personal Care Homes.

The position of MHRN combines the knowledge and skill of psychiatric nursing practice with specialized mental health training and experience to provide service to rural facilities for elderly clients with psychiatric disorders, mental and emotional disturbances, and related problems of conduct. Seniors Mental Health is moving towards aligning MHRN positions across the Prairie Mountain Health region and is building a strong team for this new and exciting position.

- **North Zone:** Mental Health Resource Nurses have been a key component of mental health service delivery for several years in northern communities.

- **Brandon Zone:** MHRN positions reporting directly to their respective facilities have also been well-established at Rideau Park Personal Care Home and Fairview Home.

- **South Zone:** In the southern rural communities, the new Mental Health Resource Team was recruited and began orientation in January 2013. The team of nine MHRNs became available to most sites in February 2013. Unlike their counterparts in the north and Brandon, the MHRNs in the South Zone provide consultation to emergency departments and acute hospital facilities within their designated communities, in addition to being a resource for personal care homes.

> "The relationship with the physician has greatly improved since the MHRN has come on board."

*Staff (PMH South MHRN Evaluation 2013)*

> "She takes an interest in me as a person, not just another patient around here."

*Client (PMH South MHRN Evaluation 2013)*
In 2013, an evaluation of the new MHRN positions in the South Zone was completed by a Masters’ student in the Psychiatric Nursing Program. This evaluation identified many benefits to the positions, including reducing the need for costlier interventions such as admissions to the Centre for Geriatric Psychiatry (see following section), maintaining clients closer to home, as well as educating and linking staff involved in elder care. There were several challenges noted through the evaluation but a number of practical solutions were recommended.

Centre for Geriatric Psychiatry

The Centre for Geriatric Psychiatry (CGP) provides specialized assessment and short term treatment for individuals age 65 years and over who are experiencing difficulties with day to day functioning due to mental health problems.

CGP is a 22 bed acute care unit located at the Brandon Regional Health Centre, and is a designated psychiatric facility under the Mental Health Act of Manitoba. It is the inpatient referral centre for Prairie Mountain Health and the western half of the Southern Health region.

Clinical services are provided within an interdisciplinary model in collaboration with the patient and his/her family and caregivers. Services include:

- Assessment and diagnosis
- Short to intermediate term treatment
- Pharmacotherapy
- Counseling/education/support for the individual and family
- Activity and recreation therapy
- Linkage with community resources/health care professionals
- Discharge planning
- Referrals to consulting specialists/rehabilitation therapists as needed.

In 2013/14, the occupancy rate at CGP was 94% and there were 138 admissions with an average of 12 admissions per month. The majority (59%) of clients were admitted due to a cognitive disorder. One quarter (25%) of admissions were for a psychotic disorder and 12% were for a mood disorder. In the same year, 4% of admissions were due to substance abuse and 3% for anxiety disorder.

Many CGP clients (40%) had a stay of between 9 and 30 days. Almost a third (32%) of CGP clients stayed between 31 and 90 days. Fourteen percent had a stay of between 1 and 8 days while another 14% stayed 91 days or longer. There were approximately 700 days spent at CGP in 2013/14 by clients.
awaiting placement in a personal care home. It has been estimated that approximately 20 additional admissions for assessment (average one month duration) could have been accommodated if alternative care options were available for those clients awaiting placement.

In some situations a decision may be made to refer an individual residing in the northern portion of Prairie Mountain Health who is 65 years or older for a psychiatric admission to the Parkland Mental Health Centre as an alternative to the Centre for Geriatric Psychiatry. This 10 bed, short-term assessment and treatment unit for adults is located at Dauphin Regional Health Centre (see section earlier in this chapter). There were 25 clients over the age of 65 years (11% of the admissions) to Parkland Mental Health Centre during 2013/14.

Consultations with Geriatric Psychiatry are also available via Telehealth. Community based referrals for geriatric tele-psychiatry consults are coordinated through the Mental Health Resource Nurses and Community Mental Health Workers on the Seniors Mental Health Team. Telehealth consultations are available to the North and South Seniors Mental Health Teams. The teams have found this to be quite effective in planning care, building capacity in local health care teams and minimizing the need for transporting clients for interview.

Capacity building and education on a broad range of topics is also provided through presentations on topics such as delirium, depression, psychotropic medication, capacity assessments and other psychogeriatric conditions to Seniors Mental Health staff, health care providers and physicians across the region. The resource and consultation is valued for complex clinical presentations, problem solving and assisting physicians with decisions regarding treatment and capacity assessments.

**Residential & Community Support Services**

Community and Residential Support (CaReS) is a component of Mental Health Services for the elderly that focuses on assisting elderly persons with mental health concerns in a variety of community-based settings.

Supports are provided to assist older people to connect with each other as well as with others in the community. Community Support Workers/Activity Instructors assist in the implementation of the plan, respond to a range of client needs and provide direct care, skill development and practical assistance.

A focus on identifying caregiver needs and enabling family and natural supports to maintain their loved ones at home has become increasingly important as more seniors seek service and as the population ages.

Clients with mental illness may have difficulty obtaining safe, affordable housing. According to a 2014 Brandon homelessness study, rural PMH residents may move in order to obtain education, employment, health or social services. While it is not possible to offer all services in every community, increasing or maintaining services in rural communities can help people to stay. It was ascertained that mental health and addictions services were particularly important for preventing rural residents from moving away to obtain services (Robinson R, White B & Pachowski K., 2014). The report also mentioned that
unrecognized mental health or addiction issues can lead to conflict. This interpersonal conflict may contribute to family breakdown and the potential for homelessness if the reason is not addressed.

A client from the North Zone described a heartbreaking story of needing to secure stable housing in order to regain custody of her children. She discussed a lack of affordable housing available to her. PMH staff in the North Zone attempt to help clients with obtaining housing but regulations from other agencies limit how much they are allowed to do.

A number of programs are offered through Residential and Community Support Services, including:

- **Residential Services**: Transitional Housing (McTavish Manor) aims for clients to experience recovery and to learn or relearn skills that lead to success and satisfaction in their environment of choice.
- **Clustered Apartment**: Provides individualized support to a small number of clients who can benefit from a longer period of rehabilitation in an apartment setting (e.g., Amberwood Village).
- **Residential Care**: Develops and maintains residential care facilities throughout the region, ensuring that residential care standards are met for mental health and aged and infirm clients.
- **Proctor Supervisor**: Administers the Proctor Service which assists individuals to develop and/or maintain skills to live in the community.
- **Proctor Services**: Provides flexible, supportive services to individuals experiencing a severe and persistent mental illness under the supervision of a Community Mental Health Worker and the Resource Developer.
- **Community Support Service**: Activity Instructors assist individuals and small groups to develop skills to participate in social/recreational and volunteer opportunities in the community. Community Mental Health Support Workers assist individuals in the North PMH.

A Housing Resource Coordinator position, based in the 7th Street Health Access Centre (HAC) in Brandon, facilitates access to secure housing. This position works closely with the Housing Support Worker from the Canadian Mental Health Association (CMHA), meeting regularly to discuss strategies and shared cases, problem-solve, share resources, coordinate services, target issues, and identify needs.

The CMHA Housing Support Worker provided support and referral to 116 homeless individuals over a one-year time period from October 1, 2012 to September 30, 2013. Emergency housing and supports were provided to 302 homeless individuals. It was estimated that 70% of these homeless individuals were mental health clients. In the same timeframe, a total of 149 of 880 PMH Housing Resource Worker intakes (17%) were identified as mental health clients.

In place since 2009, the Portable Housing Benefit (PHB) provides a rent supplement of up to $200 per month to low-income individuals with mental health issues, who require additional assistance to find
safe, adequate and stable housing. In order to be eligible, clients must have an unstable housing situation that is interfering with their progress in treatment and positive participation in community life.

Regarded as a promising practice, the PHB is intended to provide better access to the private rental market, and is accompanied by services to support a stable tenancy. In order to promote successful tenancy, clients must accept these supports from an identified mental health provider. In PMH, the PHB is administered by Canadian Mental Health Association (CMHA) branches (Parkland and Westman), and the health region. In the South Zone, a committee of partners including staff from PMH Mental Health, 7th Street HAC, Manitoba Housing and Employment and Income Assistance (EIA) support the work of the CMHA. Clients are able to select the supports that they think are most helpful and this may include Community Mental Health Workers, Proctors, or support workers from CMHA.

The PHB service providers work in partnership with the EIA program, the health regions, and community mental health agencies. The PHB also includes funding for housing support workers, to increase the capacity of mental health agencies to provide housing supports (Manitoba Family Services and Labour website, 2014).

There is a need for harm reduction housing in PMH. Capacity has increased in the past 5 years in the area of co-occurring disorders through involvement in education and application of integrated assessment and plans. For a few individuals who are at high risk for homelessness, a harm reduction setting has operated successfully for over two years in Brandon in partnership with the Canadian Mental Health Association. There are other clients across PMH who could benefit from this model.

The Housing First model is a harm reduction approach that focuses on providing safe, secure shelter to individuals coping with addictions. Homelessness is considered a symptom of other causes. Programs such as Housing First treat the symptom in order to allow opportunity to address the causes of homelessness.

The success of the PHB demonstrates that a Housing First model can help develop long term tenancies. Expanding the availability of the program (number of spots) and broadening eligibility criteria to include clients with brain injuries, chronic addictions, or involvement in the provincial family services supportive living program would help to address some of the housing gaps (Reid, C., Collier, W. & Lockerby, S.).

One concept that has been explored in PMH is the availability of damp or wet housing. Community partners in the North Zone describe having to turn clients away from shelters because they were under the influence of drugs or alcohol. There is currently no housing option available there for clients that are actively using drugs or alcohol, putting them at risk. Health care providers have discussed the need for a safe, secure environment for clients in order to be able to work on their recovery.

Damp housing means that clients do not necessarily need to abstain from substance use, but are expected to work on their recovery while in the program. Wet housing means that tenants are not required to abstain from using substances while there, but addictions services are available for them to access (Here to Help website, 2014). Proposals have been submitted but not funded for damp/wet...
housing for clients with both mental illness and addictions. Currently there is one Proctor Supported damp/wet setting available in Brandon for a few clients, using existing resources.

Staff from the Mental Health program noted that it would be valuable to establish a team to address resource development outside Brandon, such as available housing in the North.

The Mental Health program is often a default program for clients that do not fit within the scope of other programs. The holistic, client-centered philosophy of mental health services means that staff support the client, even though their services may not be exactly what the client needs. This can lead to assumptions that similar clients will be accepted by Mental Health. Staff from the Mental Health program may assume the role of navigator in order to assist clients to obtain needed services.

The mental health system underwent substantial reform in the late 1980’s and 1990’s. This model was intended to meet the needs of clients with mental illness in the community. The core principles of reform were access, partnerships and client-centred care. While many clients have successfully transitioned to living in the community, there appear to be situations in which the health system is not able to fully meet the needs of some clients.

As evidenced by the programs and services described, the Prairie Mountain Health Mental Health team strives to operate within the six key pillars of Mental Health, as outlined in the provincial mental health strategy, *Rising to the Challenge* (Manitoba Health Healthy Living and Seniors, 2011):

- Mental health promotion
- Recovery
- Inclusion
- Shared responsibility
- Leading and promising practices
- Cultural safety.
Mental Health Key Points

- PMH students generally feel safe and supported by their community and school. The majority of PMH students reported positive mental health.

- While admissions of youth to the Crisis Stabilization Unit have been increasing, more supports are being offered through Teen Clinics and Early Intervention Services.

- The majority of adult community mental health clients were diagnosed with mood disorders. Almost one third of adult community mental health clients had an alcohol or drug-related diagnosis.

- There are additional resources to support clients following attempted suicide (Mental Health STEP) and to support Acute and Long Term Care staff to care for clients with mental illnesses (Mental Health Resource Nurses).

- There are high numbers of mental health clients living in Brandon, Dauphin, and Swan River. Many of these clients are living in these communities in order to access the services and supports available. Access to safe, supportive housing is a challenge for clients of the Mental Health program.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region Trend</th>
<th>PMH District</th>
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<tbody>
<tr>
<td>Suicide Rate (age and sex adjusted average annual rate of suicide per 1,000 residents)</td>
<td>Similar to province PMH (0.17) = MB (0.17)</td>
<td>Slight increase but not significant</td>
<td>N/A</td>
</tr>
<tr>
<td>Prevalence of Mood and Anxiety Disorders (age and sex adjusted percent of residents aged 10+)</td>
<td>Similar to province PMH (24.7%); MB (23.2%)</td>
<td>Significant increase over time</td>
<td>• Significantly lower than the provincial average in Spruce Woods and Assinippi • Significantly higher than the provincial average in Dauphin, Swan River &amp; Brandon East End &amp; Downtown</td>
</tr>
<tr>
<td>Antidepressant Prescription Follow-Up (crude percent of new depression patients who received 3+ physician visits in 4 months)</td>
<td>Significantly higher than the province PMH (57.1%) &gt; MB (54.5%)</td>
<td>No change over time</td>
<td>• Significantly higher than the provincial average in all 5 Brandon districts</td>
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Chapter 6 Primary Health Care

“Primary health care is the foundation of Canada’s health care system. It not only provides the entry point of contact for individuals with the health care system, but also serves as the vehicle for ensuring continuity of care across the system. Most definitions of primary health care also recognize health promotion, disease and injury prevention and the importance of placing stronger emphasis on the determinants of health and strategies to advance individual and population health. Through primary health care, short-term issues are resolved and most chronic conditions are managed” (Health Council of Canada, 2005).

Primary care is a component of primary health care (PHC) and refers to those times when an individual receives a diagnosis, treatment or help with a health problem, or even when a health care provider talks with you about staying healthy and preventing illness. Primary care is generally provided by family physicians and nurses and is often delivered by a team of professionals including midwives, dietitians, pharmacists, mental health professionals, therapists and others (Manitoba Health Healthy Living and Seniors Primary Care Website).

Primary care is centred in and synonymous with family practice. The majority of all the health and medical care services for our population is provided in primary care/family practice settings (College of Family Physicians of Canada).

Physician Services

Access to family physicians is a key issue identified by residents in Prairie Mountain Health. The region experiences ongoing challenges in retaining physicians in smaller communities and solo or small group practices. There is a mix of fee for service (FFS) physicians, independent contract physicians, and salaried physicians in the Prairie Mountain Health region. Fee for service physicians bill Manitoba Health, Healthy Living and Seniors (MHHLS) for the service they provide – generally for each patient visit based upon a provincially negotiated amount for specific clinical services. In the FFS model, the more clients a physician sees, the higher the physician’s billings (income). A contract physician is paid a negotiated annual fee; this payment is not linked to the amount of clinical services they provide or number of clients seen, but set by contract. Neither FFS physicians nor contract physicians are employees of the RHA. Some physicians have contracts for specific services and also practice as FFS physicians. Salaried physicians, such as Psychiatrists in the Brandon Regional Health Centre and Dauphin Regional Health centre, receive a salary from MHHLS through PMH and are considered employees of the respective organization. In PMH, the majority of the family physicians practice in the fee for service model.

There are approximately 127.5 family practice doctor positions (also called general practitioners or GPs) in communities within the Prairie Mountain Health region. At any given time between 10 – 20% of these positions are vacant.

Approximately 12% of the population in Prairie Mountain Health was without a regular family doctor (but may be looking for one) (Manitoba Health, Health Information Management, 2014). The Family
Doctor Finder program was introduced to PMH in September 2013; the purpose of this province-wide initiative is to match individuals without a primary care provider to an available physician resource. People without a family doctor register with the program; Primary Care Connectors in the region work with primary care providers who are accepting patients to connect registrants to a provider in their preferred geographical area. The goal is to match all registrants (without a provider) within 30 days of registration. As of December 17, 2014, the program in PMH has matched 73.9% of registrants (Care Connector Update, PMH Steering Committee, December 2014). Registrants may remain unmatched for several reasons including the lack of providers in their geographical area, the client’s desire for a specific provider, or preference for a specific gender of provider. The Family Doctor Finder program helps to identify areas in the region where primary care capacity is an issue. The region uses this information when recruiting and planning for additional primary care providers.

Physician Use

Physician use is defined as the percent of residents (all ages) who received at least one ambulatory visit in a fiscal year. Ambulatory visits include all contacts with physicians, except during inpatient hospitalization and emergency department visits (Fransoo R et al., October 2013).
Overall, approximately 81% of Prairie Mountain Health residents saw a physician at least once in 2011/12. This rate has been stable over time and was similar to the provincial average of 79%. Physician use rates were not associated with premature mortality at the regional or district level. There was some variability of physician use within the region in 2011/12:

- South Zone – 78% of residents saw a physician at least once
- Brandon Zone – 85% of residents saw a physician at least once
- North Zone – 79% of residents saw a physician at least once.

At the district level, Brandon West End and Brandon North Hill had significantly higher physician use rates than the provincial average at 85% and 86% respectively in 2011/12; Assiniboia was significantly lower at 72%.
Ambulatory Visit Rate

The ambulatory visit rate is defined as the average number of visits to physicians per resident (all ages) in a given year. Ambulatory visits include almost all contacts with physicians (general practitioners, family practitioners, and specialists) including: office visits, walk-in clinics, home visits, nursing home visits, and visits to outpatient departments.

Ambulatory visit rate is a key indicator of how well the health care system is managing chronic conditions outside the hospital setting. It provides some insight as to how the region is moving towards a primary care centered model of care (Fransoo R et al., October 2013).

In 2011/12, the ambulatory visit rate for PMH was 4.6 visits per resident per year; this was stable over the two time periods and was similar to the Manitoba average of 4.4 visits. Visit rates in Brandon (5.7) were significantly higher than the other PMH zones and the Manitoba average.

The visit rate can be influenced by many factors including availability of providers, the health status of the population including the rate of chronic conditions, and whether the conditions are controlled.
(stable) or not. Another variable is the number of chronic conditions individual patients have; research shows that seniors with three or more chronic conditions reported more than twice the rate of visits to a family physician as seniors who reported only one chronic condition (Canadian Institute for Health Information, January 2011).

Several districts within Brandon had significantly higher visit rates:

- **Brandon Downtown**: 6.3
- **Brandon North Hill**: 5.8
- **Brandon East End**: 5.8
- **Brandon South End**: 5.7

When considering overall health status, the higher visit rates in Brandon East End and Brandon Downtown could be expected. The only district in PMH that had a significantly lower ambulatory visit rate than the Manitoba average was Swan River (4.4), which does not align with the poorer health status of the Swan River district.
Ambulatory visit rates generally follow a pattern based on age and gender. For males, visit rates are slightly elevated for young children and then decrease into young adulthood. From age 20 onward, visit rates increase gradually with age, then decline among oldest age groups.

For females the pattern is similar to males in younger ages, then increases steeply in adolescence and into child-bearing years. Rates decrease slightly from 30–40 years, and then gradually increase with age. At about age 75, male and female visit rates converge (Fransoo R et al., October 2013).

Causes for Physician Visits

Causes for physician visits is defined as the most frequent reasons for ambulatory visits. They are reported for fiscal years 2006/07 and 2011/12. Each visit has only one diagnosis code recorded as the “reason” for the visit, and these diagnoses were grouped by ICD-9-CM chapter (Fransoo R et al., October 2013).

The most frequent reasons for residents in the region to visit physicians were: respiratory, circulatory, musculoskeletal, health status and contact (general medical exam, well-baby care, contraceptive management) and ill-defined conditions (symptoms related to chest and respiratory symptoms,
abdominal and pelvic, or general symptoms); these reasons accounted for 47% of visits in 2011/12. The same reasons for visits comprise the top five categories in each time period reported (2006/07 and 2011/12).

Majority of Care (Continuity of Care)

Majority of care is defined as the percentage of residents receiving at least half of their ambulatory visits over a two year period from the same physician. Residents with fewer than 3 visits over a two year period were excluded – this equates to approximately 20% of the population (Fransoo R et al., October 2013).

In the two time periods reported, the percent of Prairie Mountain Health residents having at least 50% of their care from the same provider was significantly less than the provincial average (73%). In the 2010/11 – 2011/12 time period, approximately 68% of the regions residents received at least half of their care from the same physician. Most of the region’s districts recorded a rate less than the provincial
average; however, three districts, Whitemud (82%); Swan River (98%); and Porcupine Mountain (81%) were significantly higher.

Majority of care rates are related to income in rural areas; residents of lower income areas were less likely to receive the majority of their physician visits from a single provider (Fransoo R et al., October 2013).

Majority of care is one of the defining principles of family medicine. It is viewed as the relationship between a single practitioner and a patient that extends beyond specific episodes of disease or illness. A long term physician-patient relationship built on trust and mutual respect is considered important to health care effectiveness and efficiency.

People who have a regular health care provider such as a family doctor or nurse practitioner are healthier and happier with their health services. Having a regular family doctor can mean faster, more convenient service, plus ongoing care and support from someone who knows you and your health needs. A regular provider can help detect and treat health problems early; this can mean fewer hospital stays, fewer emergency room visits, improved safety, and better health (MHHLS Website).

**Location of Visits to General and Family Practitioners**

Location of visits to General and Family Practitioners measures the proportion of visits to General and Family Practitioners which took place within the resident's district, elsewhere in their RHA, in another RHA, or in Winnipeg (Fransoo R et al., October 2013).

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>In District</th>
<th>Elsewhere in RHA</th>
<th>In Other RHA</th>
<th>In Winnipeg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PMH</td>
<td>MB</td>
<td>PMH</td>
<td>MB</td>
</tr>
<tr>
<td>2006/07</td>
<td>71.8%</td>
<td>80.8%</td>
<td>23.7%</td>
<td>10.1%</td>
</tr>
<tr>
<td>2011/12</td>
<td>73.2%</td>
<td>81.4%</td>
<td>23.5%</td>
<td>10.3%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013
Residents in Prairie Mountain received over 70% of their physician visits in their home district and most other visits were received elsewhere in the PMH region. However, many residents have to travel long distances to access physician services and have identified transportation as a significant challenge.

During visits to First Nation communities in 2014, residents expressed concerns related to access to health services and transportation for medical appointments.

Ambulatory Care Sensitive Conditions (Hospitalization Rates)

Ambulatory care sensitive conditions are defined as the number of inpatient hospitalizations for ambulatory care sensitive conditions (ACSC) among residents aged 0-74 per 1,000 residents in a given year. ACSC conditions are a group of 17 diseases and diagnoses, including asthma, angina, gastroenteritis, and congestive heart failure for which ambulatory care may be more appropriate than hospital care (Fransoo R et al., October 2013).

Hospitalizations related to ambulatory care sensitive conditions represent an indirect measure of access to primary care and the ability of the health system to manage chronic conditions including diabetes, congestive heart failure, high blood pressure, asthma, and chronic obstructive pulmonary disease (Sanmartin, C., Khan, S. 2011). Poorer access to primary care may lead to increased hospitalization.
Hospitalization rates for ambulatory care sensitive conditions in Prairie Mountain Health decreased between 2006/07 and 2011/12 (13.8 to 11.0); however the rate was still significantly higher than the provincial average (9.0 to 6.3). In 2011/12, the Brandon Zone hospitalization rate for ACSC (7.4) was similar to the provincial average (6.3); however the South Zone (9.9) and the North Zone (17.3) were significantly higher than the provincial average. Also, several districts in the region were significantly higher including: Brandon Downtown (10.3), Brandon East End (11.0), Souris River (11.4), Riding Mountain (13.9), Asessippi (13.7), Duck Mountain (14.1), Porcupine Mountain (22.4), and Agassiz Mountain (24.1).

