4.6 Diabetes Incidence

Definition: the average number of new cases of residents aged 19 and older with diabetes (Type I and II) per 100 person–years as defined by either:

- at least one hospitalization with a diagnosis with an ICD–9–CM code of 250 or an ICD–10–CA code of E10–E14 or
- at least two physician visits with an ICD–9–CM code listed above or
- at least one prescription for diabetes medication (ATC code A10; see Glossary)

Incidence was calculated for 2004/05–2006/07 and 2009/10–2011/12 and was age– and sex–adjusted to the Manitoba population aged 19 and older in the first time period. See Glossary for further details.

Key Findings

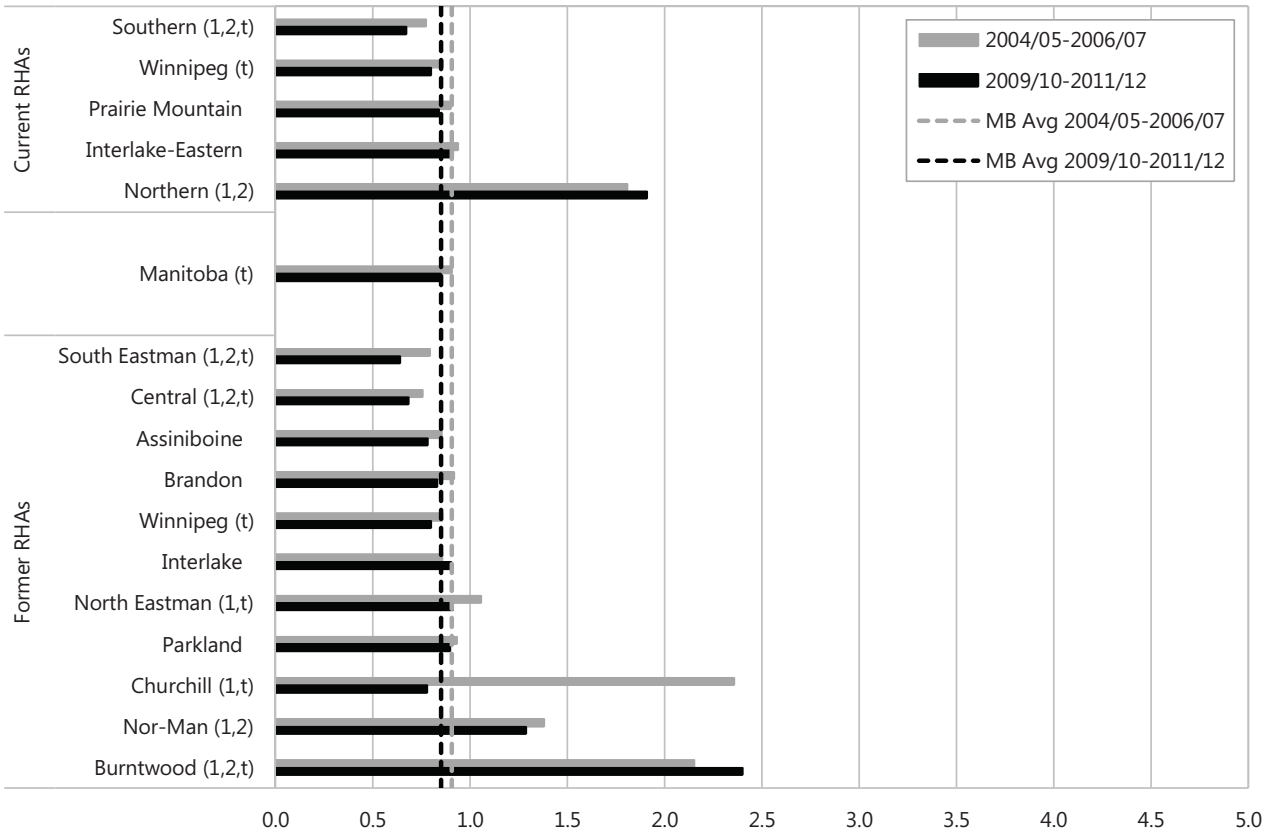
- Diabetes incidence decreased in Manitoba from 0.908 to 0.851 cases per 100 person–years. (As explained above, these values can be interpreted as percent, presuming all residents lived for at least one year). Incidence decreased in all regions except Northern, though only the decreases in Southern and Winnipeg reached statistical significance.
- Diabetes incidence rates were related to PMR at the regional level, with the lowest rates in Southern and the highest in Northern. However, this relationship was not linear: the incidence rate in Northern was double that in all other regions. Incidence was particularly high in the former Burntwood RHA (and increased over time), though the rates for the former NOR–MAN RHA were also above the provincial average.
- Incidence rates varied dramatically across districts in rural regions, ranging from under 0.5 to over 5.0 per 100 person–years. Several districts in Northern and the Northern Remote district of Interlake–Eastern had the highest rates.
- There was less variation across NCs within Winnipeg, though some had higher and some had lower than average rates.
- There were statistically significant relationships between income and diabetes incidence rates in urban and rural areas in both time periods: incidence rates were higher among residents of lower income areas. Among rural residents, the gap across income groups widened over time because the incidence rate among the lowest income group increased slightly, while that in all other income groups decreased (Appendix 2).