Hospitalization rates for ambulatory care sensitive conditions are strongly related to income and premature mortality rates (Fransoo R et al., October 2013). Emerging evidence also suggests specific patient characteristics including low income, comorbid conditions, and lifestyle (smoking, inactivity) place individuals at higher risk of an ACSC hospitalization (Sanmartin C, Khan S, 2011).
Ambulatory Consultation Rate (first referral)

The ambulatory consultation rate is defined as the average number of ambulatory consultations per resident (all ages) in a given year. “Consultations” are a subset of ambulatory visits: they occur when one physician refers a patient to another physician (usually a specialist or surgeon). The consult rate is the best available indicator of access to specialist care (Fransoo R et al., October 2013).

Consultation rates for residents in Prairie Mountain Health improved significantly between the two time periods 2006/07 (0.21 per resident) and 2011/12 (0.23 per resident); however they remain below the provincial average (0.28 per resident). Access to specialist care appears to be better for residents living in Brandon and the districts of Riding Mountain, Dauphin, and Agassiz Mountain than for residents in the rest of the region. Residents from the following PMH districts had significantly lower consultation rates than the provincial average: Asessippi (0.18), Porcupine Mountain (0.18), Swan River (0.18), Souris River (0.20), and Whitemud (0.20).
Location of Visits to Specialists

Location of visits to specialists measures the percent of ambulatory visits made by residents of each RHA to specialists in the patient’s (home) RHA district, elsewhere in the home RHA, in another RHA, or in Winnipeg (Fransoo R et al., October 2013).

### Table 6.2 Location of Visits to Specialists by Manitoba and PMH, 2006/07 and 2011/12

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>In District PMH</th>
<th>MB</th>
<th>Elsewhere in RHA PMH</th>
<th>MB</th>
<th>In Other RHA PMH</th>
<th>MB</th>
<th>In Winnipeg PMH</th>
<th>MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006/07</td>
<td>28.1%</td>
<td>76.6%</td>
<td>32.0%</td>
<td>3.5%</td>
<td>1.7%</td>
<td>0.7%</td>
<td>38.2%</td>
<td>38.2%</td>
</tr>
<tr>
<td>2011/12</td>
<td>27.0%</td>
<td>74.8%</td>
<td>37.4%</td>
<td>4.5%</td>
<td>2.1%</td>
<td>0.7%</td>
<td>33.5%</td>
<td>33.5%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

In 2011/12, residents of PMH received 27.0% of their visits to specialists within their home district, another 37.4% elsewhere in the PMH region, and 33.5% in Winnipeg. In many cases the specialty care required by patients is only available in Brandon or Winnipeg.

**Telehealth**

Telehealth is the use of information technology to connect people to health care services at a distance. A high-speed, secure video link is used to connect clients to health care providers at different locations in Manitoba. Patients are able to see, hear and talk to a care provider on a television screen. Telehealth can improve access to specialist care by reducing the burden of transportation for those living a distance from these services. Family members can participate in appointments if the client desires.

In the Prairie Mountain Health region there are 23 communities with Telehealth; five of these Telehealth sites are in First Nation communities. First Nation and Inuit Health Branch (FNIHB) are planning to implement Telehealth in two more First Nation communities in Prairie Mountain Health.
Figure 6.8 Telehealth Sites in PMH
Telehealth can be used for a variety of purposes including: clinical services, education (not involving clients), administration (meetings), and televisitation (clients connecting to relatives). In 2012-2013, approximately 75% of Telehealth usage in Prairie Mountain Health was for clinical purposes; this represents an increase of 9% over the previous year. In the same time period, 16.7% of Telehealth usage was for educational purposes. In 2014, 81% of Telehealth usage in PMH was for clinical events.

In 2014, Prairie Mountain Health had the highest utilization of Telehealth, outside of Winnipeg, with 7,970 clinical Telehealth events. The following graph shows the number of clinical events at the most utilized sites within PMH.

![Figure 6.9 Telehealth Clinical Events in PMH by most utilized sites, 2014](source: Manitoba Telehealth, 2015)
Many clinical services are available via Telehealth. In Prairie Mountain Health the most utilized specialties in 2012-2013 were: Oncology, Psychiatry, Anesthesia, General Surgery, and Respirology.

“MB Telehealth saves a lot of travelling, a lot of money. Last time my husband had to take time off work, and that is not always easy to do.”

Source: PMH Telehealth Client Interview

Figure 6.10 Telehealth Clinical Events in PMH by most utilized specialties, 2012-2013

Source: Manitoba Telehealth, 2014
PMH Primary Health Care Services

PMH Primary Health Care (PHC) is working collaboratively with Manitoba Health, Healthy Living, and Seniors on several initiatives that address:

- Faster access to care
- Options to get care outside of office hours
- Access to a regular doctor who’s part of a team of other healthcare providers
- A greater focus on promoting good health and preventing disease
- Better connections between health and other sectors in coordinating care
- Involvement by individuals in their own care and health care decisions
- A ‘door’ to care for those who might not look for or know where to go for service.

Initiatives include:

**Advanced Access:** The aim is to assist primary care providers so that their patients can see them or other primary care practitioners at a time and date convenient for the patient. By significantly reducing wait times for services, providers can provide earlier diagnosis and treatment to patients. Advanced Access is intended to provide patients with:

- Better access to health services
- Shorter wait times for and at appointments
- Option to book ‘same day’ appointments
- Fewer clinic visits per year, and opportunity to discuss more than one concern per visit
- Earlier identification of health issues, leading to better results

PMH staff are supporting the implementation of Advanced Access in several physician clinics across the region.

**My Health Teams (Primary Care Networks):** These are collaborative partnerships between regional health authorities, independent primary care practices, and community organizations who work closely with one another to plan, develop and provide enhanced local primary health care services. The goals of My Health Teams include:

- Improving access to primary care
- Demonstrating quality and safety
Increasing focus on the patient and patient centered primary care

Connecting care providers within and across geographic boundaries to provide seamless transitions in care

Enhancing efficiency in primary care and supporting sustainability of the health system.

‘My Health Teams’ plan and deliver service that is designed around community needs (MHHLS website). Prairie Mountain Health established its first ‘My Health Team’ in Brandon (Western Medical Clinic) in 2014.

Interprofessional Practice: Interprofessional practice involves adding other providers (mental health worker, dietitian, therapist, etc.) to a physician clinic practice. This can increase patient access to primary care, while enabling providers to spend more time with patients so that they are better able to meet their medical needs. Physicians can utilize the support of other professionals in their clinic to provide a variety of care needs, such as prevention, nutrition counseling, mental health care, immunizations, chronic disease monitoring, and home visits. The region will work with physician clinics to implement this initiative in early 2015.

Mobile PHC Clinic: Mobile Clinics are buses specifically designed to be primary care clinics. Staffed by nurse practitioners and registered nurses, they provide on the spot primary care for people living in some of Manitoba’s smaller, underserviced communities. The ‘clinics on wheels’ provide the full range of primary care services, such as physical exams, diagnostic tests, immunizations, referrals, and well-baby care.

Prairie Mountain Health implemented the initial Mobile Primary Health Care (PHC) route in January 2014. This initial route included the communities and surrounding areas of Tootinawaziibeeng First Nation, Birdtail Sioux First Nation, San Clara, Keeseekoowenin First Nation, McAuley, and Binscarth.

During this implementation period the Mobile Clinic visited each community one day, every 2 weeks.

The following chart shows the number of contacts for the providers on the mobile clinic (Primary Care Nurses [PCN] and Nurse Practitioners [NP]). The contacts are projected to the fiscal year end (March 2015) based on experience up to August 2014.
Other Primary Health Care Services

The region also provides primary health care services via:

Nurse Practitioners: Nurse Practitioners provide a range of primary care services. They diagnose and manage chronic health conditions, prescribe medications, order and manage the results of screening and diagnostic tests, and perform minor surgical procedures. Nurse Practitioners can practise independently and as a member of an Interprofessional team. In 2013, there were eight Nurse Practitioners employed in the region; their combined average monthly contacts with patients were 1,383. Nurse Practitioners currently serve the following locations (and surrounding areas): 7th Street Health Access Centre (Brandon), Wawanesa, Canupawakpa, Birtle, Russell, Waywayseecappo, Roblin, Grandview, Rideau Park PCH, Erickson, Carberry, Neepawa, Boissevain, and Killarney. The region does experience ongoing vacancies in Nurse Practitioner positions and has implemented strategies to recruit, support, and retain this valuable resource.

7th Street Health Access Centre: The Centre, which serves Brandon and area, employs the following staff members: Service Navigators, Cultural Facilitators, Consumer Peer Support Facilitator, Housing Resource Workers, Community Health Nurses, Community Social Worker, Community Mental Health Worker, Nurse Practitioner, Addictions Worker, Community Volunteer Income Tax Program volunteers, Manager
and support staff. Services range from preventative health care to service/resource navigation to harm reduction initiatives to community engagement supports to the homeless. In 2009, the Centre partnered with the Brandon Neighbourhood Renewal Corporation and the Brandon Ministerial Association, to establish an emergency fund to help low and no income individuals with emergent and urgent needs. The churches raise the funds and staff at the Centre screen clients and administer funds based upon needs and other available resources. In addition, staffing was increased in 2009 to ensure that a core set of services (Mental Health, Service Navigator, Housing Resource Worker, community health nursing, and reception) is available 7 days per week.

The total number of client visits to the Centre in 2013/14 was 11,180, some of whom may be repeat clients, not unique clients. In 2012, the Centre changed to an electronic statistic tracking system. Previously statistical reporting included all indirect client work (resource calls, advocacy, and letters); the current system does not record this work. While client contact trend data is not available, staff indicate the demand for service has been growing and having a full complement of services (including Nurse Practitioner and addictions worker) available seven days per week would better meet client needs.

**Primary Health Care Centres:** PMH has four Primary Health Care Centres (PHCC) in the North Zone of the region: Benito, Camperville, Ethelbert, and Waterhen. Each PHCC is staffed with a team of Community Health Nurses (CHNs), a Community Licensed Practical Nurse (CLPN), and Administrative Support staff. In addition to core Public Health Nursing services, the CHNs also provide the following primary care services:

- Treatment of minor illnesses and injuries
- Pregnancy testing
- Chronic disease self-management education and monitoring (such as vital signs and blood sugar readings)
- Dressing changes and wound care in the Centre for ambulatory clients
- Care coordination and support for transition back to the community after inpatient facility stays
- Cervical Cancer Screening (PAP tests) (NOTE: CHNs have medical delegation of function to provide this service in all PHCCs except Camperville at this time).

The Community Licensed Practical Nurse role is a blend of health promotion services as well as the following services:

- Collection of blood and other lab samples
- Support to the CHN in their Public Health Nursing duties
- Assistance in the above primary care services, except PAP tests.
Itinerant services are provided in these PHCCs from PMH programs including: Home Care, Community Mental Health Workers and Diabetes and Chronic Disease Educators (Nurse and Dietitian).

Additionally the region has three northern Community Health Offices in Alonsa, Duck Bay, and Crane River. Alonsa is staffed by a Community Licensed Practical Nurse. Duck Bay and Crane River are staffed with a Community Health Worker.

All Primary Health Care Centre CHNs, Community LPNs, and Community Health Office staff (Community LPN in Alonsa and Community Health Workers from Duck Bay and Crane River) are included in the following statistics:

Table 6.3 Number of Primary Health Care Centre Contacts in PMH, 2012/13 to July 31, 2014

<table>
<thead>
<tr>
<th>Years</th>
<th>Individual Client Contacts</th>
<th>Family Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/13</td>
<td>7,425</td>
<td>157</td>
</tr>
<tr>
<td>2013/14</td>
<td>8,294</td>
<td>131</td>
</tr>
<tr>
<td>Apr 1 – Jul 31/2014</td>
<td>1,961</td>
<td>69</td>
</tr>
</tbody>
</table>

Source: PMH PHCC Program Statistics, 2014

For too long, Canada’s health care system has been overly focused on treatment rather than prevention. A central focus of primary health care must be on preventing illness and injury and helping Canadians stay healthy. (Romanow, 2002)

PMH Primary Health Care services also include:

**Women’s Wellness Clinic** – Cervical Screening and clinical breast exams (Baldur, Birdtail Sioux First Nation, Birtle, Deloraine, Erickson, Hamiota, Hartney, Keeseekoowenin First Nation, Melita, Reston, Rossburn, Russell, Souris) completed by a trained female provider.

**Teen Clinics** – Provide a safe, confidential place for youth to deal with all their health care needs. A range in services is provided and may include the following staff: nurse practitioner, registered nurse, and mental health worker. Teen Clinics are offered in the three high schools in Brandon, Elton Collegiate, Swan River, and several schools in the Park West School Division.

**Midwifery Services** – Clinic located in Brandon. Midwives provide care in homes and in hospital. A midwife gives care and advice to women during pregnancy, labour, birth, and after the baby is born. Midwives can admit to and discharge from the hospital, order lab and ultrasound tests, and prescribe certain medications.
Health Links (Info Santé) – Health Links is a 24-hour, 7-days a week telephone service. Staffed by registered nurses with the knowledge to provide answers over the phone to health care questions and guide you to the care you need.

Health Promotion – Work with partners to assess, plan, implement, and evaluate health promotion strategies specific to identified health needs.

Healthy Together Now – Work with community partners and agencies to support chronic disease prevention activities.

Smoking Cessation – Individual and group education; resources to assist with quitting smoking.

Get Better Together! – Led by individuals living with chronic conditions, the program offers support and helps participants build the confidence to manage their health.

Craving Change – Is an educational program that assists participants to develop a healthier relationship with food.

Diabetes and Heart Health – Nurse/Dietitian teams help clients develop skills to manage their chronic condition. More details about this program can be found in the Diabetes and Cardiac sections of this report.

URIS (Unified Referral and Intake System) – Designed to support caregivers of children/youth with chronic diseases in schools, day cares, and respite. A registered nurse works together with parent/guardian to develop a plan that will direct the care of the child while they attend school or licensed day care. The nurse will also provide training to those who care for the child at these locations.

Prairie Mountain Health Primary Health Care delivers many programs aimed to prevent, treat and manage prevalent chronic illness. Program areas work together with partners and stakeholders to address underlying determinants of health and focus attention on those populations at most risk.
Primary Health Care Key Points

- There is variable utilization of primary care services across the Prairie Mountain Health region; utilization is impacted by health status, comorbidity, income, and availability.

- Transportation to access services was identified as a challenge for residents in First Nation communities.

- Supply and demand for primary care remains an issue for PMH; there is a need to continue to focus on building primary health care capacity within the region.

- Many innovative primary health care initiatives are underway in PMH; monitoring outcomes to determine impact on access, quality of care, and health status will provide the region with needed information for ongoing planning for program implementation and service delivery.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region Trend</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use of Physician</strong></td>
<td></td>
<td></td>
<td>Similar to MB rate. Brandon West End and Brandon North Hill districts are significantly higher than MB. The district of Asessippi was significantly lower than MB.</td>
</tr>
<tr>
<td>(% of population with at least one physician visit in given year)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of Physician</td>
<td>79% MB</td>
<td>←</td>
<td></td>
</tr>
<tr>
<td>Use of Physician</td>
<td>81% PMH</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ambulatory Visit Rate</strong></td>
<td></td>
<td>←</td>
<td>Similar to MB rate. Brandon was significantly higher than MB.</td>
</tr>
<tr>
<td>(average number of visits per resident per year)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambulatory Visit Rate</td>
<td>4.4 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambulatory Visit Rate</td>
<td>4.6 PMH</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ambulatory Consultation Rates</strong></td>
<td></td>
<td>←</td>
<td>Regional rate remains significantly lower than MB rate. Regional rate is increasing</td>
</tr>
<tr>
<td>(average number of consults per resident in a given year)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambulatory Consultation Rates</td>
<td>0.28 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambulatory Consultation Rates</td>
<td>0.23 PMH</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ambulatory Care Sensitive Conditions</strong> (hospitalization rates for ACSC per 1000 residents aged 0-74)</td>
<td>6.3 MB</td>
<td>←</td>
<td>Regional rate remains significantly higher than MB rate. Regional rate is decreasing</td>
</tr>
<tr>
<td><strong>Majority of Care (Continuity of Care)</strong></td>
<td></td>
<td>←</td>
<td>Regional percentage is significantly lower than MB rate. Three districts are significantly higher (Whitemud - 82%, Swan River -98%, and Porcupine Mountain -81%)</td>
</tr>
<tr>
<td><strong>Location of visits to Specialists (within home district)</strong></td>
<td></td>
<td>←</td>
<td>Most specialist care is available in Winnipeg or Brandon</td>
</tr>
<tr>
<td><strong>Location of visits to GP/FPs (within home district)</strong></td>
<td></td>
<td>←</td>
<td>PMH residents received most of their visits within PMH region</td>
</tr>
</tbody>
</table>
Chapter 7 Pre-Hospital and Acute Care Services

Pre-Hospital Services

Pre-Hospital Services include ambulance and ambulance dispatch services, emergency health preparedness, as well as hospital Emergency Department (ED) services.

Prairie Mountain Health Emergency Medical Services (EMS) operates 37 EMS stations located throughout the region. The majority of the region receives EMS from Prairie Mountain Health with the exception of Brandon which is provided by the Brandon Fire & Emergency Services (BFES), Gilbert Plains and Shilo which have service delivery contracts with PMH for the delivery of ambulance services. Prairie Mountain Health EMS currently has 106 full-time, 39 part-time and approximately 143 casual employees while BFES employs 109 cross trained Fire Fighter/Paramedics. Prairie Mountain Health and the contracted services follow the mandate that Emergency Medical Services within the Region are provided with the same level of care, regardless of where the patient is located. In the past five years, the Emergency Medical Services care provision has increased to include Advanced Life Support, while continuing to expand on the level of care that can be delivered safely prior to the patient’s arrival at the Emergency Department.

In 2008, the new educational minimum standard for EMS providers was changed to Emergency Medical Responder (EMR) from Basic First Aid (BFA). Casual EMS providers in PMH may be licensed at any approved level from Emergency Medical Responder to Technician Intermediate Paramedic, while it is preferred that EMS staff with part-time or full-time positions be licensed minimally at the Technician Paramedic level. Prairie Mountain Health has made considerable progress in the past several years with almost all full-time and part-time EMS positions now being held by Technician Paramedics or Technician Intermediate Paramedics (TIP). The three recognized classifications within PMH provide emergency care and treatment based upon the scope of practice for each applicable classification. Services provided meet or exceed the minimum standards required by provincial legislation.

As with several other professional groups, recruitment of EMS providers is an ongoing challenge within PMH. EMS profession awareness efforts include attendance at Brandon Career Symposium and Red River College career fairs. EMTech training is available to grade 11/12 students within the South Zone, with tentative plans to expand to other areas of PMH. The program is available through the Career and Technology program and students are able to obtain up to two high school credits upon successful completion. Over the past few years the program has proven quite successful, and many students who have taken the EMTech training during high school have continued with Primary Care Paramedic (PCP, entry-level of paramedic practice) training and moved into positions with PMH.
Between April 1, 2011 and April 1, 2014, Prairie Mountain Health EMS has met the benchmark of less than 30 minutes from the time of the call (received by 911) to arriving at the incident scene for 87% of primary calls (Medical Transportation Coordination Centre data, 2014). The response time target is slightly lower than the 30 minutes for 90% of the requests for services; however, wide ranging variability does exist within response times. Variability and increased response times within the region may be partly related to casual staff that do not live close to the EMS station. Prairie Mountain Health EMS is working with Manitoba Health, Healthy Living and Seniors, local governments and other stakeholders to develop a process to bring areas of extended response time within the expected target.

Prairie Mountain Health EMS responds to a large variety of emergency calls, with the majority being requests for assistance regarding cardiac, respiratory and diabetic emergencies. The majority of the requests for service from a traumatic injury perspective are due to falls and motorized vehicle accidents.

EMS staff respond to emergency calls, and also perform inter-facility transfers (IFT) on a daily basis. Primary call and IFT volumes for the North and South Zone of PMH increased between 2009/10 to 2013/14 by 1,477 and 1,535 respectively, representing a 4% volume increase over the 5 year period. The proportion of North and South Zone primary calls to IFT has remained close to 50:50. The following figure shows call volumes over a 5 year period for the North and South Zones of PMH. Please note that the following figure does not include Brandon Fire and Emergency Services call volumes.
Primary call and IFT volumes for the Brandon Zone of PMH are provided by Brandon Fire and Emergency Services and reported on a calendar year basis. Primary and IFT calls in the Brandon Zone increased between 2010 to 2013 by 127 and 219 respectively, representing a 2% volume increase over the 4 year period. The proportion of Brandon Zone calls over the 4 year period was 72% primary and 28% IFT.
Prairie Mountain Health EMS staff play a key role in a number of injury prevention programs throughout the region including bicycle safety, farm safety, car seat safety, water safety and Home Health and Safety Checks. Between 2011/12 and 2013/14:

- EMS staff delivered **Bicycle Safety** presentations to over 1,500 Grade 3 and 4 students covering topics such as safe cycling, brain injuries and proper sizing of helmets. Low cost bicycle helmets were also purchased and distributed to over 400 children in the region. Several EMS staff and managers were trained through Manitoba Public Insurance Corporation to be “Cycling Champions” and deliver programs to students, including bicycle rodeos.

- EMS staff partnered with Manitoba Agriculture Food and Rural Development (MAFRD) in the delivery of **21 Farm Safety** Days to over 2,400 Grade 5 and 6 students. Seven PMH EMS staff are trained as Coordinators of the Progressive Ag Farm Safety Program, with plans to train 4 additional staff.

- EMS staff, along with key partners like MAFRD and Manitoba Hydro, participated in Ag Days in Brandon. Each year a safety topic is highlighted including water and ice safety, all-terrain vehicle...
(ATV) safety, and tractor safety. EMS staff noted that presentations were well received and parents are seeking out the display to ensure that their children attend a safety presentation.

- Thirty-four EMS staff have been certified by St John’s Ambulance as Child Restraint System Technicians, which allows them to inspect installation of child car seats. Staff give educational sessions to expectant and new parents about car seat safety at Healthy Baby/Baby Steps programs (for further information on Healthy Baby/Baby Steps please refer to in the Public Health chapter). EMS staff have presented car seat safety at 56 Healthy Baby/Baby Steps programs. EMS staff observed that parents and grandparents are more conscientious with regards to appropriate seat selection and correct installation after attending Baby Steps. Staff indicate that there are an increasing number of parents contacting Health Promotion and EMS for car seat inspections; however due to EMS staff shortages, clinics are not currently being held.

- EMS staff delivered the Red Cross Open Water Wisdom program to over 30 PMH communities. The aim of the program is to help individuals adopt safer aquatic habits and ultimately reduce drowning and water emergencies in northern and rural communities for youth under the age of 19. Communities that participate in Open Water Wisdom receive several items, including an educational toolkit for youth and families (Canadian Red Cross website). EMS staff believe that the public has been receptive to this program and feedback has been very positive.

The Home Health and Safety Check (HH&S) involves a home inspection to identify safety hazards, especially those that could lead to falls. After the check is completed the resident is provided with the Idea List. Any areas of concern are highlighted and provide the resident with helpful ideas to improve home safety inside and outside of the home. Twelve EMS stations located in the South Zone of PMH are currently participating in HH&S Checks. Participants in the program can self-refer or be referred by Home Care. The program is promoted at Health Fairs and immunization clinics. Between September 2011 and April 2014, EMS received 185 referrals and completed 70 checks. EMS staff indicate that some of the challenges they face with completing checks are difficulty scheduling mutually acceptable times with referred clients, high call volumes restricting amount of time available for checks, and clients declining to participate in the program. PMH EMS is currently working towards expansion of the program to more communities within the region.

“I feel more aware and safe…”

“The HH&S Check brought attention to the need for carbon dioxide and smoke detectors…”

Feedback from Home Health and Safety Check clients
Hospital Emergency Departments

Hospital emergency services are provided at most acute health centres within Prairie Mountain Health (hospital Emergency Departments are not available at transitional health care centres, see Table 7.1).

Upon arrival at an Emergency Department, a patient is assessed (triaged). Triage is the process of determining the priority for patients to receive treatments based on the severity of their condition. The Canadian Triage and Acuity Scale (CTAS) levels are designed such that level 1 represents the sickest patients and level 5 represents the least ill group of patients.

**Level 1 – Resuscitation:** Conditions that are threats to life or limb (or imminent risk of deterioration) requiring immediate aggressive interventions. Some examples include: cardiac/respiratory arrest, major trauma, unconscious patients, severe respiratory distress.

**Level 2 – Emergent:** Conditions that are a potential threat to life limb or function, requiring rapid medical intervention or delegated acts. Some examples include: altered mental states, head injury, severe trauma, overdose.

**Level 3 – Urgent:** Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affecting ability to function at work or activities of daily living. Some examples include: moderate trauma, asthma, acute pain.

**Level 4 – Less Urgent:** Conditions that are related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within 1-2 hours. Some examples include: headache, foreign body in the eye, chronic back pain.

**Level 5 - Non Urgent:** Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration. The investigation or interventions for some of these illnesses or injuries could be delayed or even referred to other areas of the hospital or health care system. Some examples include: sore throat, mild abdominal pain which is chronic or recurring, with normal vital signs, vomiting alone and diarrhea alone.

Between 2010/11 and 2013/14 the majority of triaged visits to PMH emergency departments were assessed as less urgent (41.7%), followed by urgent (27.1%) and non-urgent (24.9%). In 2013/14 there was a total of 97,555 triaged visits to PMH Emergency Departments, down slightly from 101,378 triaged visits in 2012/13. In 2013/14, the PMH ED triaged visit rate was 584 per 1,000 residents. This means that approximately 2 out of 3 PMH residents were triaged in an ED in 2013/14; however it is important to note that ED visits may be repeat visits (e.g., same individual utilizing the ED multiple times per year). The following figure shows the number of triaged ED visits for 2012/13 and 2013/14 by triage level. It is
important to note that ED visits that were not assessed based on the CTAS, such as scheduled visits, are not included in the following figure.

**Figure 7.3 Number of Triaged Emergency Department Visits (1,000s) in PMH, 2012/13 and 2013/14**

Number of Triaged Visits to ED by CTAS Level

There have been occasional temporary suspensions of ED services as a result of reduced physician complement, diagnostic resources and nursing shortages in some communities within the region. Recruitment for physicians and nursing positions remains a priority for Prairie Mountain Health. PMH makes every effort to continually advertise vacancies in many of the communities that are experiencing staff shortages.

**Acute and Transitional Care Services**

Prairie Mountain Health operates twenty-nine health centres, of which twenty of these offer a range of acute care services. Acute care is treatment in which a patient is treated for a brief but severe episode of illness or injury. Care/treatment is administered with the goal of discharging the patient as soon as the patient is deemed healthy and stable, with appropriate discharge instructions. Currently, nine of the twenty-nine health centres in Prairie Mountain Health operate as transitional care health centres, and one of the nine offers inpatient orthopaedic rehabilitation services. They offer a nurse-managed care model to patients that are medically stable and do not require around the clock medical supervision.
and/or intervention. Transitional care patients may be waiting for placement in a personal care home or admitted for respite care, convalescence care or palliative care. Riverdale Health Centre (Rivers) provides primarily orthopaedic rehabilitation services, and is essentially a virtual ward of Brandon Regional Health Centre.

**Acute care hospitals** are defined as hospitals providing services such as emergency services and general and surgical treatments for acute disorders (Manitoba Centre for Health Policy website).

Specialized surgical services are provided at the health centre in Brandon. General and minor surgical interventions are available in Brandon, Dauphin, and Minnedosa. Neepawa, Souris and Swan River offer endoscopy procedures and minor surgical procedures not requiring general anesthesia. More details regarding PMH’s surgical program are provided later in this section. Obstetrical services are provided by Brandon, Dauphin and Neepawa health centres. Brandon also offers obstetrical services through the Midwifery program. Obstetrical services in Swan River have been suspended since 2012 due to physician resource challenges. As mentioned in the Pre-Hospital section, ongoing staff shortages and physician resources are a significant challenge for PMH and recruitment initiatives continue to be a top priority.

**Prairie Mountain Health Centres**

Forty-one percent (29) of Manitoba’s 71 health centres/hospitals are located in Prairie Mountain Health. The following table provides a list of facilities by type and the number of setup beds within that facility. The actual number of beds in use in each health centre can vary considerably over time and depends on staff levels, patient needs and other factors. The health centre type is based on volume and complexity of cases and health centre bed count. The majority (10 or 34%) of PMH’s facilities are ‘Small Rural’ (Fransoo R et al., September 2013).
Table 7.1 Health Centre Information, Prairie Mountain Health, 2009/10-2010/11

<table>
<thead>
<tr>
<th>Health Centre</th>
<th>Type</th>
<th>Number of Setup Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandon Regional Health Centre</td>
<td>Urban Community</td>
<td>315</td>
</tr>
<tr>
<td>Dauphin Regional Health Centre</td>
<td>Major Rural</td>
<td>92</td>
</tr>
<tr>
<td>Swan River Valley Hospital</td>
<td>Major Rural</td>
<td>52</td>
</tr>
<tr>
<td>Hamiota District Health Centre</td>
<td>Intermediate Rural</td>
<td>20</td>
</tr>
<tr>
<td>Minnedosa Health Centre</td>
<td>Intermediate Rural</td>
<td>27</td>
</tr>
<tr>
<td>Neepawa District Memorial Hospital</td>
<td>Intermediate Rural</td>
<td>35</td>
</tr>
<tr>
<td>Russell District Hospital</td>
<td>Intermediate Rural</td>
<td>31</td>
</tr>
<tr>
<td>Souris Health Centre</td>
<td>Intermediate Rural</td>
<td>27</td>
</tr>
<tr>
<td>Ste. Rose General Hospital</td>
<td>Intermediate Rural</td>
<td>25</td>
</tr>
<tr>
<td>Tri-Lake Health Centre (Killarney)</td>
<td>Intermediate Rural</td>
<td>22</td>
</tr>
<tr>
<td>Virden Health Centre</td>
<td>Intermediate Rural</td>
<td>25</td>
</tr>
<tr>
<td>Boissevain Health Centre</td>
<td>Small Rural</td>
<td>11</td>
</tr>
<tr>
<td>Carberry Plains District Health Centre</td>
<td>Small Rural</td>
<td>10</td>
</tr>
<tr>
<td>Deloraine Health Centre</td>
<td>Small Rural</td>
<td>14</td>
</tr>
<tr>
<td>Glenboro Health Centre</td>
<td>Small Rural</td>
<td>11</td>
</tr>
<tr>
<td>Grandview District Hospital</td>
<td>Small Rural</td>
<td>18</td>
</tr>
<tr>
<td>Melita Health Centre</td>
<td>Small Rural</td>
<td>11</td>
</tr>
<tr>
<td>Roblin District Health Centre</td>
<td>Small Rural</td>
<td>25</td>
</tr>
<tr>
<td>Shoal Lake-Strathclair Health Centre</td>
<td>Small Rural</td>
<td>12</td>
</tr>
<tr>
<td>Tiger Hills Health Centre (Treherne)</td>
<td>Small Rural</td>
<td>13</td>
</tr>
<tr>
<td>Winnipegosis General Hospital</td>
<td>Small Rural*</td>
<td>15</td>
</tr>
<tr>
<td>Baldur Health Centre</td>
<td>Transitional Care</td>
<td>14</td>
</tr>
<tr>
<td>Birtle Health Centre</td>
<td>Transitional Care</td>
<td>14</td>
</tr>
<tr>
<td>Erickson Health Centre</td>
<td>Transitional Care</td>
<td>9</td>
</tr>
<tr>
<td>McCreary/Alonsa Health Centre</td>
<td>Transitional Care</td>
<td>13</td>
</tr>
<tr>
<td>Reston Health Centre</td>
<td>Transitional Care</td>
<td>13</td>
</tr>
<tr>
<td>Rossburn District Health Centre</td>
<td>Transitional Care</td>
<td>9</td>
</tr>
<tr>
<td>Wawanesa and District Memorial Health Centre</td>
<td>Transitional Care</td>
<td>6</td>
</tr>
<tr>
<td>Riverdale Health Services District (Rivers)</td>
<td>Transitional Care**</td>
<td>14</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>29 Health Centres</strong></td>
</tr>
</tbody>
</table>

Source: MCHP – Who Is In Our Hospitals…and Why, 2013

* Winnipegosis and District Health Centre provided Acute/Emergency Department services on a consistent basis until the loss of the only primary care physician who retired in June 2012, as well as ongoing recruitment challenges related to Diagnostic Services. At this time and into the future the facility is not in the position to provide Acute/Emergency Department services. PMH is currently
proposing a pilot project for the region that focuses on Community Paramedicine. If successfully funded, it is anticipated that the Community Paramedicine Program would support meeting the emergent, urgent, illness and injury prevention, and chronic health needs of the Winnipegosis catchment area. The model would be built on the healthcare needs of the clients in the catchment area to achieve outcomes that are successful/sustainable working collaboratively with all stakeholders.

** Riverdale Health Services (Rivers) specializes in orthopaedic rehabilitation. Further details about the centre can be found later in this chapter.

**Recruitment Initiatives**

PMH continues to be challenged with high physician turnover through much of the region. Continuing to rely heavily on International Medical Graduates to staff small, rural health centres, has resulted in physician turnover every 2 to 3 years. The region works very actively with the Office of Rural and Northern Health, the Medical Rural Interest Group and the Family Medicine Residency Programs in Brandon and Dauphin to actively recruit Manitoba medical graduates. The Medical Services Team also works actively with numerous specialty programs in Winnipeg to ensure an adequate supply of specialists to Brandon and Dauphin.

Prairie Mountain Health has been involved in many recruitment initiatives in an effort to recruit nurses including regional interviews, a new graduate mentorship program, vacation relief positions, career fairs and financial incentives. Conducting regional nursing interviews is one strategy being undertaken with the Bachelor of Nursing (BN), Practical Nursing Diploma (LPN) and Health Care Aide students who are near completion of the program and interested in employment in PMH. The regional interview process alleviates multiple interviews being conducted throughout PMH, and assists in determining placement of the students.

Another initiative is the posting of summer Health Care Aide vacation relief positions (full and part-time term). These positions target second and third year BN nursing students. Since these nursing students have completed some of their nursing studies, they are considered trained Health Care Aides. These opportunities assist in the transition from HCA to Nurse within PMH.

PMH attends numerous career fairs to gain exposure to many students, public and communities. These include: the Brandon Career Symposium, University of Manitoba Nursing Faculty job fair, Red River College Student Association career fair, Brandon University Health Studies Career Day, Aboriginal Job Fair held in Brandon, and any invitations to high school career fairs.

Another approach to recruitment is offering nurse training closer to home. Red River College is operating a rotating cycle of intake for the LPN to BN Nursing Program within rural locations. The program is two years in length and within PMH, Dauphin and Neepawa alternate every second intake.

The Nurses Recruitment & Retention Fund of Manitoba offers new nurses a Conditional Grant of $4,000 to commit to work in a rural regional health authority for a 12 month service commitment in a 0.6 EFT or
higher permanent or term position. There are also grants targeted at nurses working in personal care homes, as well as relocation assistance to nurses relocating to Manitoba.

In November 2008, PMH participated in a provincial recruitment mission which involved Manitoba Health, College of Registered Nurses of Manitoba, and Manitoba Labour & Immigration to recruit Registered Nurses from the Philippines. A total of 89 nurses were recruited to PMH during this initiative. The nurses obtained temporary license from the College of Registered Nurses of Manitoba which allowed them to be employed as graduate nurses. In June 2009, the nurses began their orientation at Brandon University in preparation for writing the Canadian Registered Nurse Exam.

Within the South Zone, 34 Philippine nurse recruits were employed at multiple facilities. As of 2014, 16 remain in permanent positions, and 3 are casual. Within the North Zone, 33 nurses were recruited to multiple facilities. Of these nurses, 16 hold permanent positions and 3 stayed on casual. In the Brandon Zone, 22 nurses were recruited and at present, 17 are still employed. Almost 62% of these nurses have been retained successfully within PMH since the Philippine Nurse Recruitment Strategy began over five years ago.

Health Centre Utilization

Hospitalizations and Days of Care

Between 2009/10 and 2010/11, PMH health centres (903 beds in 29 facilities, including nine transitional care facilities) provided 22,114 hospitalizations and 227,869 days of care. The top causes of hospital use (service types) in Manitoba were: medical, pregnancy and birth, surgical, mental disorders and alternate level of care (ALC). The largest sub-category of ALC patients was the group awaiting placement in PCH or chronic care facilities.

The following table shows the PMH top causes of hospital use (by service type) and days of care. It should be noted that the percentages discussed here are based on all hospitalizations and days of care and will not match the annual average values reported in the following table; they are intended to show proportional comparisons of PMH with the Manitoba average. Within Prairie Mountain health centres, substantially higher percentages of hospitalizations (52.4%) and days of care (42.9%) were used by medical patients and substantially lower percentages were for surgical patients (13.9% and 10.5% respectively). Manitoba residents overall used about 44% of the days of hospital care for medical service types and about 20% for surgical service types. Hospitalizations (9.9%) and days of care (2.4%) for
pregnancy and birth for PMH residents were substantially lower than the provincial averages, while those for mental disorders (5.5% and 10.0% respectively) were slightly higher. The percentage of hospitalizations (2.5%) and days of care (22%) provided for alternate level of care (ALC) patients awaiting PCH placement were higher in PMH than provincial averages (Fransoo et al., September 2013). It is important to note that not all service types are displayed in the following table.

Table 7.2 Number of Hospitalizations and Days of Care for PMH Health Centres by Top Service Types, 2009/10-2010/11

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Hospitalizations</th>
<th>Days of care provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>11,755</td>
<td>97,802</td>
</tr>
<tr>
<td>Coded ALC awaiting Panel PCH/Chronic</td>
<td>550</td>
<td>50,057</td>
</tr>
<tr>
<td>Surgical</td>
<td>3,072</td>
<td>23,922</td>
</tr>
<tr>
<td>Mental Disorders</td>
<td>1,227</td>
<td>22,835</td>
</tr>
<tr>
<td>Pregnancy &amp; Birth</td>
<td>2,189</td>
<td>5,571</td>
</tr>
</tbody>
</table>

Source: MCHP – Who Is In Our Hospitals...and Why, 2013

During the time period 2009/10-2010/11, the residents of the Brandon Zone had a distinctly different pattern of hospital use compared to the residents of the South and North zones. Brandon residents used a lower percentage of hospitalizations and days of care for medical service types, but a higher percentage for surgical services, and pregnancy and birth. Residents of the South Zone had a higher percentage of their hospitalizations and especially days of hospital care coded as ALC awaiting PCH placement when compared to residents of the North Zone. The opposite was true for medical patients; the percentages were lower for residents of the South Zone when compared to the North Zone, who had a particularly high percentage of days of hospital care assigned to medical patients. This is most likely related to the presence of transitional care health centres within the South Zone. Many of the hospitalizations and the vast majority of days of care provided in these transitional care facilities were (coded as alternate level of care) for patients awaiting placement in PCH or chronic care (placement) needs.

Out of province hospitalizations rates were highest (4.4%) amongst residents of PMH (particularly those in the North and South Zone). This was likely due to the fact that for some residents, the closest hospital is in Saskatchewan, not Manitoba. These results are also affected by the amalgamation of RHAs. Because the new regions are larger, they include more hospitals, so a higher percentage of hospitalizations are classified as being within the patient’s home region.
Hospital Bed Supply

Hospital Bed Supply is the number of beds in acute care hospitals per region divided by the population of the region. Hospital Bed Supply provides an overall indication of the relative supply of beds across PMH and the change in supply over time. It should be noted that the hospital bed supply numbers include all beds within PMH health centres including those in transitional care facilities.

PMH’s hospital bed supply decreased between 2006/07 and 2011/12, driven by the relatively stable bed numbers and the increase in the region’s population (5.75 beds to 5.4 beds per 1,000 residents). In 2011/12, PMH had the highest hospital bed supply per 1,000 residents (5.4 beds) compared to the rest of the province (3.13 beds). It should be noted that the North Zone rate has remained stable over the two time periods while the South Zone and Brandon have seen a decrease.

![Figure 7.4 Hospital Bed Supply by Manitoba RHA and PMH Zone, 2006/07 and 2011/12](image-url)

Number of setup hospital beds per 1,000 residents

Source: MCHP RHA Indicators Atlas, 2013
Use of Hospitals

Use of Hospitals is the percent of residents who were admitted to an acute care hospital at least once in a fiscal year. This gives an indication of the accessibility of hospital care for local residents.

The proportion of PMH residents hospitalized at least once in a given year decreased between 2006/07 and 2011/12 (8.7% to 8.1%), but was still significantly higher than the Manitoba average (6.9% and 6.3% respectively) in both time periods.

In 2011/12, eleven out of the seventeen PMH districts had significantly higher percentages than the provincial average of 6.3%. The Agassiz Mountain district had the highest percentage at 12.3% followed by Porcupine Mountain (11.5%) and then Duck Mountain (10.1%). The lowest district rates were in Brandon West End (6.2%) followed by Brandon South End (6.5%) and Brandon North Hill (6.7%). Hospital use rates were strongly related to income, where lower income areas had a higher rate of hospitalizations (Fransoo R et al., October 2013).

Figure 7.5 Use of Hospitals by Manitoba RHA and PMH Zone, 2006/07 and 2011/12
Age- and sex-adjusted percent of residents (all ages) with at least one inpatient hospital stay per year

Source: MCHP RHA Indicators Atlas, 2013
CHAPTER 7: PRE-HOSPITAL AND ACUTE SERVICES

Major Change to Hospitalization Indicators

It is important to note that MCHP’s indicator of day surgery has changed substantially. The hospital abstract data system has always captured the large number of surgeries and procedures performed on an outpatient basis. However, many of these procedures were relatively minor interventions, which used to be informally referred to as “removal of lumps and bumps”. Therefore, MCHP developed methods in the 1990s to exclude these and count only relatively major procedures (e.g., those that required an operating room). With recent changes in coding systems and in how healthcare is delivered, it is no longer possible to produce a comparable indicator. Moreover, there was a key coding change in 2001 to exclude many of the minor interventions whose prior inclusion was the key motivator for having developed the MCHP indicator of major day surgeries in the first place.

Therefore, MCHP’s revised indicator of day surgery includes all procedures that are currently coded into Manitoba hospital abstracts. In terms of numbers, this identifies almost twice as many procedures as the previous “major” day surgery indicator. These numbers seem reasonable, given the long-term trend of increasing numbers of outpatient surgeries over time. This also has the advantage of including a number of important procedures that were excluded before because they are not provided in operating rooms (e.g., scoping procedures, cardiac catheterizations).

This change also affects the indicator related to hospitalizations. This indicator used to be called “hospital separations” and included day surgery procedures. These two ideas are now presented in separate indicators: one called “inpatient hospitalizations”, which includes only cases in which patients were admitted to acute hospital for at least one night, and the day surgery indicator described above. Note that patients receiving day surgery can also be admitted in which case they are counted in both indicators.

Inpatient Hospitalization

Inpatient hospitalizations are hospitalizations during which patients are formally admitted to the hospital for diagnostic, medical, or surgical treatment and typically stay one or more days. The inpatient hospitalization rate is the total number of inpatient hospitalizations 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 hospitalizations from acute facilities by all residents of the area (Fransoo et al., October 2013).

The rate of PMH inpatient hospitalizations decreased between 2006/07 and 2011/12 (133.6 to 122.2 per 1,000 residents), but was still significantly higher than the Manitoba average (97.5 and 87.9 per 1,000 residents respectively) in both time periods.

In 2011/12, five out of the seventeen PMH districts had significantly higher rates than the provincial average of 87.9 per 1,000 residents. The Agassiz Mountain district had the highest rate at 211.5 per 1,000 residents followed by Porcupine Mountain (186.1), Duck Mountain (161.2), Swan River (134.9) and then Assiniboia (126.9). The lowest district rates were in Brandon South End (77.7) followed by Brandon West End (78.1).
A higher proportion of hospitalizations in the Brandon Zone were outpatient services. These residents used the hospital, but were not admitted (for overnight stays) as often. Inpatient hospitalization rates were strongly related to income, where lower income areas had hospitalization rates almost double those of higher income areas (Fransoo R et al., October 2013).

**Day Surgery**

Day Surgery rates are the number of day surgery hospitalizations per 1,000 residents in a given year. Day surgery is defined as surgical services received on an outpatient basis and are typically less than one day. Multiple admissions of the same person were counted as separate events (Fransoo R et al., October 2013).