Comparison to Other Findings

- This indicator has not been included in MCHP reports before. However, we applied the same definition to earlier time periods. The results revealed that over the last 10 years, diabetes incidence increased from 0.761 to 0.908 and then decreased to 0.851 new cases per 100 person–years.

Figure 4.6.1: Incidence of Diabetes by RHA, 2004/05-2006/07 and 2009/10-2011/12

Age- and sex-adjusted incidence rate per 100 person-years for residents aged 19+



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

Figure 4.6.2: Incidence of Diabetes by District, 2004/05-2006/07 and 2009/10-2011/12

Age- and sex-adjusted incidence rate per 100 person-years for residents aged 19+

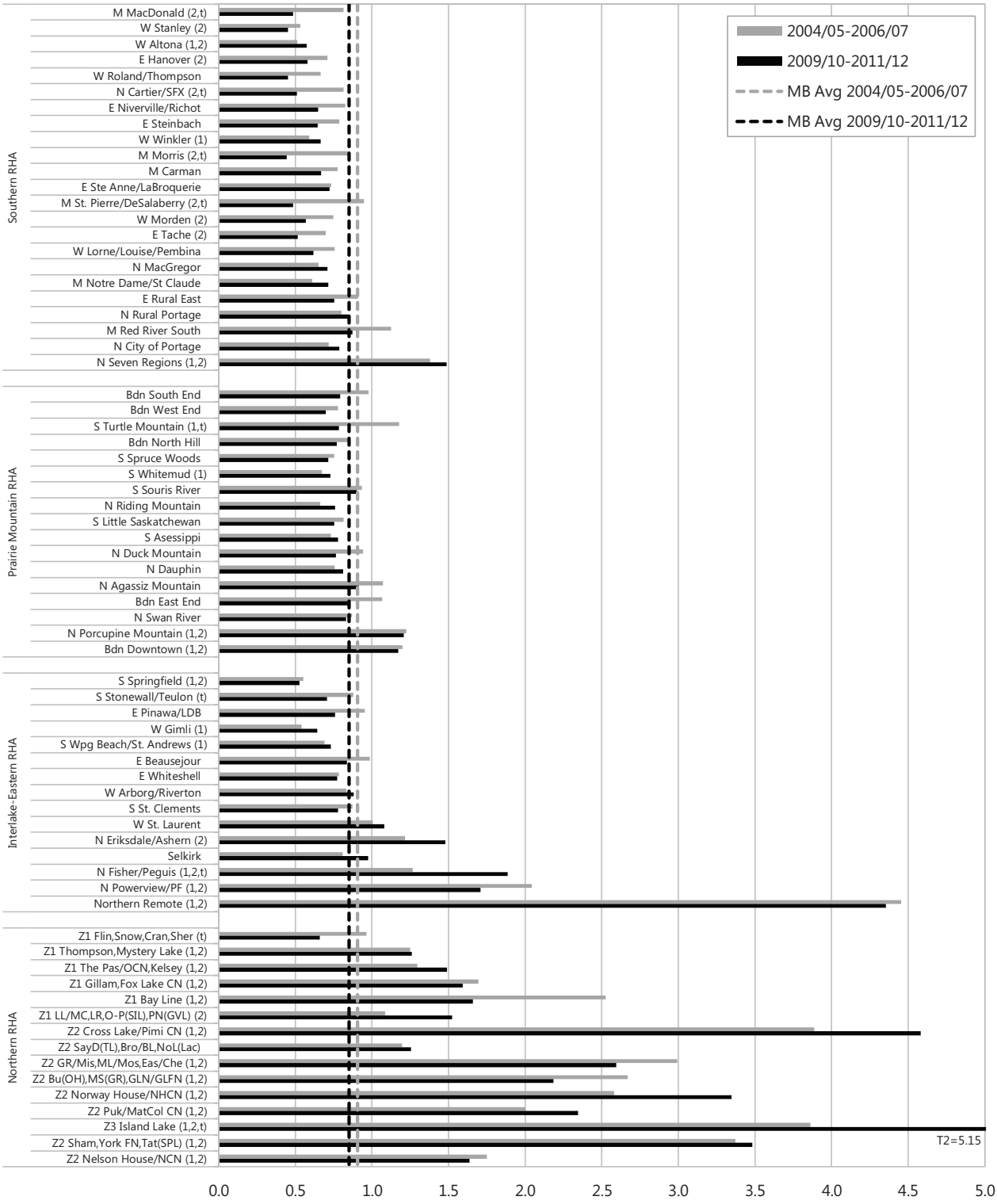
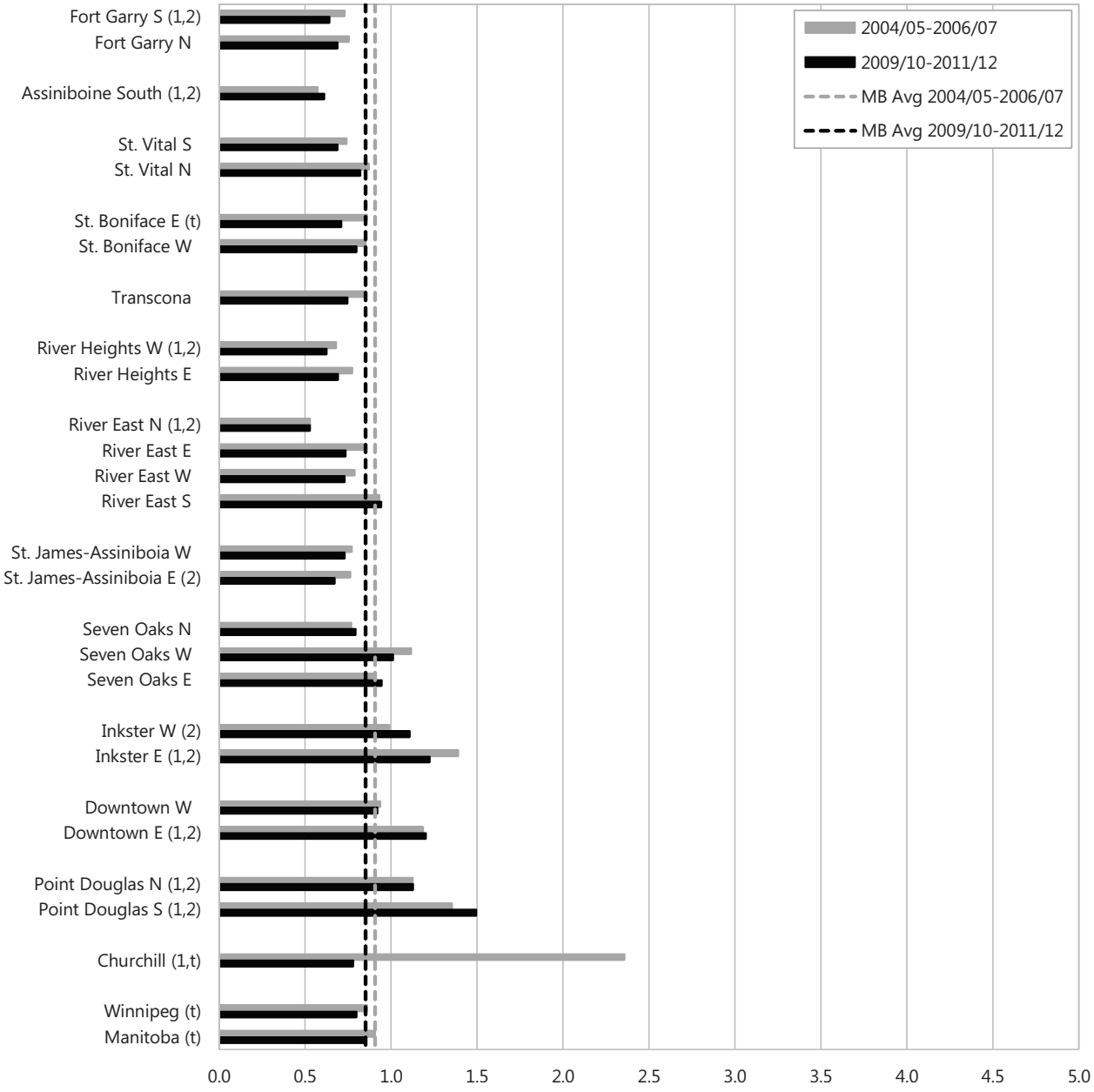