The rate of PMH day surgery hospitalizations increased between 2006/07 and 2011/12 (80.9 to 89.8 per 1,000 residents) as did the Manitoba average (71.4 to 72.2 per 1,000 residents). PMH’s day surgery hospitalization rate in the second time period (2011/12) was significantly higher than the provincial average and the rate of change between the two time periods was statistically significant for the region. In 2011/12, thirteen out of the seventeen PMH districts had significantly higher percentages than the provincial average of 72.2 per 1,000 residents. The Brandon North Hill district had the highest rate at 119.4 per 1,000 residents followed by Brandon South End (117.3) and Agassiz Mountain (110.7). The lowest district rates were in Swan River (70.9) and Asessippi (72.6). Day Surgery Hospitalization rates in PMH had an unusual pattern among some of the districts. Some of the healthiest districts had the highest rates and some of the less healthy districts had lower rates. This is the reverse of what might be expected.
**Figure 7.6 Day Surgery Hospitalization Rate by Manitoba RHA and PMH Zone, 2006/07 and 2011/12**

Age- and sex-adjusted rate of hospitalizations per 1,000 residents

<table>
<thead>
<tr>
<th>Zone</th>
<th>2006/07</th>
<th>2011/12</th>
<th>MB Avg 2006/07</th>
<th>MB Avg 2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern</td>
<td>75</td>
<td>70</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>Winnipeg</td>
<td>60</td>
<td>55</td>
<td>65</td>
<td>60</td>
</tr>
<tr>
<td>Prairie Mountain</td>
<td>80</td>
<td>75</td>
<td>85</td>
<td>80</td>
</tr>
<tr>
<td>Interlake-Eastern</td>
<td>90</td>
<td>85</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>Northern</td>
<td>100</td>
<td>95</td>
<td>105</td>
<td>100</td>
</tr>
<tr>
<td>Manitoba</td>
<td>110</td>
<td>105</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>PMH South Zone</td>
<td>105</td>
<td>100</td>
<td>110</td>
<td>105</td>
</tr>
<tr>
<td>PMH Brandon Zone</td>
<td>100</td>
<td>95</td>
<td>100</td>
<td>95</td>
</tr>
<tr>
<td>PMH North Zone</td>
<td>110</td>
<td>105</td>
<td>110</td>
<td>110</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

**Hospital Days Used in Short Stays**

Hospital days used in short stays measures the number of hospital days used in short stays (under 14 days) per 1,000 residents per year (rates are age-and sex adjusted to the Manitoba population in 2006/07). If a resident had more than one short hospitalization in the period, the days used in all short hospitalizations were summed.

The PMH number of days used in short stays decreased between 2006/07 and 2011/12 (385 to 324 days per 1,000 residents per year) as did the Manitoba average (288 to 247), but the decrease was not statistically significant. All three PMH zones had a slight decrease.

For crude rate of days used in short stays per 1,000 residents in 2011/12, the North Zone at 492 days per 1,000 residents was the highest in the province. In the same time period the provincial crude rate was 259 days per 1,000 residents. It has been suggested that in the North Zone, people may travel a long distance to seek care, and transportation can also be an issue. For this reason, the patient may be admitted overnight because they may not have access to timely transportation nor anywhere to stay.
until they can arrange transportation home. In addition to transportation challenges, the higher number of First Nations’ visits from the surrounding communities, elderly population in the catchment area, shortage of home care resources, wait times for diagnostic procedures as well as wait times for referrals to specialists may impact the crude rate of days used in short stays within the North Zone.

In 2011/12, eight out of the seventeen PMH districts had a significantly higher short stay rate than the provincial number of days used in short stays of 247 days per 1,000 residents per year. All districts in the North Zone were statistically higher than the provincial rate along with the Assiniboia district in the South and the East district in Brandon. The Porcupine Mountain district had the highest rate at 550 days per 1,000 residents per year, whereas Brandon West End has the lowest rate at 234 days per 1,000 residents per year. Brandon’s South and West districts and the South Zone’s Turtle Mountain and Souris River districts have seen a significant decrease over time. Days used in short stays were strongly related to income in both 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 (Fransoo R et al., October 2013).

**Hospital Days Used in Long Stays**

Hospital days used in long stays measures the number of hospital days used in long stays (14 to 365 days) per 1,000 residents per year (rates are age-and sex adjusted to the Manitoba population in 2006/07). If a resident had more than one long hospitalization in the period, the days used in all long hospitalizations were summed. Each hospitalization was limited to 365 days as the maximum length of stay.

The rate of hospital days used for long stays in PMH is similar to the provincial rate. The PMH number of days used in long stays decreased between 2006/07 and 2011/12 (742 to 674 days per 1,000 residents per year) as did the Manitoba average (640 to 567 days), but the decrease was not statistically significant. All three PMH zones had a slight decrease.

For crude rate of days used in long stays per 1,000 residents in 2011/12, the South Zone at 1,021 days per 1,000 residents was the highest in the province. In the same time period the provincial crude rate was 569 days per 1,000 residents. This is probably related to the number of transitional sites located in this area. In addition, this area has an older population so the needs may be greater.

Rates varied dramatically amongst PMH districts, although none were statistically different from the provincial average. Agassiz Mountain, Porcupine Mountain, Brandon East End, Brandon North Hill, and Little Saskatchewan districts all had a slight increase in their long stay days between 2006/07 and 2011/12, whilst the remaining districts saw a slight decrease. In 2011/12, Brandon Downtown district had the highest rate at 1,233 days per 1,000 residents per year, whereas Brandon South End has the lowest rate at 384 days per 1,000 residents per year. Days used in long stays were significantly related to income in urban and rural areas in both time periods. Long stay days used among residents of lower income areas were more than double those in higher income areas (Fransoo R et al., October 2013).
In and Out Flow of RHA Inpatients

In and out flows of inpatients looks at both hospital location (where RHA residents were hospitalized, and days) and hospital catchment (where patients using RHA hospitals came from, and days) and are crude values. If a patient is transferred between hospitals, each stay is counted as a separate event and is attributed to the appropriate location/catchment.

This indicator reflects the balance between the quantity of hospital stays provided to both residents and non-residents by all relevant facilities (acute care/same-day surgery) in a given region and the extent of utilization by residents of that region, whether they receive care within or outside of the region.

For each (new) health region in Manitoba, most of the region’s hospitalizations were for residents of that region. With the amalgamations a higher proportion of hospital patients are now regional residents because former “neighbouring RHAs” are now part of the same region. This was most prominent in PMH (Fransoo R et al., October 2013).

The majority of hospitalizations of Manitoba residents occurred either in their home region or in Winnipeg. For 2011/12, PMH residents compared to the residents of other RHA’s, had the second highest proportion of hospitalizations, 80.8%, occurring in region. PMH residents had the lowest provincial percentage of hospitalizations in Winnipeg at 13.6% and the highest provincial percentage of residents hospitalized out-of-province at 2.3%.

Table 7.3 Hospital Location: Where PMH Patients Went for Hospitalizations/Days, 2011/12
Crude values

<table>
<thead>
<tr>
<th></th>
<th>Hospitalizations / Days used by PMH residents</th>
<th>PMH Hospital</th>
<th>Other RHA Hospital</th>
<th>Winnipeg Hospital</th>
<th>Out of Province Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMH hospitalizations</td>
<td>40,119</td>
<td>80.8%</td>
<td>3.2%</td>
<td>13.6%</td>
<td>2.3%</td>
</tr>
<tr>
<td>PMH days</td>
<td>234,938</td>
<td>90.0%</td>
<td>1.3%</td>
<td>7.0%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

Of the three PMH zones, residents of the North Zone had the highest percentage of both residents being hospitalized and hospital days occurring in a Winnipeg hospital or an out of province hospital.
Table 7.4 Hospital Location: Where PMH Zone Patients Went for Hospitalizations/Days, 2011/12
Crude values

<table>
<thead>
<tr>
<th></th>
<th>Hospitalizations / Days used by Zone residents</th>
<th>Zone Hospital</th>
<th>Outside of Zone Hospital or Other RHA Hospital</th>
<th>Winnipeg Hospital</th>
<th>Out of Province Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone hospitalizations</td>
<td>16,734</td>
<td>37.7%</td>
<td>46.9%</td>
<td>12.9%</td>
<td>2.5%</td>
</tr>
<tr>
<td>South Zone days</td>
<td>108,915</td>
<td>68.4%</td>
<td>23.5%</td>
<td>6.5%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Brandon Zone hospitalizations</td>
<td>11,044</td>
<td>81.9%</td>
<td>6.5%</td>
<td>10.8%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Brandon Zone days</td>
<td>64,157</td>
<td>90.8%</td>
<td>4.4%</td>
<td>4.2%</td>
<td>0.6%</td>
</tr>
<tr>
<td>North Zone hospitalizations</td>
<td>12,341</td>
<td>69.9%</td>
<td>9.7%</td>
<td>17.0%</td>
<td>3.3%</td>
</tr>
<tr>
<td>North zone days</td>
<td>61,866</td>
<td>80.8%</td>
<td>5.3%</td>
<td>11.0%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

In 2011/12, 92% of admissions to PMH hospitals were PMH residents. This follows through for where RHA hospital patients came from for hospital days. In 2011/12, 95.6% of hospitals days were for residents of PMH.

Table 7.5 Hospital Catchment: Where Hospital Patients Came From for PMH Hospitalizations/Days, 2011/12
Crude values

<table>
<thead>
<tr>
<th></th>
<th>Hospitalizations / Days Provided by PMH Hospitals</th>
<th>PMH Residents</th>
<th>Other RHA Residents</th>
<th>Winnipeg Residents</th>
<th>Non-Manitobans</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMH hospitalizations</td>
<td>35,271</td>
<td>92.0%</td>
<td>3.9%</td>
<td>0.5%</td>
<td>3.7%</td>
</tr>
<tr>
<td>PMH days</td>
<td>221,231</td>
<td>95.6%</td>
<td>2.0%</td>
<td>0.5%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013
Table 7.6 Hospital Catchment: Where Hospital Patients Came From for PMH Zone Hospitalizations/Days, 2011/12

<table>
<thead>
<tr>
<th></th>
<th>Hospitalizations / Days Provided by PMH Hospitals</th>
<th>Zone Residents</th>
<th>Outside of Zone Resident or Other RHA Residents</th>
<th>Winnipeg Residents</th>
<th>Non-Manitobans</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>7,497</td>
<td>84.1%</td>
<td>13.0%</td>
<td>0.4%</td>
<td>2.6%</td>
</tr>
<tr>
<td>South Zone days</td>
<td>80,774</td>
<td>92.2%</td>
<td>5.7%</td>
<td>0.4%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>18,338</td>
<td>49.3%</td>
<td>45.1%</td>
<td>0.5%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Brandon Zone days</td>
<td>87,921</td>
<td>66.3%</td>
<td>30.9%</td>
<td>0.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>North Zone</td>
<td>9,436</td>
<td>91.5%</td>
<td>6.1%</td>
<td>0.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>North Zone days</td>
<td>52,536</td>
<td>95.2%</td>
<td>2.3%</td>
<td>0.8%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

Hospitalization Causes

Causes of hospitalization are the most frequent reasons for inpatient hospitalizations and day surgeries. Causes of hospitalizations for PMH residents have remained fairly stable over time. In 2011/12 the top five causes of hospitalization for residents of PMH were digestive diseases, health status and contact, circulatory diseases, cancer, and pregnancy and birth. Provincially the top five causes are digestive diseases (17.0%), pregnancy and birth (10.7%), health status and contact (10.1%), circulatory disease (9.0%), and cancer (8.2%). Health status and contact includes a large number of issues not necessarily connected to a specific diagnosis or disease. This includes procedures such as colonoscopies, sterilization procedures, convalescence, follow-up after surgery or palliative care.
Table 7.7 Most Frequent Cause of Hospitalizations for PMH, 2006/07 and 2011/12
Average annual crude percent

<table>
<thead>
<tr>
<th>Causes of Hospitalization</th>
<th>2011/12</th>
<th>2006/07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digestive</td>
<td>18.7%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Health Status and Contact</td>
<td>10.9%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Circulatory</td>
<td>8.6%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Pregnancy and Birth</td>
<td>7.5%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Cancer</td>
<td>8.3%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Respiratory</td>
<td>6.4%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Injury and Poisoning</td>
<td>6.5%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>5.8%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Genitourinary and Breast</td>
<td>5.3%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Ill-Defined Conditions</td>
<td>5.1%</td>
<td>5.2%</td>
</tr>
<tr>
<td>All Others</td>
<td>17.1%</td>
<td>16.9%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

Causes of hospital days are the most frequent reasons for hospital days used during inpatient hospitalizations and day surgeries. The most frequent causes of hospital days used in 2011/12 differed from the most frequent causes of hospitalization. In PMH by far the most frequent cause of hospital days, 27.2%, was related to health status and contact. For Manitobans, the top diagnoses within health status and contact was people awaiting placement in personal care homes, palliative care, and rehabilitation and other services.
Table 7.8 Most Frequent Cause of Hospital Days of Care for PMH, 2006/07 and 2011/12
Average annual crude percent

<table>
<thead>
<tr>
<th>Causes of Hospital Days Used</th>
<th>2011/12</th>
<th>2006/07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Status and Contact</td>
<td>27.2%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>11.3%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Circulatory</td>
<td>9.7%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Respiratory</td>
<td>7.6%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Digestive</td>
<td>5.9%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Injury and Poisoning</td>
<td>6.7%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Cancer</td>
<td>4.6%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Ill-Defined Conditions</td>
<td>4.8%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>4.2%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Endocrine and Metabolic</td>
<td>3.4%</td>
<td>3.5%</td>
</tr>
<tr>
<td>All Others</td>
<td>14.5%</td>
<td>13.5%</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

Hospital Readmission

Hospital readmission rates are the percent of hospital episodes after which the patient was admitted again to any hospital within one to thirty days of discharge (age-and sex-adjusted to the Manitoba population in 2006/07). Only unplanned inpatient readmissions were counted.

From 2006/07 to 2011/12, PMH had a significant decrease in readmission rates (10.9 % to 9.8%) but was still significantly higher than the provincial average in both time periods (9.3% to 8.5% respectively). Readmission rates were strongly related to income in both urban and rural areas in both time periods. The relationship was stronger across rural income groups (Fransoo R et al., October 2013).

In 2011/12, the PMH North Zone districts of Agassiz Mountain (13.3%) and Porcupine Mountain (11.6%) had statistically higher readmission rates than the provincial average (8.5%). The Brandon South End district at 5.1% had a statistically lower rate than the provincial average and also had a significant decrease between 2006/07 and 2011/12 (8.8% to 5.1%).
In 2011/12, for Manitoba overall, the strongest predictor of hospital readmission by patient group were:

- **medical** – number of previous hospitalizations
- **surgical** – sickness level
- **mental illness** – number of previous hospitalizations, and
- **obstetric** – length of stay (less than expected length of stay).

**Unintentional Injury Hospitalization Rate**

The annual unintentional injury hospitalization rate was calculated as the number of unintentional injury hospitalizations in a given year (based on the year of admission date), per 100,000 population as of June 1st of the same year. Rates were directly age-standardized to the 2006 Canadian population (provided by Statistics Canada). Examples of unintentional injuries include motor vehicle collisions, falls, burns, cuts, overexertion and poisoning.
In the 10 year period 2003 to 2012, PMH’s age standardized total unintentional injury hospitalization rate was higher than the Manitoba average and increasing (see following figure). PMH’s 10 year average was 919.0 unintentional injury hospitalizations per 100,000 population whilst Manitoba’s 10 year average was 668.1 per 100,000 and decreasing.

The following table shows the 5 year average comparison between Manitoba and PMH for males and females. Across the two 5 year time periods, PMH’s 5 year average unintentional injury hospitalization rate was higher than the Manitoba average for both males and females. PMH’s female average rate increased over time, whilst PMH’s male 5 year average rate decreased slightly. In common with the province as a whole, the rate for males is higher than the rate for females.
Figure 7.9 Unintentional Injury Hospitalization Rate, Manitoba and PMH 5 year average by sex, 2003-2007 and 2008-2012
Age standardized rate per 100,000 population

From 2000 to 2012, the majority of unintentional injury hospitalizations occurred in the PMH total population aged 65 and up (53% / 11,736 hospitalizations). When looking at females, they also had the majority of unintentional injury hospitalizations in the 65 and up age groups (65.7% / 7,744 hospitalizations), whereas for PMH males the percentage was lower (38.2% / 3,992 hospitalizations).

When comparing age-specific total unintentional injury hospitalization rates, PMH was higher than the Manitoba average across all age categories (see the following figure). The difference was considerably higher in the 85 and up age category with PMH’s total rate at 7,849.3 compared to the provincial average age-specific rate of 6,425.5 hospitalizations per 100,000 population.
Injury Causes of Hospitalization

Injury related hospitalization rate by cause was calculated as the number of injury hospitalizations by cause in a given year (based on the year of admission date), per 100,000 population as of June 1st of the same year. Rates were directly age-standardized to the 2006 Canadian population (provided by Statistics Canada).

Between 2000 and 2012, the top five causes of injury hospitalizations (age-standardized rate) for PMH were falls, self-inflicted injuries, motor vehicle collisions (MVC), transport (other) and assault. PMH’s total age-standardized rates were higher than the provincial average for falls, self-inflicted injuries, MVC and transport, but not for assaults as shown in the following table. Note that for males, self-inflicted and falls rates were lower than for females, whilst rates for MVC, transport and assault were higher for males than females for both PMH and the province as a whole.
### Table 7.9 Injury related hospitalization rate for PMH by top five total causes, 2000-2012

Age-standardized rate per 100,000 population

<table>
<thead>
<tr>
<th></th>
<th>PMH Total Rate</th>
<th>Manitoba Total Rate</th>
<th>PMH Female Rate</th>
<th>Manitoba Female Rate</th>
<th>PMH Male Rate</th>
<th>Manitoba Male Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls</td>
<td>500.8</td>
<td>400.5</td>
<td>540.7</td>
<td>428.4</td>
<td>439.4</td>
<td>350.2</td>
</tr>
<tr>
<td>Self-Inflicted</td>
<td>110.5</td>
<td>66.9</td>
<td>153.2</td>
<td>87.5</td>
<td>68.0</td>
<td>46.7</td>
</tr>
<tr>
<td>Motor vehicle collisions</td>
<td>87.9</td>
<td>62.7</td>
<td>71.2</td>
<td>51.7</td>
<td>105.1</td>
<td>73.9</td>
</tr>
<tr>
<td>Transport, other</td>
<td>61.6</td>
<td>31.9</td>
<td>36.2</td>
<td>18.1</td>
<td>87.3</td>
<td>46.0</td>
</tr>
<tr>
<td>Assault</td>
<td>57.2</td>
<td>64.1</td>
<td>31.4</td>
<td>27.3</td>
<td>82.7</td>
<td>100.7</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Injuries Report, 2000-2012

Prairie Mountain Health's leading causes of injury hospitalizations by age-group for the time period 2000-2012 are shown in the following table. The top 3 age-specific injury hospitalization rates by leading causes are shown for each age-group. For the less than 1 to 14 years of age groups, falls was the leading cause of injury hospitalizations within the region. For the age group 15 to 34 years of age, the leading cause of injury hospitalization was self-inflicted injuries. For the age group 35 to 85+ years of age, the leading cause of injury hospitalization was falls. The highest age-specific rate was in the 85+ age group with falls accounting for 7,035.0 hospitalizations per 100,000 population.
### Table 7.10 Leading Causes of Injury Hospitalizations for PMH by Age Group, 2000-2012

*Age-specific rate per 100,000 population*

<table>
<thead>
<tr>
<th>Age-group</th>
<th>#1 ranked leading cause</th>
<th>#2 ranked leading cause</th>
<th>#3 ranked leading cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>Falls 159.0</td>
<td>Assault 47.7</td>
<td>Struck by or against 27.8</td>
</tr>
<tr>
<td>1 – 4</td>
<td>Falls 167.2</td>
<td>Poisoning 92.0</td>
<td>MVC 24.7</td>
</tr>
<tr>
<td>5 – 9</td>
<td>Falls 194.7</td>
<td>Struck by or against 36.8</td>
<td>Pedal Cyclist, Other 25.3</td>
</tr>
<tr>
<td>10 – 14</td>
<td>Falls 172.8</td>
<td>Struck by or against 89.9</td>
<td>Transport, Other 67.4</td>
</tr>
<tr>
<td>15 – 19</td>
<td>Self-inflicted 219.8</td>
<td>MVC 172.6</td>
<td>Assault 132.8</td>
</tr>
<tr>
<td>20 – 24</td>
<td>Self-inflicted 199.3</td>
<td>Assault 161.2</td>
<td>MVC 156.1</td>
</tr>
<tr>
<td>25 – 34</td>
<td>Self-inflicted 205.0</td>
<td>Falls 149.5</td>
<td>Assault 133.4</td>
</tr>
<tr>
<td>35 – 44</td>
<td>Falls 190.3</td>
<td>Self-inflicted 186.2</td>
<td>MVC 90.1</td>
</tr>
<tr>
<td>45 – 54</td>
<td>Falls 245.0</td>
<td>Self-inflicted 102.3</td>
<td>MVC 77.7</td>
</tr>
<tr>
<td>55 – 64</td>
<td>Falls 459.8</td>
<td>MVC 65.3</td>
<td>Self-inflicted 56.5</td>
</tr>
<tr>
<td>65 – 74</td>
<td>Falls 890.0</td>
<td>MVC 88.5</td>
<td>Unspecified 69.4</td>
</tr>
<tr>
<td>75 – 84</td>
<td>Falls 2,745.9</td>
<td>Unspecified 162.3</td>
<td>MVC 121.9</td>
</tr>
<tr>
<td>85 +</td>
<td>Falls 7,035.0</td>
<td>Unspecified 267.6</td>
<td>MVC 92.5</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Injuries Report, 2000-2012
Surgical Program

Prairie Mountain Health currently has six facilities offering varying degrees of general surgical interventions:

- Brandon Regional Health Centre offers major and minor surgery as well as specialized surgery inclusive of orthopaedic surgery (total joint arthroplasty, spinal with minor orthopedic procedures), obstetrical/gynecological, ophthalmology, urology, thoracic, and vascular. Brandon also has an itinerant ear, nose and throat surgical program.

- Dauphin Regional Health Centre offers major and minor surgery including procedures such as hernia repair, major and minor abdominal cases, amputation, debridement, other minor orthopaedic surgical procedures, gynecologic/obstetrical cases, minor urology, and minor vascular cases. Endoscopy services are also available in Dauphin.

- Swan River Valley Hospital offers itinerant endoscopy procedures, itinerant ophthalmology (e.g., cataract removal and lens implant) and itinerant maxillofacial surgery (mainly dental extractions). Some minor surgical procedures are performed by itinerant surgeons.

- Minnedosa Health Centre has a General Practice Surgeon and General Practice Anesthetist, performing general surgical procedures (general anesthetic and non-general anaesthetic) as well as itinerant ophthalmology (e.g., cataract removal and lens implant) and itinerant minor orthopedic surgery.

- Neepawa Health Centre has a General Practice Surgeon and General Practice Anesthetist, performing general surgical procedures (general anesthetic and non-general anaesthetic) as well as endoscopy and itinerant ear, nose, and throat surgery. NOTE: There is currently a temporary suspension in non-itinerant surgical services at the Neepawa Health Centre. A new General Practice Surgeon is scheduled to start in Neepawa in July of 2015. The GP Surgeon will perform both surgery and endoscopy as has been offered in past practice.

- Souris Health Centre offers itinerant endoscopy procedures and other minor surgery under local anesthesia such as hernia repairs, carpal tunnel repairs, biopsies, excision of lesions, and vasectomies. NOTE: With the pending retirement of the itinerant General Surgeon in December 2014, this service will be reviewed.

Between 2010/11 and 2013/14, total PMH surgery cases increased by 1.3% (759 cases). Surgery cases for inpatient, same day care and endoscopy are shown in the following figure, with the exception of the Brandon endoscopy program. The Brandon endoscopy program statistics are reported separately from the PMH surgical program, whereas in the other sites, the endoscopy program is part of the surgical program. Between 2010/11 and 2013/14, the Brandon endoscopy program performed an average of 7,216 procedures per year.
Tonsillectomy / Adenoidectomy

Regional variations in tonsillectomy rates have been raised as a quality of care question in Manitoba and can suggest ‘clinical uncertainty’ around indications for this surgical procedure. This uncertainty can mean that patients may unnecessarily undergo a surgical procedure with all of its attendant risks and with little benefit.

Between 2002/03-2006/07 and 2007/08-2011/12, PMH’s tonsillectomy/adenoidectomy rate increased significantly (6.3 to 9.1 per 1,000, 0 to 14 years of age). Prairie Mountain Health’s tonsillectomy/adenoidectomy rate in the second time period (9.1 per 1,000) was significantly higher than the Manitoba average (5.1 per 1,000) and was the highest in the province. At the zone level, the tonsillectomy rate was significantly higher in all three PMH zones when compared to the province and the zone rates increased significantly between the two time periods. The highest zone rate was in Brandon at 9.5 per 1,000, 0 to 14 years of age.
At the district level, 13 of the 17 districts had rates significantly higher than the provincial average in the second time period. In 2007/08-2011/12, the highest rates within PMH Districts were found in Brandon Districts: Brandon North Hill (12.0), Brandon East End (10.0), Brandon West End (9.5), and Brandon South End (9.3). The lowest tonsillectomy rates were found in Swan River (1.8), Porcupine Mountain (3.4), Duck Mountain (4.8) and Asessippi (4.9).
Therapy Services

Prairie Mountain Health’s Therapy Services program is an interdisciplinary team comprised of Physiotherapists (PT), Occupational Therapists (OT), Speech Language Pathologists (SLP), Audiologists, FASD (Fetal Alcohol Spectrum Disorder) Diagnostic Coordinators, Recreation Therapists and Rehabilitation Assistants. Services are provided to all ages and in various settings including hospitals, personal care homes, and community settings like client’s homes. Therapy Services, as a partner in Community Therapy Initiatives (CTI) with school divisions and other provincial services, provide services to infants and children. The region currently employs 34 (30.2 EFT) Physiotherapists, 32 (24.6 EFT) Occupational Therapists, 27 Rehabilitation Assistants, 2 Recreation Therapists, 11 (11.0 EFT) Speech-Language Pathologists, and 3 (3.0 EFT) Audiologists.

Therapy services staff are primarily involved in their respective aspects of assessment, intervention, program planning and implementation, discharge planning and follow-up of referred patients. PT interventions can include personalized therapeutic exercise including testing and conditioning, neurotherapeutic (the treatment of disorders that affect the nervous system such as multiple sclerosis) approaches to improve strength, range of motion, and function; soft tissue and manual therapy techniques; including massage, spinal and peripheral joint mobilization; cardiorespiratory techniques including airway clearance methods; skin and wound care; and prescription, fabrication and application of assistive, adaptive, supportive and protective devices and equipment (Canadian Physiotherapy website).

OT’s perform functions that can include: assessment, intervention and evaluation of the client related to occupational performance in self-care, work, study, volunteerism and leisure; advising on health risks in the workplace, safe driving for older adults, and programs to promote mental health for youth; and manager, researcher, program developer or educator in addition to the direct delivery of professional services (Canadian Association of Occupational Therapists website).

SLP’s scope of clinical practice can include: the assessment of speech and language functions and the treatment and prevention of speech and language dysfunctions or disorders to develop, maintain, rehabilitate or augment oral motor or communicative functions; and the identification, assessment, treatment and (re)habilitation and prevention of communication and/or swallowing disorders in children and adults including language delay and disorders, alternative and augmentative communication needs, apraxia (speech disorder in which a person has trouble saying what he or she wants to say correctly and consistently), dysarthria (motor speech disorder resulting from neurological injury), developmental articulation/phonology and motor speech impairment not otherwise specified, stroke, head injuries, cognitive disorders, hearing impairment and progressive neurological diseases. Audioligists scope of clinical practice can include: the assessment of auditory function and the treatment and prevention of auditory dysfunction to develop, maintain, rehabilitate or augment auditory and communicative functions; the prevention, identification, assessment, treatment and (re)habilitation of auditory and balance difficulties in children and adults including auditory function, vestibular function (sense of balance), tinnitus (ringing or buzzing in the ears), auditory processing disorders, and cerumen (earwax) management; and prescription and dispensing of hearing aids,
cochlear and middle ear implants, as well as assistive listening and alerting devices (College of Audiologist and Speech-Language Pathologists of Ontario website).

Therapy Services offer a number of programs throughout the region. One of their newest programs, the Functional Independence Program (FIP), began in July 2014. The program currently targets the areas of Brandon, Melita, Virden as well as Roblin, Ste. Rose, McCreary and Dauphin. A team of PTs, OTs and Rehabilitation Assistants work together with the patient, family, Home Care and other members of the health care team to provide the right therapy, at the right time, in the right place. Key goals of the FIP are to enable individuals to stay at home longer, maximize their independence, mobility and balance, reduce the risk of falls and ultimately reduce PCH placement and hospital admissions. The program promotes client strength, well-being and safety in the home environment through the assistance of an intensive eight week burst of rehabilitation. Services include a dressing program, exercises, mobility, self-care, meal planning and preparation and leisure. Physicians as well as other health care team members can refer individuals to this program. So far there are over 50 clients in the program, with the majority of referrals coming from Home Care. Most clients in the program have been referred due to falls/weakness and general debility, with the remainder of referrals coming from diagnosis categories such as Multiple Sclerosis, strokes [cerebrovascular accident (CVA)], neurological, hip and knee replacement, and other orthopaedic issues.

PMH is facing a number of challenges with recruitment of professionals. Therapy Services is another area where significant turnover and openings are evident. PMH recruitment efforts include ongoing advertising (including vacancy distribution to therapy students), hosting a luncheon with therapy students to promote employment options in PMH, as well as attendance at the annual Med Rehab career fair in Winnipeg.

Riverdale Health Centre Rehabilitation Unit (Rivers)

Riverdale’s rehabilitation unit officially opened in 2005 to respond to a growing need for orthopedic rehabilitation services. Currently, the program has 13 beds and is staffed with physicians, rehab aides, nurses, a rehab activity worker, a physiotherapist and an occupational therapist.

From 2009/10 to 2013/14, the unit has had over 600 admissions. Almost 70% of patients admitted to Rivers had recently undergone hip or knee replacement surgery. The remaining patients (approximately 30%) admitted to Rivers required rehabilitation services related to: orthopaedic trauma/surgery, chronic disease, acute medical conditions, strokes [cerebrovascular accident (CVA)], and/or pelvic, back, or neck trauma/surgery. The majority of referrals to the unit have come from Brandon Regional Health Centre,
Boundary Trails, Concordia General Hospital and Health Sciences Centre, where the orthopaedic surgery is carried out.

In 2013/14, the primary source of referrals (37%) to Rivers were from Brandon. Clients spent 3,866 days in rehabilitation in Rivers in 2013/14. The average length of stay in Rivers was 28 days. The occupancy rate for the year ranged from 56% in May 2013 to 97% in February 2014. Over the year, the average occupancy was 81%. The majority of clients (50%) were discharged home with Home Care support (Rivers Rehabilitation Unit Annual Summary, 2013/14).

Renal Care / Dialysis

Kidney disease is a growing problem across Canada, particularly in Manitoba. In fact, Manitoba has the highest rate of kidney disease in the country. Treatment for kidney failure can include hemodialysis, peritoneal dialysis, or transplant. Currently, dialysis is provided through the Manitoba Renal program (MRP), with renal services available across the province. In PMH, there are four dialysis sites. Three are referred to as Local Centers and are located in Dauphin, Swan River and Russell (Manitoba Renal Program website). They rely on nephrology support from Winnipeg. The Brandon site, while part of the MRP, has its own nephrologists. Providing dialysis in these communities has enhanced the quality of life of many patients by offering dialysis closer to home.

Between 2010/11 and 2013/14, PMH hemodialysis treatments increased by 2.2% (1,533 treatments). Most of this increase was attributed to non-transient out-patient treatments. In 2013/14, dialysis staff for the 31 PMH dialysis stations performed a total of 17,544 hemodialysis treatments (including all treatment types: acute inpatient, chronic inpatient, non-transient outpatient and transient outpatient treatments).
Table 7.11 Hemodialysis Units, Treatments Performed, Stations, and Station Utilization Rate for PMH, 2013/14

<table>
<thead>
<tr>
<th></th>
<th>Total # of treatments performed by unit</th>
<th># of dialysis stations per unit</th>
<th>Station utilization rate (# of treatments performed per station)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandon Regional Health Centre</td>
<td>11,527</td>
<td>15</td>
<td>768</td>
</tr>
<tr>
<td>Dauphin Regional Health Centre</td>
<td>3,329</td>
<td>6</td>
<td>555</td>
</tr>
<tr>
<td>Russell District Hospital</td>
<td>1,192</td>
<td>6</td>
<td>199</td>
</tr>
<tr>
<td>Swan River Valley Hospital</td>
<td>1,496</td>
<td>4</td>
<td>374</td>
</tr>
<tr>
<td>Prairie Mountain Health - TOTAL</td>
<td>17,544</td>
<td>31</td>
<td>566</td>
</tr>
</tbody>
</table>

Source: Prairie Mountain Health MIS 2014

The Brandon dialysis unit is a 6 day a week unit with 3 shifts per day. Dauphin is a 6 day a week unit with 2 shifts per day. Russell is a 3 day a week unit with 2 shifts per day. Swan River is a 3 day a week unit with 2 shifts per day (to meet the past demand of patients in Swan River, the unit did offer 6 days a week with 2 shifts 3 times a week as well as one shift 3 times a week). Brandon is the only unit with staff who work permanently in dialysis – nephrologists, physician assistant, renal dietitian, pharmacist, social work, renal health nurses. This allows the unit to provide acute inpatient care, new patient treatment initiation, and provide care to complex care renal patients.

Quality of Care

Healthcare Associated Infections/Infection Control

Healthcare associated infections are of concern in the acute care setting where sick and often compromised clients are in close proximity to others and more susceptible to infections. Particular care is given to restrict the spread of infection, with regular hand hygiene and the use of alcohol based hand rubs by staff working in the facilities. The most commonly reported healthcare associated infections within PMH facilities are urinary tract, respiratory and gastrointestinal infections.

A PMH Hand Hygiene Committee is in place and is very close to implementing a new regional policy. The three former regions were following different hand hygiene education and auditing practices that are now being standardized as a new region. Each of the three former regions have met Accreditation Canada standards related to hand hygiene. Hand hygiene is the responsibility of all health care providers within the facility. Staff follow routine practices, additional precautions applicable to the client condition and outbreak management policies and practices aimed at preventing the transmission of illness within PMH facilities.
Acute Care Facility Falls

Every fall cannot be prevented however the opportunity exists from a systems perspective to improve and focus on reducing the number of falls and injuries from falls. PMH programs have the opportunity to learn from each other and from external resources in order to continuously improve.

A fall is defined as an uncontrolled downward change in position, which results in the client coming to rest on an object, a lower level or the floor.

PMH formed a Falls Prevention Steering Committee in September 2014. The steering committee assists programs with falls prevention initiatives with a goal of facilities setting targets to improve from their current states.

Falls rates within facilities are calculated as the number of falls divided by the number of patient days per 1,000 patient days. In 2013, overall falls rate in PMH for Acute Care facilities was 8.3 per 1,000 patient days. The overall falls rate in PMH for Transitional Care facilities was 10.8 per 1,000 patient days. In 2013, almost 70% of falls resulted in no apparent injury. Of falls that did result in an injury, the most common injury that occurred was an abrasion, bruise or contusion.

Medication Variance Incidents

A medication incident can occur in patient, resident or client care and can include any deviation from the medication system (from ordering processes through to administration). An example is when an inpatient does not receive the correct amount or type of medication within the time frame specified. In 2013, there were 2,159 medication variances in PMH (includes all reported incidents from PMH programs or services (i.e., acute, transitional, PCH, home care, etc.)). The most frequent types of medication occurrences reported were omitted doses and incorrect dose.

Prairie Mountain Health has formed a Medication System Safety Committee that is responsible for acting in an advisory role for matters pertaining to safe medication use, promoting best medication management practices and evaluating/complying with Accreditation Canada Qmentum program, Required Organizational Practices (ROPs) pertaining to medications. ROP’s are evidence-informed practices addressing high-priority areas that are central to quality and safety and are essential practices that organizations must have in place to enhance patient/client safety and minimize risk. The medication reconciliation ROP focuses on ensuring the organization reconciles clients’ medications at admission and transitions in care. Medication reconciliation is a structured process in which healthcare professionals partner with clients, families and caregivers for accurate and complete understanding of medication that should be administered. The committee is responsible for the review of regional medication occurrence summary reports, learning from medication safety issues proactively and providing oversight to promote, develop, implement and evaluate medication reconciliation.
Pre-Hospital and Acute Care Services Key Points

- Ongoing staff shortages (EMS, nursing, therapy, diagnostic, etc.) and physician resources are a significant challenge for PMH and recruitment initiatives continue to be a top priority.

- Almost two thirds of visits to PMH Emergency Departments (ED) were triaged as less or non-urgent. Research has suggested that a strong primary care system, convenient alternative services to the ED, coordinated discharge planning, post-discharge follow-ups in the community, and patient compliance are some of the factors that may impact ED usage. However, ascertaining what the drivers of low acuity PMH ED usage are remains challenging due to a lack of detailed data.

- PMH’s unintentional injury hospitalizations are higher than the province and have been increasing. Injury prevention efforts targeted to gender and age specific causes of injury hospitalizations (falls, self-inflicted, motor vehicle collisions) should continue to be high priority across PMH.

- PMH residents receive the vast majority of their hospital care at PMH facilities.

- Inpatient hospitalization, use of hospitals, days used in short stays, days used in long stays, and hospital readmission rates were strongly related to income, where lower income areas had rates higher (and in some cases almost double) than those of higher income areas.

- The top causes of hospitalization for PMH residents were: digestive diseases, health status and contact, and circulatory diseases.

- The top causes of hospital days used by PMH residents were: health status and contact, mental health, and circulatory diseases.

- Transitional care facilities within the region are focused on accommodating patients who do not need acute care. Many of the hospitalizations and the majority of days of care provided in these facilities were (coded as alternate level of care) for patients awaiting placement in PCH or chronic care (placement) needs. This confirms that these facilities appear to be doing exactly what they were intended to do. Additional capacity in transitional care may be helpful as it could provide needed patient services, in a more appropriate setting.

- The North Zone compared to South and Brandon zones had:
  - higher proportions of medical hospitalizations and days of care
  - higher percentage of residents admitted to acute care at least once per year
  - significantly higher rates of inpatient hospitalizations
  - higher readmission rates
• the highest crude rate of hospital days used in short stays

• the highest percentage of residents being hospitalized and hospital days occurring in a Winnipeg hospital or an out of province hospital.

• Patient transportation challenges, physician referral patterns, residents accessing services in Saskatchewan, the higher number of First Nations population, and shortage of home care resources may be some of the factors impacting these higher rates in the North Zone.

• The South Zone compared to Brandon and North zones had:
  • higher proportions of hospitalizations and days of care coded ALC awaiting PCH placement
  • the highest percentage of residents being hospitalized and hospital days occurring in a PMH hospital outside of their zone
  • the highest crude rate of hospital days used in longs stays
  • The elderly population, lack of supportive housing options, the high number of transitional sites located in this zone, and accessing services in the Brandon Zone may be some of the factors impacting these higher rates in the South Zone.

• The Brandon Zone compared to South and North zones had:
  • lower rates of inpatient hospitalization
  • lower rates of hospital readmission
  • lowest percentage of residents admitted to acute care at least once a year
  • a higher proportion of hospitalizations related to outpatient services
  • a higher percentage of hospitalizations and hospital days of care for surgical services and pregnancy and birth
  • the highest proportion of hospitalizations and hospital days of care provided to other zone residents as well as non-Manitobans
  • Brandon’s regional service provision (surgery, obstetrical) to other zones within PMH, neighbouring RHA’s and Saskatchewan residents, as well as a greater number of alternative options for accessing care, may be some of the factors impacting these rates in the Brandon Zone.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inpatient Hospitalizations</strong> (per 1,000 residents, per year)</td>
<td>Significantly higher than province 122.2 PMH &gt; 87.9 MB (2011/12)</td>
<td>↓ from 133.6 to 122.2 between 2006/07 and 2011/12</td>
<td>5 districts were significantly higher than the provincial average: Agassiz Mountain (211.5); Porcupine Mountain (186.1), Duck Mountain (161.2), Swan River (134.9) and Asessippi (126.9) in 2011/12.</td>
</tr>
<tr>
<td><strong>Day Surgery Hospitalizations</strong> (per 1,000 residents, per year)</td>
<td>Significantly higher than the province 89.8 PMH &gt; 72.2 MB (2011/12)</td>
<td>↑ significantly from 80.9 to 89.8 between 2006/07 and 2011/12</td>
<td>13 districts were significantly higher than province in 2011/12. The Brandon North Hill district had the highest rate (119.4) followed by Brandon South End (117.3) and Agassiz Mountain (110.7).</td>
</tr>
<tr>
<td><strong>Hospital Readmission</strong> (age- and sex adjusted percent of hospital episodes with a readmission within 30 days of discharge)</td>
<td>Significantly higher than the province 9.8% PMH &gt; 8.5% MB (2011/12)</td>
<td>↓ significantly from 10.9 % to 9.8% between 2006/07 and 2011/12</td>
<td>In 2011/12, Agassiz Mountain (13.3%) and Porcupine Mountain (11.6%) had statistically higher rates than the province. The Brandon South End district at 5.1% had a statistically lower rate than the province and also had a significant decrease between 2006/07 and 2011/12 (8.8% to 5.1%).</td>
</tr>
<tr>
<td><strong>Hospital days used in short stays</strong> (per 1,000 residents, per year, age-and sex adjusted)</td>
<td>Similar to the province 324 PMH &gt; 247 MB (2011/12)</td>
<td>↓ from 385 to 324 days between 2006/07 and 2011/12</td>
<td>In 2011/12, 8 districts had a significantly higher short stay rate than the province. All districts in the North zone were statistically higher than the provincial rate along with the Asessippi and Brandon East. The Porcupine Mountain district had the highest rate (550).</td>
</tr>
<tr>
<td><strong>Hospital days used in long stays</strong> (per 1,000 residents, per year, age-and sex adjusted)</td>
<td>Similar to the province 674 PMH &gt; 567 MB (2011/12)</td>
<td>↓ from 742 to 674 days between 2006/07 and 2011/12</td>
<td>In 2011/12, Brandon Downtown district had the highest rate (1,233). Brandon South End had the lowest rate (384).</td>
</tr>
</tbody>
</table>
### Indicator

#### Unintentional Injury Hospitalization Rate

<table>
<thead>
<tr>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 year average (2003-2012) higher than province 919.0 PMH &gt; 668.1 MB</td>
<td>↗ trend between 2003 and 2012</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Top Causes of Injury Hospitalizations

<table>
<thead>
<tr>
<th>PMH Region compared to Manitoba</th>
<th>PMH Region</th>
<th>PMH District</th>
</tr>
</thead>
</table>
| Higher than province  
- Falls: 500.8 PMH > 400.5 MB  
- Self-Inflicted: 110.5 PMH > 66.9 MB  
- MVC: 87.9 PMH > 62.7 MB  
- Transport, other: 61.6 PMH > 31.9 MB  
- Lower than province  
- Assault: 57.2 PMH < 64.1 MB | -- | -- |
The proportion of seniors in Canada is increasing more rapidly than that of any other age group. By 2050, seniors are projected to comprise 27% of the Canadian population. In 2006, seniors who turned 65 years of age could expect to live an additional 20 years (Public Health Agency of Canada, 2010). In 2011, Prairie Mountain Health had the highest proportion of residents age 65 and older (17.7%) when compared to the province at 14.0% (Fransoo R et al., October 2013). When we think of the senior population, we tend to think of older adults with health concerns or those living in personal care homes. But the elderly are not a homogenous group. A substantial proportion of the older population are enjoying better health and living longer in the community. Some live with multiple chronic conditions and experience frequent hospitalizations while others become increasingly frail and transition to a personal care home.

There are important implications associated with an aging population: lengthening life expectancy and longer retirements; technological enhancements resulting in greater numbers of people surviving accidents, disabilities and previously incurable diseases; and the types of health services that will be required as the role of acute care hospitals shifts to higher acuity and shorter lengths of stay (Bryant & Associates, 2012; Health Council of Canada, 2012; Canadian Healthcare Association, 2009).

**Services for Seniors**

**Age-Friendly Manitoba Initiative**

In an age-friendly community, policies, programs and services are designed to make it easier for older adults to stay active and healthy, so they can continue to contribute economically and socially. Since the World Health Organization (WHO) developed its Age-Friendly Cities model in 2007, communities across Canada and globally have developed action plans to become more age-friendly, recognizing that every effort benefits citizens of all ages.

In 2008, the Manitoba government launched the Age-Friendly Manitoba Initiative, with communities throughout the province being formally invited to join and work toward becoming more age-friendly. An age-friendly community is one that provides supports and opportunities in eight domains:

- Outdoor spaces and buildings
- Transportation
- Housing
- Respect and inclusion
- Social participation
- Civic participation and employment
• Communication and information, and
• Community supports and health services.

Manitoba has been at the forefront of this movement, with 72 communities now involved with the Age-friendly Communities Initiative. There are currently 42 rural municipalities, villages, towns and cities across the Prairie Mountain Health region with Age-Friendly designations.

Table 8.1 Age Friendly Communities, Prairie Mountain Health, 2008-2014

<table>
<thead>
<tr>
<th>Rural Municipality</th>
<th>Village</th>
<th>Town</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander</td>
<td>Cartwright</td>
<td>Birtle</td>
<td>Brandon</td>
</tr>
<tr>
<td>Brenda</td>
<td>Ethelbert</td>
<td>Boissevain</td>
<td>Dauphin</td>
</tr>
<tr>
<td>Edward</td>
<td>Glenboro</td>
<td>Carberry</td>
<td></td>
</tr>
<tr>
<td>Hamiota</td>
<td>Waskada</td>
<td>Deloraine</td>
<td></td>
</tr>
<tr>
<td>Minitonas</td>
<td>Wawanesa</td>
<td>Erickson</td>
<td></td>
</tr>
<tr>
<td>North Cypress</td>
<td></td>
<td>Gilbert Plains</td>
<td></td>
</tr>
<tr>
<td>Pipestone</td>
<td></td>
<td>Hamiota</td>
<td></td>
</tr>
<tr>
<td>Roblin</td>
<td></td>
<td>Hartney</td>
<td></td>
</tr>
<tr>
<td>Shoal Lake</td>
<td></td>
<td>Killarney</td>
<td></td>
</tr>
<tr>
<td>South Cypress</td>
<td></td>
<td>Minitonas</td>
<td></td>
</tr>
<tr>
<td>Strathclair</td>
<td></td>
<td>Pilot Mound</td>
<td></td>
</tr>
<tr>
<td>Swan River</td>
<td></td>
<td>Roblin</td>
<td></td>
</tr>
<tr>
<td>Victoria</td>
<td></td>
<td>Rossburn</td>
<td></td>
</tr>
<tr>
<td>Winchester</td>
<td></td>
<td>Russell</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shoal Lake</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Ste. Rose du Lac</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Swan River</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Treherne</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Virden</td>
<td></td>
</tr>
</tbody>
</table>

Source: Manitoba Health, Healthy Living and Seniors database, 2014

Aging in Place

In 2006, the Manitoba government introduced the Ageing in Place initiative. Living in a supported environment offers independence while at the same time providing social interaction, personal safety and basic amenities such as community dining rooms, help with housekeeping and assistance with laundry. As needs change over time, there are options that allow seniors to gradually increase the support and assistance they require while they maintain as much independence as possible.

In February 2011, the province presented a renewed long term care plan, Advancing Continuing Care. This plan covers the continuum of care that may require an individual to move from a single-family home to a retirement community, then on to supportive housing and later, a personal care home (Manitoba Health, 2011).
Supports to Seniors in Group Living (SSGL)

Supports to Seniors in Group Living (SSGL) is one option of the Advancing Continuing Care model. Enhanced supports are offered within some designated existing seniors housing at no charge to tenants, with a goal of keeping people as independent as possible for as long as possible. The SSGL model targets individuals, primarily seniors, who do not require 24 hour support and supervision. Residents are assisted with Instrumental Activities of Daily Living (IADLs). These are life management skills including shopping, meal preparation, managing money, banking procedures, scheduling of appointments, socialization, and recreational activities. The SSGL program is currently offered in six communities in Prairie Mountain Health including Brandon, Dauphin, Neepawa, Roblin, Swan River and Virden.

Congregate Meal Program

Congregate meal programs offer seniors the opportunity to enjoy well-balanced, affordable meals in a social setting. Hot, nutritious meals are offered several days per week in a group setting, such as an apartment block or senior centre. Seniors are encouraged to participate in planning and cooking meals, setting tables and helping with clean up (Winnipeg Regional Health Authority, 2012).

There are 43 congregate meal programs funded by Prairie Mountain Health in 34 communities across the region.

Meals on Wheels

The Meals on Wheels program provides facility prepared meals, which are delivered by volunteers to people of all ages in the community. Individuals receiving this service are unable to prepare adequate meals for themselves because of physical disabilities. The number of meals served per week varies depending on the community.

In 2013/14, a total of 42,423 meals were coordinated by Prairie Mountain Health in 26 communities across the North and South zones of the region. A total of 13,311 meals were provided in the Brandon Zone by Prairie Oasis Senior Centre with the support of grant funding from Prairie Mountain Health.

Home Health and Safety Check

In 2004, the EMS program in the South Zone developed the Home, Health and Safety (HH&S) program. The intent of the program is to provide an in-home safety assessment and recommendations to reduce the risk of falls among older community residents (for further information on the Home Health and Safety Check program, please refer to Pre-Hospital and Acute Care chapter).

Prairie Mountain Health currently partners with approximately 70 agencies with grant funding to deliver a variety of seniors programs to support healthy aging in the community. Examples of grant-funded support to seniors include social and recreational programming, congregate meal programs, and in-home supports.
Supportive Housing

Supportive housing is a community residential setting that provides 24-hour supervision for frail or cognitively impaired individuals with lighter care needs. Supportive housing consists of three components: rent, services and a support (Long Term & Continuing Care Association of Manitoba, n.d.). The rent and services (meals, laundry and housekeeping) are paid by the resident and the support is funded through the PMH region. Support is provided by an on-site resident companion. Home Care assesses eligibility for supportive housing which may be provided by the RHA or a sponsor agency. Three supportive housing settings are available within the PMH region:

- Happy Haven, a 12 suite unit in Dauphin
- Yellowhead Manor, a 9 suite unit in Neepawa, and
- Sokol Manor, a 10 suite unit in Brandon.

Elderly Persons Housing

Elderly Persons Housing refers to housing that has become available through the application of the Elderly and Infirm Person’s Act (2014). Within this Act, elderly person refers to a single person or a couple 65 years of age or over whose annual income, including assistance under the Old Age Security Act (Canada), does not exceed an amount equal to five times the annual rental for the accommodation that he/she occupies in an elderly persons’ housing unit (Manitoba Government, 2014).

The characteristics of an elderly persons housing unit are:

- Housing accommodation that has a separate kitchen and bathroom facilities for either one or two elderly persons who are capable of living independently
- Operates as a Housing Corporation with a Board of Directors, and
- Is eligible for government funding under the Elderly and Infirm Persons Housing Act.

Elderly person housing complexes are available across the PMH region:

- North Zone - 40 complexes in 22 communities with a total of 895 suites
- South Zone - 109 complexes in 50 communities with a total of 1,588 suites
- Brandon Zone - 25 complexes with a total of 634 suites.

Adult Day Program

Adult Day programs provide socialization and respite opportunities that assist clients in continuing to live safely and independently in the community and provide meaningful support to caregivers. As these programs were developed to assist individuals to remain living at home, eligibility for attendance is
determined through Home Care. There are currently 27 adult day programs offered in communities across Prairie Mountain Health.

**Respite Care**

Respite care is the provision of short-term, temporary relief to those who are caring for family members who might otherwise require permanent placement in a facility outside the home. The region’s respite program provides planned short-term breaks for families and other unpaid caregivers either in the home or in facilities across the region. Communities with designated respite beds in a Personal Care Home include Brandon, Dauphin, Gilbert Plains, Neepawa, Roblin, Souris, Ste. Rose du Lac, Swan River, and Virden. There are a total of 14 designated respite beds available in the region. Access to a designated PCH respite bed or respite support at home is through the Home Care program.

**Home Care**

The Manitoba Home Care Program is a community-based program that provides home support to individuals, regardless of age, who require health services or assistance with activities of daily living. It is recognized that some people need ongoing health services but not necessarily the level of care provided in a hospital or personal care home (Thrive, September 2014).

While the Home Care program does not have age-related eligibility criteria, the majority of clients have been elderly and disabled. A Case Coordinator conducts an assessment of individual needs, existing supports and community resources to determine eligibility for Home Care service. Some of the criteria include:

- Care needs are such that even with the assistance of family/informal support network and available community resources, the individual would be unable to remain safely at home
- The provision of services will delay or prevent deterioration of functioning essential to remaining safely in the community, and
- Without services, the individual is or will become at risk for: placement into a personal care home or chronic care facility, admission to hospital, or remaining in hospital, or premature re-admission to hospital.

The Home Care program offers a full range of services including:

- Nursing care – for specific medical needs such as wound care, catheter care and insulin injections
- Personal Care Assistance – including help with mobility such as walking and transferring to and from a wheelchair, and personal care such as bathing, dressing and toileting
- Occupational and physiotherapy services – depending on individual needs
• Home Support – including help with activities such as meals, light housekeeping and laundry

• In-Home Relief/Respite Care – offers short periods of in-home relief for the primary caregiver

• Respite Care in alternate settings – may be arranged to provide longer periods of relief for the primary caregiver (this is a fee-for-service option)

• Supplies and equipment – such as walkers and raised toilet seats

• Adult Day programs – that enable individuals to meet other people and enjoy recreational activities away from home

• Volunteer services – may be available to help support clients

• Community Housing with Support Options – additional options to help seniors age in place include supportive housing, group living facilities and specialized supports

Currently, almost 800 staff in permanent or casual positions make up the Home Care team in Prairie Mountain Health.

Utilization of Home Care

In 2012/13, 3,668 clients were receiving Home Care services across the PMH region. Home Care services are utilized more by females than males consistently across the region; however this is more evident in the Brandon Zone, with almost twice as many female clients using Home Care services than males. The Brandon Zone also has the highest number of clients receiving Home Care services in the region.

<table>
<thead>
<tr>
<th>PMH Zone</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>412</td>
<td>667</td>
<td>1,079</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>550</td>
<td>1,009</td>
<td>1,559</td>
</tr>
<tr>
<td>North Zone</td>
<td>431</td>
<td>599</td>
<td>1,030</td>
</tr>
<tr>
<td>Total</td>
<td>1,393</td>
<td>2,275</td>
<td>3,668</td>
</tr>
</tbody>
</table>

Source: Program Annual Statistics 2013
Discussions with Home Care staff in the fall of 2014 identified several new trends affecting the provision of Home Care services. Staff observed an increase in client acuity, or the severity of illness, which determines the level of care required. This is largely related to a higher proportion of clients with more complex medical needs and the delivery of acute therapies in the home such as intravenous therapy and management of drainage systems and wounds. Clients also tend to access Home Care services for longer periods of time depending on the age of clients when they enter the program and their specific condition. Home Care staff are providing care to a younger population, 35 to 65 years of age, and an increase in the proportion of clients with early onset dementia (before age 65) has been observed.

**Transitional Inpatient Services**

Transition Care is defined as care of a client who does not require 24 hours per day, 7 days per week medical (physician) supervision and/or intervention. The goal is to provide nursing care in a safe, more home-like environment within a facility, which is an interim measure. A total of 131 transitional inpatient beds are currently available in nine communities across the region.

Transitional care may include:

- Recuperation period – for clients who have completed their acute phase of convalescence, however, require additional time to recover in preparation to return home
- Respite care – for families or primary care givers who require a defined period of rest from caring for an individual in the community setting
- Palliative care – for clients who require symptom management that cannot be met in the home
- Waiting PCH placement – for clients who have a panel date for PCH admission as well as those in the process of being panelled for PCH placement.

*About 30 to 40% of our nursing care is related to wounds including compression and negative pressure dressings.*

*Interview with Home Care Manager, November 2014*
Arthritis

There are many different conditions that are considered to be types of arthritis. Arthritis causes joint and musculoskeletal pain, which is often the result of inflammation of joint lining.

Arthritis prevalence is a measure of the number of residents aged 19 and older diagnosed and/or seeking treatment for the condition (rheumatoid or osteoarthritis). For Manitoba overall, the prevalence of arthritis did not change between 2005/06-2006/07 and 2010/11-2011/12 remaining at 21%. Conversely a significant increase was seen over the two reporting periods in Prairie Mountain Health. Arthritis prevalence in PMH was significantly higher (22.3%) than the provincial average in the second time period.

Marked differences were noted at the zone level. Arthritis prevalence for residents in the North Zone and Brandon Zone were significantly higher than Manitoba overall at 26% and 23% respectively, while rates in the South Zone were significantly lower than the province at 19%.

Figure 8.1  Prevalence of Arthritis by PMH District, 2005/06-2006/07 and 2010/11-2011/12
Age and sex adjusted percent of residents aged 19+ diagnosed with disorder

Source: MCHP RHA Indicators Atlas, 2013
There was substantial variation in arthritis prevalence across the districts in PMH. Nine districts revealed prevalence rates that were significantly higher than the provincial average in the second time period including Brandon North Hill (23.2%), Riding Mountain (24.5%), Duck Mountain (23.3%), Dauphin (26.4%), Agassiz Mountain (23.6%), Brandon East End (23.6%), Swan River (25.5%), Porcupine Mountain (30.5%), and Brandon Downtown (26.1%). A significant increase in disease prevalence over time was noted in Brandon North Hill and Porcupine Mountain. Conversely, disease prevalence in Spruce Woods, Souris River and Little Saskatchewan was significantly lower than Manitoba overall. A significant reduction in arthritis prevalence over time was noted in Spruce Woods.

There were statistically significant relationships between income and arthritis prevalence in urban and rural areas in both time periods: arthritis prevalence was higher among residents of lower income areas. The gradient was steeper in urban areas, but got steeper over time in rural areas.
Dementia

Dementia is the progressive decline in cognitive function due to damage or disease in the body beyond what might be expected from normal aging.

The prevalence of dementia in PMH (9.0% in 2007/08-2011/12) is significantly lower than the provincial rate (10.6% in 2007/08-2011/12) which is largely driven by residents of Winnipeg. In common with the province the rates have remained relatively stable over time with a rate of 8.4% for 2002/03-2006/07.

There is little variation in the rates at a zone level with all three zones having rates significantly lower than the provincial average. At a district level there is some variation with Porcupine Mountain (13.9% in 2007/08-2011/12) and Swan River (16.0% in 2007/08-2011/12) both showing rates significantly higher than the provincial average.

Figure 8.2 Prevalence of Dementia by Manitoba RHA and PMH Zone, 2002/03-2006/07 and 2007/08-2011/12
Age- and sex-adjusted percent of residents aged 55+ diagnosed with disorder

Source: MCHP RHA Indicators Atlas, 2013
Osteoporosis

Osteoporosis is a disease that leads to a reduction in bone density and causes bones to become weak and more likely to break. The most common injuries associated with osteoporosis are fractures of the wrist, spine, and hip. It is estimated that osteoporosis is responsible for approximately 70% of hip fractures in those 45 years and older (Public Health Agency of Canada, 2010).

Osteoporosis prevalence refers to the percent of residents aged 50 and older with osteoporosis in a three-year period as defined by either at least one hospitalization or one physician visit with one of the following diagnoses (major trauma excluded): osteoporosis, hip fracture, spine fracture, humerus (the bone that extends from the shoulder to the elbow) fracture, or wrist fracture or at least one prescription for osteoporosis medication.

Between 2004/05-2006/07 and 2009/10-2011/12, osteoporosis prevalence decreased in Manitoba from 12.4% to 10.4% of the population aged 50 and older. Similarly, a significant decrease was seen in Prairie Mountain Health from 12.8% to 11.2% in the same time periods. Despite a significant decrease between reporting periods, the prevalence of osteoporosis in PMH remained significantly higher than the Manitoba average in the second time period (11.2% vs. 10.4%). A similar trend was observed in all three
zones however osteoporosis prevalence in the North Zone was significantly lower than the provincial average for both reporting periods (10.7% and 9.5%), similar to the province in the South Zone (12.6% and 10.8%), and significantly higher in the Brandon Zone (14.8% and 13.3%).

Differences were also noted among the districts in PMH. While a significant decrease over time in the prevalence of osteoporosis was noted in Sprucewoods, Whitemud, Assiniboia, Dauphin, Agassiz Mountain, and Brandon East End, three districts reported significantly higher prevalence rates in the second time period when compared to the province (10.4%):

- Brandon Downtown – 14.3%
- Brandon North Hill – 13.5%
- Brandon West End – 12.8%

Conversely Dauphin had the lowest osteoporosis prevalence at the district level and was significantly lower than the province (8.3%) in the second time period.

In the first time period, there was no relationship between income and osteoporosis prevalence in urban or rural residents. However, in the second time period, a higher prevalence of osteoporosis was seen among residents of lower income areas in both urban and rural settings.

Osteoporosis prevalence is similar between Métis and all other Manitobans (12.2% vs. 12.3%). No relationship between osteoporosis prevalence and PMR was observed (Martens PJ et al., June 2010).

**Hospitalized Hip Fracture Events**

Hospitalized hip fracture events are defined as age-standardized rate of new hip fractures admitted to an acute care hospital, per 100,000 population age 65 and older. A new event is defined as a first-ever hospitalization for hip fracture or a subsequent hip fracture occurring more than 28 days after admission for the previous event in the reference period. Lower rates are desirable (Canadian Institute for Health Information, 2013).

<p>| Table 8.3 Hospitalized Hip Fracture Event for PMH, Manitoba and Canada, 2012-13 |
|--------------------------------------|-----------------|-----------------|-----------------|
| Age Standardized rate per 100,000 population age 65 and older |</p>
<table>
<thead>
<tr>
<th>Gender</th>
<th>PMH</th>
<th>Manitoba</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td>508</td>
<td>479</td>
<td>428</td>
</tr>
<tr>
<td>Female</td>
<td>636</td>
<td>577</td>
<td>516</td>
</tr>
<tr>
<td>Male</td>
<td>347</td>
<td>341</td>
<td>301</td>
</tr>
</tbody>
</table>

Source: Canadian Institute for Health Information, 2013
PMH had a significantly higher hospitalized hip fracture event rate than the Canada overall rate for both genders and for females. For males, PMH’s rate was similar to the Canada overall rate however the region’s result had a greater than 25% one-year change compared with the previous year.

Table 8.4  Hospitalized Hip Fracture Event Rate by PMH Zone, 2007 - 2011
Age-standardized rate per 100,000 population age 65 and older

<table>
<thead>
<tr>
<th></th>
<th>South Zone</th>
<th>Brandon Zone</th>
<th>North Zone</th>
<th>Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>485</td>
<td>519</td>
<td>427</td>
<td>507</td>
</tr>
<tr>
<td>2008</td>
<td>601</td>
<td>498</td>
<td>527</td>
<td>536</td>
</tr>
<tr>
<td>2009</td>
<td>539</td>
<td>387</td>
<td>383</td>
<td>511</td>
</tr>
<tr>
<td>2010</td>
<td>467</td>
<td>685</td>
<td>587</td>
<td>504</td>
</tr>
<tr>
<td>2011</td>
<td>562</td>
<td>403</td>
<td>422</td>
<td>524</td>
</tr>
</tbody>
</table>

Source: Canadian Institute for Health Information, 2013

Information about hip fracture events requiring hospitalization is presented by PMH zone and for the province for the years 2007 to 2011. The rate of hospitalized hip fracture events ranged from a low of 383 in the North Zone in 2009 to a high of 685 in the Brandon Zone in 2010.

Hospitalizations Due to Unintentional Falls

Between 2000 and 2012, the leading cause of injury hospitalizations in PMH was due to unintentional falls. PMH’s age-standardized hospitalizations due to unintentional falls rate (per 100,000 population) was higher than the Manitoba average rate for every year (2000 to 2012). The 13 year average for PMH was 500.8 hospitalizations due to unintentional falls per 100,000 population, whilst the Manitoba average was 400.5 hospitalizations per 100,000.

PMH’s total age specific, female and male age-standardized hospitalizations due to unintentional falls rate increased over the 13 year time period, whilst Manitoba’s average rate decreased. The increase in proportion of females hospitalized due to unintentional falls was greater than that of male residents in PMH.

Table 8.5  Rate of Hospitalizations Due to Unintentional Falls, Manitoba and PMH by Age and Sex, 2000-2012
Age-specific rate of fall related injury per 100,000 population

<table>
<thead>
<tr>
<th>Age</th>
<th>Total MB</th>
<th>PMH</th>
<th>Female MB</th>
<th>PMH</th>
<th>Male MB</th>
<th>PMH</th>
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</thead>
<tbody>
<tr>
<td>65-74</td>
<td>740</td>
<td>890</td>
<td>872</td>
<td>1,064</td>
<td>595</td>
<td>704</td>
</tr>
<tr>
<td>75-84</td>
<td>2,189</td>
<td>2,745</td>
<td>2,600</td>
<td>3,283</td>
<td>1,605</td>
<td>2,048</td>
</tr>
<tr>
<td>85+</td>
<td>5,771</td>
<td>7,035</td>
<td>6,410</td>
<td>7,809</td>
<td>4,355</td>
<td>5,481</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Injuries Report, 2000-2012
From 2000 to 2012, age-specific hospitalizations due to unintentional falls rate (per 100,000 population) was higher for PMH than the Manitoba average rate for residents age 65 to 85+ (total age specific, as well as for female and male). PMH’s age-specific rate was considerably higher for the 85+ category (for total age specific, female and male). PMH’s total 85+ age-specific rate was 7,035.0 hospitalizations due to unintentional falls per 100,000 population compared to Manitoba’s average rate of 5,771.3 per 100,000 population.

Deaths Due to Unintentional Falls

Between 2000 and 2012, death due to unintentional falls was the third leading cause of injury deaths in PMH. PMH’s age-standardized deaths due to unintentional falls rate (per 100,000 population) was similar to the Manitoba average rate (2000 to 2012). PMH’s and Manitoba’s average age-standardized deaths due to unintentional falls rate increased over the 13 year time period. The 13 year average for PMH was 10.6 deaths due to unintentional falls per 100,000 population, whilst the Manitoba average was 11.4 deaths per 100,000.

Table 8.6 Rate of Deaths Due to Unintentional Falls, Manitoba and PMH by Age and Sex, 2000-2012
Age-specific rates of fall related injury, per 100,000

<table>
<thead>
<tr>
<th>Age</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MB</td>
<td>PMH</td>
<td>MB</td>
</tr>
<tr>
<td>65-74</td>
<td>14.7</td>
<td>13.3</td>
<td>12</td>
</tr>
<tr>
<td>75-84</td>
<td>66.5</td>
<td>53.1</td>
<td>59.5</td>
</tr>
<tr>
<td>85+</td>
<td>343.7</td>
<td>337.4</td>
<td>331.9</td>
</tr>
</tbody>
</table>

Source: Manitoba Health Injuries Report, 2000-2012

From 2000 to 2012, age-specific deaths due to unintentional falls rate (per 100,000 population) was lower for PMH than the Manitoba average rate for the total age specific rates, and for the male and female rates in the 65-85+ age categories. Total rates for PMH were lower for 85+ (337.4) than the province at 343.7 per 100,000. The trend was similar for 85+ males (312.1 for PMH and 369.8 for the province); however, PMH’s female 85+ rate at 350.0 was higher than the province at 331.9.

Falls Prevention Initiative

In the fall of 2014, a regional interdisciplinary team was established to address falls prevention across the lifespan using a Population Health approach. The falls prevention strategy will ensure implementation of key interventions based on best practice in three settings: community, acute care and long term care. A comprehensive education plan for health care providers will be rolled out in November 2015 to align with national Falls Prevention Week.
Long Term Care

Personal Care Homes

The goal of long term care (LTC) is to provide personal care for those individuals who are not able to remain in their own homes due to physical, psychological or social challenges. Activities or Recreational Therapy services are provided in all personal care homes. Organized activities provide residents with opportunities for meaningful social interaction and allow them to remain active within a context that is appropriate for their needs and interests. Activities are planned to restore, support, or enhance social, physical, emotional, and spiritual well-being.

In Manitoba, the supply of PCH beds decreased slightly over time from 120 beds per 1,000 residents age 75+ in 2005/06-2006/07 to 116 in 2010/11-2011/12. However, the PCH bed supply in Prairie Mountain Health has remained stable between the same reporting periods at 137 beds per 1,000 residents age 75+. There are 43 personal care homes spread across Prairie Mountain Health, with 2,005 beds available for LTC to primarily older residents with chronic illness or disability.

Overall, there was a decrease in residents aged 75 and older admitted to PCH in Manitoba from 3.05% in 2005/06-2006/07 to 2.84% in 2010/11-2011/12. While the percent of residents in Prairie Mountain Health age 75+ who were admitted to a PCH was significantly higher than the provincial average for the same reporting periods at 3.45% and 3.14%, a significant decrease over time was observed. Rates for the North Zone remained higher than the provincial average for both time periods but the difference was not significant. The South Zone decreased over time but not significantly. Although the rate of admission was significantly higher in the Brandon Zone in the first reporting period, a significant decrease was observed over time (3.78% to 3.14%).
Residents (75+) in Personal Care Homes

Residents in Personal Care Homes (PCH) is defined as the percent of residents age 75+ who lived in a PCH in a given year.

There was a significant decrease in the percentage of Manitoba residents age 75+ living in a PCH from 13.1% to 11.9% between 2005/06-2006/07 and 2010/11-2011/12. PMH mirrored this trend, with a significant decrease over time of 14.4% to 13.3%; however, PMH rates for residents age 75+ living in a PCH remained significantly higher than the province in both time periods. This trend was also observed in the Brandon Zone; but it was not evident in the North or South zones of Prairie Mountain Health.

Differences were observed at the Zone level. The South Zone was similar to the Manitoba average in the first time period but significantly higher than Manitoba overall in the second time period. The Brandon Zone was significantly higher than the provincial average for both time periods whilst the North Zone remained aligned with the province in both reporting periods. District level data were not available.
There was no statistically significant difference between Métis and all other Manitobans in the percentage of the population age 75+ admitted to PCH for 2004/05-2006/07. The Brandon Zone however had a significantly higher percentage of Métis aged 75+ admitted to PCH (8.5% vs. 3.4%) compared to all others living in Brandon during the reporting period (Martens PJ et al., June 2010).

Research indicates a dramatic increase in the need for PCH bed equivalent care in the province from 2021 until 2036. This is mainly due to the number of individuals that fall into the age range where the majority of PCH care is provided (65+) and, in particular, the size of the population age 85+. The timing of the increase in PCH bed equivalent need is closely tied with the aging baby boom generation; they began to enter the 65-74 year age group in 2011, and they will enter the 75-84 year age group in 2021, and the 85+ year age group in 2031. The term PCH bed equivalent, rather than PCH beds could either be a PCH bed itself, a supportive housing bed, or some type of enhanced homecare service or services provided to a group living setting. Using the continuing trends projections, a temporary reduction in PCH bed equivalent care requirements is anticipated for Prairie Mountain Health through to 2031. After 2031, there is a projected increase in the number of equivalent beds to meet the demands when the baby boomer generation begins to reach the 85 year age group (Chateau D, Doupe M, et al., 2012).
Median Waiting Times for PCH Admission

Median waiting times for PCH admission from hospital are defined as the length of time (in weeks) spent by 50% of the residents of a PCH who were age 75+ and waited in hospital for admission to that facility after being assessed as requiring PCH placement.

Figure 8.5 Median Waiting Times for Personal Care Home Admission from the Hospital by Manitoba RHA and PMH Zone, 2005/06-2006/07 and 2010/11-2011/12
Age- and sex-adjusted median number of weeks from assessment to admission by residence prior to admission per 1,000 residents 75+

In Manitoba, there was a significant increase in median wait times for PCH admission from hospital from 2005/06-2006/10 to 2010/11-2011/12 from 2.89 weeks to 5.14 weeks. This increase was reflected in all regions. Median wait times in the Prairie Mountain Health region was significantly higher than the provincial average in the first reporting period at 4.46 weeks, and increased to 5.74 weeks in the second reporting period. There was marked variation at the zone level.
Table 8.7  Median Waiting Times for PCH Admission from Hospital by PMH Zone, 2005/06-2006/07 and 2010/11-2011/12
Age- and sex-adjusted median number of weeks from assessment to admission by residence prior to admission per 1,000 residents 75+

<table>
<thead>
<tr>
<th>Zone</th>
<th>2005/06-2006/07</th>
<th>2010/11-2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Zone</td>
<td>2.31</td>
<td>13.44</td>
</tr>
<tr>
<td>Brandon Zone</td>
<td>7.05</td>
<td>3.66</td>
</tr>
<tr>
<td>North Zone</td>
<td>5.11</td>
<td>3.82</td>
</tr>
<tr>
<td>Manitoba</td>
<td>2.89</td>
<td>5.14</td>
</tr>
</tbody>
</table>

Source: MCHP RHA Indicators Atlas, 2013

A significant increase in median wait times was observed over time in the South Zone from 2.31 weeks in 2005/06-2006/07 to 13.44 weeks in 2010/11-2011/12. This trend was not seen in the North or Brandon Zones. The decrease over time in the Brandon Zone was significant (7.05 to 3.66). Despite the decrease in median wait time in Brandon, the number of clients assessed as chronic care placement waiting on A3 in the Assiniboine Centre in Brandon for a PCH bed fluctuated between 8 and 10 in 2014.

The median wait times for PCH admission for Métis and all other Manitobans was similar at 8.1 vs. 7.4 weeks. At the aggregate rural level, there was a strong association between median wait times and a higher PMR for both Métis and Manitobans in that the less healthy the region, the lower the wait times for PCH admission (Martens PJ et al., June 2010).

**Level of Care on Admission to PCH**

The level of care on admission to a personal care home is a measure of the relative needs of the individual upon admission to the facility. Level 1 refers to an individual that requires minimal support/supervision while an individual at Level 4 requires a much higher level of care, though no Level 1 residents were admitted during the study years (2005/06-2006/07 and 2010/11-2011/12). Levels 2 and 3 are stratified into residents whose assessment indicated a need for close supervision due to possible behavioural issues (2Y or 3Y) and residents who did not require close supervision (2N or 3N).
Figure 8.6  Level of Care on Admission to Personal Care Home for Residents Age 75+ by Manitoba RHA and PMH Zone, 2005/06-2006/07 and 2010/11-2011/12

T1=2005/06-2006/07  T2=2010/11-2011/12

Source: MCHP RHA Indicators Atlas, 2013
Overall, there was an increase in the level of care on admission to PCHs across the province, with a reduction in level 2 admissions and a corresponding increase in level 3 admissions. In Prairie Mountain region, for reporting periods 2005/06-2006/07 and 2010/11-2011/12:

- Level 2 admissions not requiring close supervision (2N) decreased from 36.0% to 31.7%  
- Level 2 admissions requiring close supervision (2Y) increased from 9.2% to 10.2%  
- Level 3 admissions not requiring close supervision (3N) increased from 18.8% to 22.8%  
- Level 3 admissions requiring close supervision (3Y) decreased from 25.9% to 24.1%, and  
- Level 4 admissions increased from 10.1% to 11.1%.

Table 8.8 Percent of Residents Age 75+ by Level of Care on Admission to Personal Care Home by PMH Zone, 2005/06-2006/07 and 2010/11-2011/12

<table>
<thead>
<tr>
<th>Level of Care</th>
<th>North Zone T1</th>
<th>North Zone T2</th>
<th>South Zone T1</th>
<th>South Zone T2</th>
<th>Brandon Zone T1</th>
<th>Brandon Zone T2</th>
<th>Manitoba T1</th>
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Source: MCHP RHA Indicators Atlas, 2013

There are striking differences in level of care on admission to PCH at the zone level. In the North Zone, there was a decrease in the proportion of residents requiring Level 2 care between the two reporting periods with the majority of residents being Level 3 admissions requiring close supervision. In the South Zone, a decrease in Level 2 care on admission, not requiring close supervision was observed with a corresponding increase in the proportion of residents with Level 2, requiring close supervision. The opposite trend was seen in the South Zone with Level 3 care; an increase in the proportion of residents with Level 3, not requiring close supervision and a decrease in Level 3, requiring close supervision. There are two personal care homes in the South Zone that only admit clients with Level 1 and Level 2 care requirements which may partially explain the rate of admissions in those categories. In the Brandon Zone, more than 50% of residents were assessed at Level 2, not requiring close supervision on admission.

In February 2014, a Client Experience survey was conducted in LTC settings to gather feedback from residents or family members about various aspects of their experience in a personal care home. Overall, residents and/or family members reported a high degree of satisfaction with the care received.
Staff were described as empathetic, caring, and compassionate. Some areas for improvement were identified including:

- Nametags should be clearly visible and staff should introduce themselves to residents and family members.
- More interaction between staff and residents such as providing explanations about aspects of care and reading mail aloud.
- More frequent changes of Depends underwear/incontinence pads, and
- A private area for visiting.

“Great atmosphere, bright & open, staff make it very ‘at home’ feeling. Great care!”

*Client Experience survey respondent, February 2014*

**PCH Care for Younger Clients**

Traditionally data related to personal care homes is reported for residents age 75+. However, diseases such as Multiple Sclerosis and Huntington’s, and conditions such as acquired brain injury result in clients being admitted to a PCH at younger ages. Residents with these types of diseases or conditions often have extensive medical needs and/or behavioral challenges. Sometimes the care needs exceed capacity of PCHs to provide the necessary care, so clients are turned down by PCHs during the panelling process and continue to occupy specialty beds in acute care settings. Currently, there are no designated chronic care beds outside the city of Winnipeg.

**Quality of Care**

In 2005, twenty-six Standards for Care were legislated under the Personal Care Home Standards Regulation initiative. There are five core standards with specific performance measures for each. Some measures are considered mandatory and if they are not met, the entire standard is not met. Also, there are a minimum number of standards that must be met for licensure to continue. Within the PMH region there are two staff dedicated to assisting the PCH facilities in meeting the mandated standards.

All PCHs in the province have a Standards Review every two years, although they are not measured on all 26 standards at one time. There are three tools that are used; each one measures a number of the standards. Within 6 years each PCH will have been evaluated on all three of the tools and thus all 26 of the standards will have been rated. The next Standards visit for PMH will be in 2015.
Prior to the upcoming 2015 visits, the standards reviews were conducted in each zone. PCHs in all three zones did not meet any of the core standards at the initial audit. However, each zone has improved over time, with the North Zone meeting all 5 core standards in 3 of 11 PCHs in 2008, the South Zone meeting all 5 core standards in 12 of 27 PCHs in 2011, and Brandon having 3 of 5 sites meeting all five core standards in 2012.

Improvement efforts will focus on:

- **Staffing** – The goal is that a Registered Nurse or a Registered Psychiatric Nurse will be on site at each PCH to supervise care 24/7
- **Integrated Care Plan** – All residents will have a care plan that is reviewed quarterly by a multidisciplinary team, updated regularly and completed in full
- **Restraints** – Restraints will only be used to prevent harm to self and others and, when used, will be correctly applied, with regular client checks
- **Safety and Security** – Residents will be provided with a safe and secure environment, for example, it was determined that in many of the PCHs, the temperature of the water is too high which is a scalding risk for clients
- **Staff Education** – For example, staff must participate in one fire drill and education on fire prevention annually.

**Medication and Benzodiazepine Use**

The use of benzodiazepines (a group of medications used primarily in treating insomnia, anxiety and agitation) in seniors is not recommended because the medications put older adults at increased risk of both short and long term adverse effects from the drug, including cognitive and behavioural impairment as well as physical dependence. Cognitive and behavioural impairment are associated with confusion and an increased risk for falls and fractures in the elderly.

**Benzodiazepine Prescribing for Community Dwelling Seniors**

Benzodiazepine prescribing for community dwelling seniors is defined as the percent of residents 75 years and older living in the community (not in a personal care home) who had at least two prescriptions for benzodiazepines or at least one prescription for benzodiazepines with a greater than 30 day supply dispensed.

The proportion of residents age 75+ living in the community who had a least two prescriptions for benzodiazepines or at least one prescription for benzodiazepines with a greater than 30 day supply was significantly higher in Prairie Mountain Health (23.4% and 24.3%) when compared to the Manitoba average (20.3% and 20.5%) for both time periods respectively. All three zones were significantly higher than the province in both time periods (South: 22.2% and 23.2%; North: 24.8% and 25.6% and Brandon: 24.3% and 25.0%). A significant increase over time was observed in the South Zone.
Figure 8.7 Benzodiazepine Prescribing for Community-Dwelling Seniors by PMH District, 2005/06-2006/07 and 2010/11-2011/12
Crude percent of non-PCH seniors 75+ with 2+ prescriptions or more than a 30-day supply

Ten out of 17 districts in PMH were significantly higher than the provincial average in the second time period and eight of the 17 districts were significantly higher than Manitoba in both time periods. A significant increase over time was observed in Brandon South End (22.9% to 26.5%) and Brandon East End (26.8% to 31.3%), while a significant decrease over time was noted in Brandon West End (26.3% to 23.4%).

**Benzodiazepine Prescribing for Residents in Personal Care Homes**

Benzodiazepine prescribing for residents of personal care homes is defined as the percentage of PCH residents age 75+ who had at least two prescriptions for benzodiazepines or at least one prescription for benzodiazepines with a greater than 30 day supply dispensed.

Source: MCHP RHA Indicators Atlas, 2013
Overall, the proportion of PCH residents age 75+ receiving benzodiazepines decreased over time in Manitoba from 34.9% to 31.9%. This trend was not seen in Prairie Mountain Health, with regional crude rates significantly higher than the province for both time periods at 45.9% and 46.7% respectively. Prairie Mountain Health had the highest rate of benzodiazepine prescribing among residents age 75+ in PCHs in the province.

Variation was noted at the zone level. While the proportion of PCH residents age 75+ receiving benzodiazepines in 2010/11-2011/12 was significantly higher in the North Zone (36.6%) when compared to the province (31.9%), a significant decrease was seen over time in the North Zone. Rates for older PCH residents in the South Zone remained significantly higher than the provincial average at 49.1%, and also in the Brandon Zone at 50.4% in the 2010/11-2011/12 reporting period. A significant increase over time was also observed in the Brandon Zone (44.7% to 50.4%). Data were not available at the district level.
The use of benzodiazepines in seniors is not recommended. Older people experience increased sensitivity to benzodiazepines because they metabolize drugs less efficiently than younger people, so that drug effects last longer, and drug accumulation may occur with regular use. For example, the half-life of Lorazepam (Ativan) is 15 hours, which means half of the medication dosage is metabolized within 15 hours while the other half of the medication remains active in the body. Ingesting another dose of the medication creates a cumulative effect in a short period of time. A more dramatic example is that of Diazepam (Valium) which has a half-life of 100 hours. This means that a 2 mg dose of Diazepam administered on a Monday will have 1 mg remaining in a client’s system on Thursday, yet this drug is often administered multiple times per day.

There are particularly compelling reasons why older clients should withdraw from benzodiazepines since, as age advances, older people become more prone to ataxia (poor coordination and muscle control) leading to falls and fractures, confusion, memory loss, and psychiatric problems sometimes leading to a false diagnosis of dementia or Alzheimer’s disease. A slow tapering regime may be tolerated even by people in their 80s who have taken benzodiazepines for 20 or more years (Ashton H, 2002).

In January 2013, a review of sedative medication use at Rideau Park Personal Care Home (PCH) was initiated. Over a two week period, all residents were assessed for sedative medication, and benzodiazepine and antipsychotic use in the previous two years. The review involved residents who were admitted to Rideau Park PCH with existing prescriptions for these medications as well as those already living in the facility. The review process identified that 73% of residents were prescribed one or more medications from the categories listed.

With the support of the medical and nursing team, gradual reductions were attempted. Thorough follow-up and reassessment of the impact of medication reduction was completed and remains ongoing as further evaluation and reduction attempts are made according to resident response and the medical plan of care.

By May 2014, reductions or elimination of sedative medication was achieved in 48% of the residents. A total of 14% of residents were not stable or suitable for medication reduction largely due to a major mental illness diagnosis such as schizophrenia, bipolar disorder or generalized anxiety disorder.

“Our attempts to reduce or discontinue the use of sedatives, benzodiazepines and antipsychotics without adverse effects for the residents was really successful. We had two residents who never spoke – we didn’t know they could speak until we discontinued the medications. Now they talk to us”.

Interview with Nurse Practitioner, November 2014
In 2014, a similar medication reduction trial (typical and atypical antipsychotics) was conducted at Valleyview Care Centre by Revera in Brandon. A manual review of all resident files was completed to determine reasons for medication use, identify side effects, and determine if the desired effect was achieved. A multidisciplinary team comprised of nursing staff, a physician, and a certified geriatric pharmacist oversaw the tapering of medication use among eligible residents.

Discussion with the Director of Care identified the importance of trialing non-pharmaceutical approaches to client care while tapering/discontinuing antipsychotic medications. Examples of non-pharmaceutical interventions include using a calm and gentle approach that is aligned with the different types of dementia, modifications to the environment to reduce stimulation, and “knowing” the resident.

The Recreational program at Valleyview Care Centre has been redesigned to better meet the needs of residents and reduce behavioural issues. Some of the changes include the type of activities that are available and the time of day they are provided. To date, the proportion of residents using antipsychotics without a diagnosis remains below the corporate benchmark.

Unlike rural communities where medications are provided to personal care homes through contracted community pharmacies or in-house services with PMH, Pharma Medic Services is a community pharmacy that provides a contracted service to the five personal care homes in Brandon. A pharmacist conducts a medication review, in consultation with the attending physician and a nurse, within three months of admission for every new resident. A follow-up medication review is also conducted quarterly. PCH staff and physicians are encouraged to consider non-pharmacological approaches wherever possible. Pharmacy staff spends approximately 100 hours per month conducting medication reviews and providing in-services for PCH staff.

“Almost all [residents] come into our setting on antipsychotics. They’re often prescribed while in hospital and are carried on to the PCH. But these are not forever medications – the condition may have resolved but the medication continues”.

Interview with Director of Care, December 2014

“Behaviour is not random – we need to better understand what is driving the behaviours so we don’t need the medications and can respond more appropriately instead”.

Interview with Director of Care, December 2014
One of the pharmacists is a Certified Geriatric Pharmacist through the Commission for Certification in Geriatric Pharmacy (CCGP). This individual has recently obtained licensure as an Extended Practice Pharmacist to work in a collaborative practice with physicians or nurse practitioners. With the ability to prescribe or deprescribe medications, the role of an Extended Practice Pharmacist will help to alleviate the current burden on physicians and provide timely response to medication-related issues.

Medication Reduction Strategy in Personal Care Homes

The Long Term Care Forum in the Brandon Zone has been monitoring a number of performance indicators since 2002. One of these indicators is the proportion of residents on nine or more medications. Several activities have been implemented in an effort to reduce medication use including a complete medication review by resident on admission, quarterly medication reviews, monthly pharmacological in-services for care providers, and the hiring of a Nurse Practitioner in one of the PCHs. The outcome of these efforts was realized in December 2014. Between December 2013 and December 2014, a medication cost reduction of 33.6% was observed. This reduction in medication use resulted in a savings of $533,700 over the calendar year which is equivalent to the total medication costs for one year at Fairview Personal Care Home (PCH Indicator Report, PMH, 2014/2015).

The Manitoba IMPRxOVE Program

In June 2011, Manitoba Health, Healthy Living and Seniors launched a new initiative, the Manitoba IMPRxOVE Program. The intent of this initiative was to improve medication prescribing and patient outcomes through physician education. This audit and feedback intervention was implemented as a randomized controlled trial for evaluation purposes. All family physicians, pediatricians and psychiatrists in Manitoba were randomly assigned to a control group or an intervention group. The project involved a review of drug prescribing behaviours in relation to targets using quality indicators as a benchmark. The goal was to reduce inappropriate prescription behaviours of physicians in Manitoba by providing feedback through an educational mailing package when a quality indicator was triggered. The intervention was the mailed education package providing feedback on performance, and was sent only to the intervention group.

Drug Program Information Network (DPIN) data was examined for prescribing patterns. DPIN contains transaction-based prescription drug claims from an electronic, on-line, point-of-sale prescription drug database that connects Manitoba Health and all pharmacies in Manitoba. If a quality indicator was
triggered, a letter was sent to the prescribing physician identifying the patient, the drug prescription in relation to the quality indicator and recommendations for best practice.

There were two phases to the project. The first phase ran from June 2011 to February 2013 and targeted the following primary quality indicators:

- 2+ benzodiazepines for youth
- 2+ benzodiazepines for adults
- 2+ benzodiazepines for older adults
- Long-acting benzodiazepines for older adults
- High-dose benzodiazepines for youth
- High-dose benzodiazepines for adults
- 2+ anti-insomnia agents for adults
- 2+ anti-insomnia agents for older adults

The second phase ran from January 2012 to February 2013 and targeted the following secondary quality indicators:

- 5+ psychotropics for adults
- 2+ SSRIs for adults
- 2+ SSRIs for older adults
- Multiple prescribers of 1+ opioids for adults
- Multiple prescribers of 1+ opioids for older adults
- Failure to refill antidepressants
- Failure to refill antipsychotics

Benzodiazepine = tranquilizer
Anti-insomnia agent = sedative
Psychotropic = affecting mind, emotions and behaviours
SSRI (selective serotonin reuptake inhibitor) = antidepressant
Opioid = narcotic
Analyses showed that the primary quality indicators were triggered much more frequently than the secondary indicators, with the exception of quality indicators targeting prescription behaviours for youth. In general, the program was very successful in reducing the rate of triggers for the set of primary quality indicators. The rates for the intervention group decreased shortly after the initiation of the program, while the rates for the control group did not change, resulting in a significant difference between physicians receiving the educational mailing packages and physicians who did not receive the packages. There was little difference between the two groups for the secondary quality indicators, however. Additional analyses indicated that the program was particularly successful in reducing quality indicator trigger rates for physicians who started with a low rate at the outset (Chateau D, Enns M et al., 2015).

Vision Care

Vision is a critical component of quality of life. As one ages, vision loss increases affecting the individual’s ability to remain independent, becoming a risk factor for failing mobility, falls, fractures, decreased socialization and cognitive deterioration. A study, *A Survey of Vision Care Services Provided in Personal Care Homes in Rural Manitoba* (Hawranik, P. Bell, S., 2014) was conducted in six regional health authorities. While data are not available for Prairie Mountain Health, long term care facilities in all three zones in PMH participated in the study.

The study found that the recognition of vision care services as an important and basic intervention in promoting the independence of older adults in long term care facilities was essentially overlooked. In most cases, the determination whether an older adult required a vision assessment and how that appointment was arranged was the responsibility of the older adult and/or their family member. Despite the most prevalent visual impairment conditions being potentially preventable or treatable, vision continued to be overlooked at the policy and practice levels.

In Prairie Mountain Health, vision screening is recognized as a core element of a falls prevention program in long term care. Currently, Fairview and Rideau Park personal care homes have trained staff who conduct annual vision screening as part of the falls prevention strategy. Plans to expand the falls prevention strategy including vision screening across the region are underway.

Wound Care

Wound healing is a complex process that depends on many factors. Client-related factors include age, nutritional status, presence of co-morbidities, and type of skin and wound, as well as the system in which a client receives care. For example, factors related to the home environment include cleanliness, access to mobility aids and social supports while different care providers in facilities may impact client wound healing. Many wounds can be prevented through proper skin care and preventive measures. Giving healthcare providers timely access to information about wounds has been shown to dramatically improve client outcomes and healing time.

Pressure ulcers have a significant influence on client quality of life, resulting in pain, hindered recovery, and an increased risk of infection. Pressure ulcers have also been associated with increases in length of
stay and health services costs, and mortality. Effective pressure ulcer prevention strategies can substantially reduce the incidence of pressure ulcers, and are an indication of higher quality care and services (Accreditation Canada, 2014).

In March 2014, a part-time Wound Care Coordinator position was created for Prairie Mountain Health and funding has since been secured to allow for a fulltime equivalent position. The Wound Care Coordinator, as part of a multidisciplinary team, is responsible for the development of education initiatives, product evaluation and procurement, research, and overall leadership of the Wound Care Program across the region. The Coordinator provides consultation to all health care providers including EMS staff, Health Care Aides, nurses and physicians in all facilities. Although wounds can occur in the home and acute care settings, pressure ulcers tend to be more prevalent in long term care. To date, a Pressure Ulcer Prevention Program is now in place and a Wound Care policy manual is being developed for the region.
Aging and Long Term Care Key Points

- Prairie Mountain Health has the highest proportion of seniors (age 65 and older) in the province which has significant implications for planning programs and services, and facility use.

- There are many programs and services in place across the region to help older people remain independent in their own homes, including SSGL, congregate meal and Meals on Wheels programs, Home Health and Safety Checks, and adult day programs.

- Thirty-one Supportive housing units are available in Dauphin, Neepawa, and Brandon and 3,117 Elderly Persons housing suites are situated in 73 communities across the region to support older residents remain living in the community. These types of alternate housing options will help to address the projected PCH bed equivalent care requirements as the baby boomer generation becomes elderly.

- There are a limited number of designated respite beds (14) available in the region which may pose challenges as caregivers age.

- Several trends have been observed in Home Care – higher utilization by females, an increase in client acuity often requiring the delivery of acute therapies, a higher proportion of younger clients and an increase in the number of clients with early onset dementia.

- There is a strong relationship between prevalence of osteoporosis and income with a higher prevalence among residents of lower income areas in both urban and rural settings; yet osteoporosis prevalence was significantly lower in the North Zone. This finding is most likely related to access to health services (screening) and not indicative of truly lower rates of disease.

- Between 2000 and 2012, PMHs age-standardized hospitalizations due to unintentional falls rate was higher than Manitoba for every year which supports the need for the regional falls prevention initiative that is currently underway.

- A significant increase in median wait times for PCH admission in PMH, in the South Zone in particular, suggests the need for alternate care requirements as the population ages.

- Recent trends associated with extensive medical needs and behavioural challenges among PCH clients indicate the need for designated chronic care beds in the region.

- Benzodiazepine use among residents age 75+ living in the community and in PCHs in PMH remains significantly higher than the province; however a substantial reduction or elimination of sedative medications was achieved in some PCHs.

- Vision screening is a core element of an effective falls prevention strategy.

- A fulltime equivalent Wound Care Coordinator position has been created to lead a Wound Care program for the region.
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<th>PMH Region</th>
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<td>Residents (75+) in PCH by RHA 2005/06-2006/07 to 2010/11-2011/12</td>
<td>Significantly higher than the province (13.3% PMH &gt; 11.9% MB) Significant decrease over time (14.4% to 13.3%)</td>
<td>All three zones higher than the province Brandon Zone highest in the region at 14.4%</td>
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<td>Level of Care on Admission</td>
<td>Similar to provincial trend of an increase in the level of care on admission</td>
<td>North Zone – almost half of PCH residents at Level 3, requiring close supervision South Zone – decrease in Level 2, not requiring supervision with increase in Level 2, requiring supervision – opposite trend with Level 3 Brandon Zone – more than 50% at Level 2, not requiring close supervision and increase in Level 4 admissions</td>
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<td>Benzodiazepine Prescribing for Residents of Personal Care Homes by RHA 2005/06-2006/07 to 2010/11-2011/12</td>
<td>Significantly higher than the province for both reporting periods (46.7% PMH &gt; 31.9% MB) Similar over time periods (PMH) compared to significant decrease (MB)</td>
<td>Significant decrease over time in North Zone (36.6%) South Zone (49.1%) and Brandon Zone (50.4%) significantly higher than the province (31.9%)</td>
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<td>Benzodiazepine Prescribing for Community-Dwelling Seniors by RHA 2005/06-2006/07 to 2010/11-2011/12</td>
<td>Significantly higher than the province (24.3% PMH &gt; 20.5% MB) Significant increase over time (23.4% to 24.3%)</td>
<td>All 3 zones significantly higher than the province for both reporting periods North Zone highest in the province at 25.6%</td>
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## Indicator List

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Appendices

Appendix 1 – PMH Zones
A brief description and location map of the three Prairie Mountain Health planning zones.

Appendix 2 – PMH Districts
A brief description and location map for each of the seventeen districts that make up the Prairie Mountain Health region.

Appendix 3 – PMH Municipalities by Planning Zone (2014 Boundaries)
A list of municipalities by planning zone using 2014 boundaries

Appendix 4 – Population Pyramids by PMH Zone
A population pyramid for each of the regions three zones by single year of age using June 2013 population data. Also shown is a pyramid for the region’s population living on a First Nation reserve.

Appendix 5 – Population Pyramids by PMH District
A population pyramid for each of the regions seventeen districts by single year of age using June 2013 population data
The **North Zone** is situated in the northern section of the PMH region. The North Zone is made of the following districts: Agassiz Mountain, City of Dauphin, Duck Mountain, Porcupine Mountain, Riding Mountain, and the Town of Swan River.

The population of the North Zone was 41,334 at June 1st, 2013. This represents a decrease of 256 from the 2009 figure of 41,590. The North Zone covers an area of 18,891 km² (excluding the unorganized territories) giving it a population density of 2.20 persons/km².

The **South Zone** is situated in the southern section of the PMH region, and surrounds the Brandon Zone. The South Zone comprises the following districts: Asessippi, Little Saskatchewan, Whitemud, Souris River, Turtle Mountain, and Spruce Woods.

The population of the South Zone was 75,133 at June 1st, 2013. This represents an increase of 2,097 from the 2009 figure of 73,036. The South Zone covers an area of 32,324 km² giving it a population density of 2.3 persons/km².

**Brandon City** is situated in the centre of the south part of Prairie Mountain Health. Brandon City contains 5 districts: Brandon Downtown, Brandon East End, Brandon North Hill, Brandon South End, and Brandon West End.

The population of the Brandon City was 50,654 at June 1st, 2013. This represents an increase of 4,167 from the 2009 figure of 46,487. Brandon City covers an area of 77 km² giving it a population density of 657.8 persons/km².
The Porcupine Mountain district is in the northern part of the PMH region. It is bordered by Lake Winnipegosis to the east, and the Saskatchewan border to the west. Duck Mountain Provincial Park is in the south part of the district. The community of Benito is in the southeastern part of the district.

The primary transportation route is Highway 10. The main areas of population are Benito (517), Pine Creek First Nation (568), Sapotaweyak Cree (Shoal River) Nation (508), and Wuskwi Sipihk (Indian Birch) First Nation (116).

The population of the Porcupine Mountain district was 9,117 at June 1st, 2013. This represents a decrease of 312 people from the 2009 figure of 9,429. Porcupine Mountain district covers an area of 5,640 km$^2$ giving it a population density of 1.6 persons/km$^2$.

Included in the Porcupine Mountain district is the Benito PCH, Mafeking Ambulance Station, Camperville Primary Health Care Centre, and Duck Bay Community Health Services Office.

The Town of Swan River is situated in the northern part of the PMH region surrounded by the Porcupine Mountain district; the primary transportation routes are Highways 10 and 83.

The population of the Town of Swan River was 5,321 at June 1st, 2013. This represents an increase of 75 people from the 2009 figure of 5,246. The Town of Swan River covers an area of 6.89 km$^2$ giving it a population density of 772.3 persons/km$^2$.

Facilities in the town of Swan River are the Swan River Valley Health Centre, and Swan Valley Lodge PCH.
The Agassiz Mountain district is situated in the north eastern part of the PMH region. It is bordered by Lake Manitoba to the east and Dauphin Lake on the west. Riding Mountain National Park is situated in the south west corner of Agassiz Mountain District. McCreary is in the south part of the district, and Chitek Lake Park Reserve is in the northern part of the district.

The primary transportation routes are Highway 68 and Highway 5. The main areas of population are Ste. Rose du Lac (1,961), McCreary (967), Ebb and Flow First Nation (782), Skownan (Waterhen) First Nation (317) and the O-Chi-Chak-O-Sipi (Crane River) First Nation (222).

The population of the Agassiz Mountain district was 7,242 at June 1st, 2013. This represents a decrease of 46 people from the 2009 figure of 7,288. Agassiz Mountain covers an area of 5,510 km² giving it a population density of 1.3 persons/km².

Included in the Agassiz Mountain District is the Ste. Rose Du Lac Health Centre, Dr. Gendreau PCH in Ste. Rose Du Lac, McCreary/Alonsa Health Centre (Transitional Care) and PCH, Waterhen Ambulance Station and Primary Health Centre, Crane River and Alonsa Community Health Services office.

The Riding Mountain district is in the north central part of the PMH region. It is bordered on the south by Riding Mountain National Park, and Duck Mountain Provincial Park in the north west.

The primary transportation routes are Highway 10 and Highway 20. The main areas of population are Gilbert Plains (1,031) and Winnipegosis (740).

The population of the Riding Mountain district was 5,228 at June 1st, 2013. This represents a decrease of 59 from the 2009 figure of 5,287. Riding Mountain district covers an area of 4,830.43 km² giving it a population density of 1.08 persons/km².

Included in the Riding Mountain district is Winnipegosis Health Centre and Gilbert Plains PCH.
The City of Dauphin is in the north central part of the PMH region. Dauphin City is surrounded by the Riding Mountain district. The primary transportation routes are Highway 10 and Highway 20.

The population of the Dauphin City was 8,832 at June 1st, 2013. This represents a decrease of 16 people from the 2009 figure of 8,848. Dauphin City covers an area of 12.6 km$^2$ giving it a population density of 701 persons/km$^2$.

Included in the city of Dauphin is Dauphin Regional Health Centre, Dauphin PCH, and St. Paul’s PCH.

The Duck Mountain district is situated in the central northwest section of the PMH region. It is bordered by the Asessippi Provincial Park in the south and the Duck Mountain Provincial Park in the north. It extends from the Town of Grandview in the east to the Saskatchewan border in the west.

The primary transportation routes are Highway 83 and Highway 5. The main areas of population are Roblin (2,486), Grandview (1,046) and the Tootinaowaziibeeng (Valley River) First Nation (276).

The population of the Duck Mountain district was 5,594 at June 1st, 2013. This represents an increase of 102 people from the 2009 figure of 5,492. Duck Mountain covers an area of 2,892 km$^2$ giving it a population density of 1.91 persons/km$^2$.

Included in the Duck Mountain district is the Roblin District Health Centre and PCH, and the Grandview District Health Centre and Grandview PCH.
The **Asessippi** district is situated in the central western section of the PMH region. It is bordered by the Asessippi Provincial Park in the north and Riding Mountain National Park in the northeastern corner of the district. It extends from the Town of Hamiota in the southeast corner to the Saskatchewan border in the west. The primary transportation routes are Highways 16 and 45 (east-west) and Highways 21 and 83 (north-south).

The main areas of population are Russell (2,225), Hamiota (1,381), Waywayseecappo First Nation (1,035), Birdtail Sioux First Nation (291), and Gamblers First Nation (29).

The population of the Asessippi district was 12,595 at June 1st, 2013. This represents an increase of 140 from the 2009 figure of 12,455. Asessippi covers an area of 7,002 km² giving it a population density of 1.8 persons/km².

Included in the Asessippi district is the Russell District Health Centre and Russell PCH, Shoal Lake-Strathclair Health Centre, Hamiota District Health Centre, Birtle Health Centre (Transitional Care) and Rossburn District Health Centre (Transitional Care).

The **Little Saskatchewan** district is situated in the central section of the PMH region. It is bordered by the Riding Mountain National Park in the north. The primary transportation routes are Highways 10, 16 and 45. The main areas of population are Minnedosa (3,447), Erickson (865), Rolling River First Nation (263) and the Keeseekowenin First Nation (238).

The population of the Little Saskatchewan district was 11,361 at June 1st, 2013. This represents an increase of 392 people from the 2009 figure of 10,969. Little Saskatchewan covers an area of 4,425 km² giving it a population density of 2.6 persons/km².

Included in the Little Saskatchewan district is the Minnedosa Health Centre and Minnedosa PCH, Erickson Health Centre (Transitional Care) and Sandy Lake PCH.
The **Whitemud** district is situated on east side of the PMH region. The Whitemud district contains the south corner of Riding Mountain National Park. The primary transportation routes are Highways 16 (east-west) and 5 (north-south). The main areas of population are Neepawa (4,947) and Carberry (2,346).

The population of the Whitemud district was 11,490 at June 1st, 2013. This represents an increase of 897 people from the 2009 figure of 10,593. Whitemud covers an area of 3,913 km$^2$ giving it a population density of 2.94 persons/km$^2$.

Included in the Whitemud district is Neepawa Health Centre, Neepawa PCH (Country Meadows), and Carberry Health Centre and PCH.

The **Spruce Woods** district is situated in the south east section of the PMH region with the American border in the south. In the east is the community of Treherne. Spruce Woods encompasses Spruce Woods Provincial Park. The primary transportation routes are Highways 2 and 5. The main areas of population are Killarney (3,491), Wawanesa (877), and Treherne (724).

The population of the Spruce Woods district was 15,361 at June 1st, 2013. This represents an increase of 79 people from the 2009 figure of 15,282. Spruce Woods district covers an area of 7,084 km$^2$ giving it a population density of 2.17 persons/km$^2$.

Included in the Spruce Woods district is Killarney (Tri-Lake) Health Centre, Treherne (Tiger Hills) Health Centre, Glenboro Health Centre, Baldur Health Centre (Transitional Care), Wawanesa and District Memorial Health Centre (Transitional Care), and Cartwright (Davidson Memorial) PCH.
The **Turtle Mountain** district is situated in the centre of the south section of the PMH region. It is bordered by the American border to the south. Turtle Mountain Provincial Park is located in the south part of the district. The primary transportation routes are Highways 2, 3, 10 and 21. The main areas of population are Souris (2,089), Boissevain (1,896), and Deloraine (1,116).

The population of the Turtle Mountain district was 10,078 at June 1st, 2013. This represents an increase of 188 people from the 2009 figure of 9,890. Turtle Mountain covers an area of 5,081 km² giving it a population density of 1.98 persons/km².

Included in the Turtle Mountain district is Souris Health Centre, Boissevain Health Centre, Deloraine Health Centre, Bren-Del Win Lodge (Deloraine PCH) and Hartney PCH.

The **Souris River** district is situated in the southwest section of the PMH region. It is bordered by the American border in the south and the Saskatchewan border to the west. The primary transportation routes are Highway 1 (east-west) and Highway 83 (north-south). The main areas of population are Virden (3,691), Rivers (1,579), Sioux Valley Dakota First Nation (826), and Canupawakpa Dakota (Oak Lake) First Nation (229).

The population of the Souris River district was 14,248 at June 1st, 2013. This represents an increase of 401 from the 2009 figure of 13,847. Souris River covers an area of 6,818 km² giving it a population density of 2.08 persons/km².

Included in the Souris River district is Virden Health Centre, Westman PCH and Sherwood PCH both in Virden, Melita Health Centre, Riverdale Health Centre and PCH, Reston Health Centre (Transitional Care) and PCH, and Elkhorn PCH.
The **Brandon Downtown** district is situated in the centre of the city. Its boundaries are Pacific Avenue in the north, 1st Street to the west, Richmond Avenue to the south, and 18th street to the west.

The population of the Brandon Downtown district was 11,174 at June 1st, 2013. This represents an increase of 1,271 from the 2009 figure of 9,903.

The **Brandon East End** district consists of the northeast part of Brandon. Veterans Way is the northern boundary, 65th Street East is the eastern boundary, Richmond Avenue is the southern boundary, and 1st Street is the eastern boundary.

The population of the Brandon East End district was 6,789 at June 1st, 2013. This represents an increase of 233 from the 2009 figure of 6,556.

The **Brandon North Hill** district is situated in the northern part of Brandon. Highway #1 is in the northern boundary, 1st Street is the eastern boundary, Pacific Avenue is the southern boundary, and 34th street is the western boundary.

The population of the North Hill district was 7,245 at June 1st 2013. This represents an increase of 606 from the 2009 figure of 6,639.
The **Brandon South End** district consists of the entire south end of Brandon. Richmond Avenue is the northern boundary, 65th Street East is the eastern boundary, Patricia Avenue is the southern boundary, and 47th Street is the western boundary.

The population of the Brandon South End district was 9,864 at June 1st, 2013. This represents an increase of 1,019 from the 2009 figure of 8,845.

The **Brandon West End** district consists of the central west part of Brandon. Pacific Avenue is the northern boundary, 18th Street is the eastern boundary, Richmond Avenue is the southern boundary, and 50th Street is the western boundary.

The population of the Brandon West End district was 15,582 at June 1st, 2013. This represents an increase of 1,038 from the 2009 figure of 14,544.
APPENDIX 3: PMH MUNICIPALITIES BY PLANNING ZONES (2014 BOUNDARIES)

### MUNICIPALITIES OF THE NORTH ZONE

<table>
<thead>
<tr>
<th>Agassiz Mountain</th>
<th>Riding Mountain</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-Chi-Chak-Ko-Sipi First Nation (Crane River FN)</td>
<td>RM of Dauphin</td>
</tr>
<tr>
<td>Ebb &amp; Flow FN</td>
<td>RM of Ethelbert</td>
</tr>
<tr>
<td>RM of Alonsa - Parkland</td>
<td>RM of Gilbert Plains</td>
</tr>
<tr>
<td>RM of Lawrence</td>
<td>RM of Mossey River</td>
</tr>
<tr>
<td>RM of McCreary</td>
<td>Town of Gilbert Plains</td>
</tr>
<tr>
<td>RM of Ochre River</td>
<td>Village of Ethelbert</td>
</tr>
<tr>
<td>RM of Ste. Rose</td>
<td>Village of Winnipegosis</td>
</tr>
<tr>
<td>Village of McCreary</td>
<td></td>
</tr>
<tr>
<td>Town of Ste. Rose du Lac</td>
<td></td>
</tr>
<tr>
<td>Skownan First Nation (Waterhen FN)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duck Mountain</th>
<th>Porcupine Mountain</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM of Grandview</td>
<td>Wuskwi Sipihk First Nation (Indian Birch FN)</td>
</tr>
<tr>
<td>RM of Hillsburg</td>
<td>Pine Creek FN</td>
</tr>
<tr>
<td>RM of Shell River</td>
<td>RM of Minitonas</td>
</tr>
<tr>
<td>Town of Grandview</td>
<td>RM of Mountain - North</td>
</tr>
<tr>
<td>Town of Roblin</td>
<td>RM of Mountain - South</td>
</tr>
<tr>
<td>Tootinaowaziibeeng Treaty Reserve (Valley River FN)</td>
<td>RM of Swan River</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dauphin</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Dauphin</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Swan River</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Town of Swan River</td>
<td></td>
</tr>
</tbody>
</table>

### MUNICIPALITIES OF THE SOUTH ZONE

<table>
<thead>
<tr>
<th>Whitemud</th>
<th>Spruce Woods</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM of Glenella</td>
<td>RM of Argyle</td>
</tr>
<tr>
<td>RM of Langford</td>
<td>RM of Cornwallis</td>
</tr>
<tr>
<td>RM of Lansdowne</td>
<td>RM of Killarney-Turtle Mountain</td>
</tr>
<tr>
<td>RM of North Cypress</td>
<td>RM of Oakland</td>
</tr>
<tr>
<td>RM of Rosedale</td>
<td>RM of Riverside</td>
</tr>
<tr>
<td>Town of Carberry</td>
<td>RM of Roblin</td>
</tr>
<tr>
<td>Town of Neepawa</td>
<td>RM of South Cypress</td>
</tr>
<tr>
<td></td>
<td>RM of South Norfolk</td>
</tr>
<tr>
<td></td>
<td>RM of Strathcona</td>
</tr>
<tr>
<td></td>
<td>RM of Victoria</td>
</tr>
<tr>
<td></td>
<td>Town of Treherne</td>
</tr>
<tr>
<td></td>
<td>Village of Cartwright</td>
</tr>
<tr>
<td></td>
<td>Village of Glenboro</td>
</tr>
<tr>
<td></td>
<td>Village of Wawanesa</td>
</tr>
</tbody>
</table>
MUNICIPALITIES OF THE SOUTH ZONE (CONT.)

**Asessippi**
- Birdtail Sioux FN
- Gamblers FN
- RM of Archie
- RM of Birtle
- RM of Ellice
- RM of Hamiota
- RM of Miniota
- RM of Rossburn
- RM of Russell
- RM of Shellmouth-Boulton
- RM of Shoal Lake
- RM of Silver Creek
- Town of Birtle
- Town of Hamiota
- Town of Rossburn
- Town of Russell
- Village of Binscarth
- Village of St. Lazare
- Waywayseecappo FN

**Little Saskatchewan**
- Keeseekoowenin FN
- RM of Blanshard
- RM of Clanwilliam
- RM of Elton
- RM of Harrison
- RM of Minto
- RM of Odanah
- RM of Park
- RM of Saskatchewan
- RM of Strathclair
- Rolling River FN
- Town of Erickson
- Town of Minnedosa
- Town of Rapid City

**Souris River**
- Canupawakpa Dakota First Nation
- RM of Albert
- RM of Arthur
- RM of Brenda
- RM of Daly
- RM of Edward
- RM of Pipestone
- RM of Wallace
- RM of Woodworth
- Sioux Valley Dakota FN
- Town of Melita
- Town of Rivers
- Town of Virden
- Village of Elkhorn
- Village of Waskada


APPENDIX 4: POPULATION PYRAMIDS BY PMH ZONE

NORTH ZONE (41,334 0-14 19.0% 65+ 19.7%)

SOUTH ZONE (75,133 0-14 18.3% 65+ 18.9%)

MALE ZONE  FEMALE ZONE  PRAIRIE MOUNTAIN HEALTH
APPENDIX 4: POPULATION PYRAMIDS BY PMH ZONE

BRANDON CITY (50,654  0-14 19.0%  65+ 14.2%)

FIRST NATIONS (5,700  0-14 33.4%  65+ 5.1%)
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

AGASSIZ MOUNTAIN (7,242 0-14 21.8% 65+ 17.9%)

DUCK MOUNTAIN (5,594 0-14 16.7% 65+ 23.9%)
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

RIDING MOUNTAIN (5,228 0-14 14.8%  65+ 20.8%)

PORCUPINE MOUNTAIN (9,117 0-14 22.3%  65+ 14.5%)
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

DAUPHIN CITY (8,832  0-14 17.7%  65+ 22.3%)

SWAN RIVER TOWN (5,321  0-14 18.1%  65+ 21.6%)
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

ASESSIPPI (12,595 0-14 18.2% 65+ 19.5%)

LITTLE SASKATCHEWAN (11,361 0-14 16.1% 65+ 18.9%)

MALE DISTRICT  FEMALE DISTRICT  PRAIRIE MOUNTAIN HEALTH
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

WHITEMUD (11,490  0-14 18.1%  65+ 17.9%)

SOURIS RIVER (14,248  0-14 18.4%  65+ 18.5%)
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

TURTLE MOUNTAIN (10,078 0-14 18.2% 65+ 20.2%)

SPRUCE WOODS (15,361 0-14 19.9% 65+ 18.6%)
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

BRANDON DOWNTOWN (11,174  0-14  19.1%  65+ 12.2%)  

BRANDON EAST END (6,789  0-14  19.8%  65+ 16.1%)
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

BRANDON NORTH HILL (7,245  0-14 18.2%  65+ 15.8%)

MALE

FEMALE

BRANDON SOUTH END (9,864  0-14 19.3%  65+ 13.4%)

MALE

FEMALE

MALE DISTRICT  FEMALE DISTRICT  PRAIRIE MOUNTAIN HEALTH
APPENDIX 5: POPULATION PYRAMIDS BY PMH DISTRICT

BRANDON WEST END (15,582 0-14 18.6%  65+ 14.6%)