Figure 4.6.3: Incidence of Diabetes by Winnipeg NC, 2004/05-2006/07 and 2009/10-2011/12

Age- and sex-adjusted incidence rate per 100 person-years for residents aged 19+



4.7 Ischemic Heart Disease (IHD) Prevalence

Definition: the percent of residents aged 19 and older with ischemic heart disease (IHD) in a five–year period as defined by either:

- at least one hospitalization with an ICD–9–CM code of 410–414 or an ICD–10–CA code of I20–I22, I24, or I25, or
- at least two physician visits with an ICD–9–CM code listed above, or
- one physician visit with an ICD–9–CM code listed above and at least two prescriptions IHD medications (see Glossary)

Prevalence was calculated for 2002/03–2006/07 and 2007/08–2011/12 and was age– and sex–adjusted to the Manitoba population aged 19 and older in the first time period. See Glossary for further details.

Key Findings

- Ischemic Heart Disease (IHD) prevalence decreased in Manitoba from 8.80% to 7.92% of the population aged 19 and older. This decrease was reflected in all regions except Prairie Mountain, where in its prevalence was higher than average in the second time period.
- IHD prevalence was related to PMR at the regional level: the healthiest region had the lowest rate and the least healthy region had the highest rate, but the regions in the middle did not follow a stepwise gradient.
- There was large variation across districts in rural regions, ranging from under 5% to over 26%. The highest values were in Northern districts, though several districts within Prairie Mountain and Interlake–Eastern had relatively high values.
- There was less variation across NCs within Winnipeg, though some had higher and some had lower than average rates.
- There were strong relationships between income and IHD prevalence in urban and rural areas in both time periods: IHD prevalence was higher among residents of lower income areas. In urban areas, this relationship was strong and linear in both time periods. In rural areas in the first time period, it was dominated by the high prevalence among the lowest income areas. Among rural residents, the gap across income groups widened over time, because the decrease among the lowest income group was very small, whereas all other quintiles decreased more (Appendix 2).

Comparison to Other Findings

- These results are consistent with those from the 2009 and 2003 Atlas reports (Fransoo et al., 2009; Martens et al., 2003) and Section 4.11, which show that rates of **acute myocardial infarction** (**AMI**) (one of the key diagnoses that comprise the IHD group) are decreasing over time in Manitoba.

Appendix Table 2.15: Diabetes Incidence Among Residents Aged 19+

Regional Health Authority	Average number of new cases	CRUDE rate per 100 person-years	Average number of new cases	CRUDE rate per 100 person-years
	2004/05-2006/07		2009/10-2011/12	
Current RHAs				
Southern	665	0.764	618	0.672
Winnipeg	3,258	0.868	3,208	0.841
Prairie Mountain	877	0.964	805	0.896
Interlake-Eastern	650	0.959	684	0.977
Northern	465	1.48	496	1.59
Manitoba	5,943	0.908	5,837	0.876
Former RHAs				
South Eastman	241	0.765	217	0.629
Central	424	0.763	401	0.698
Assiniboine	388	0.950	345	0.873
Brandon	245	0.930	228	0.841
Winnipeg	3,248	0.867	3,205	0.841
Interlake	402	0.896	454	0.980
North Eastman	248	1.08	230	0.972
Parkland	244	1.03	232	1.00
Churchill	9.7	2.07	3.00	0.728
Nor-Man	154	1.28	142	1.24
Burntwood	311	1.60	355	1.80

blank cells = suppressed

Winnipeg Neighbourhood Cluster	Average number of new cases	CRUDE rate per 100 person-years	Average number of new cases	CRUDE rate per 100 person-years
	2004/05-2006/07		2009/10-2011/12	
Fort Garry S	141	0.727	127	0.656
Fort Garry N	121	0.789	130	0.744
Assiniboine South	134	0.613	152	0.678
St. Vital S	146	0.728	160	0.721
St. Vital N	150	0.921	139	0.890
St. Boniface E	175	0.878	165	0.743
St. Boniface W	85	0.908	79	0.846
Transcona	167	0.820	155	0.759
River Heights W	152	0.725	144	0.686
River Heights E	98	0.791	87	0.716
River East N	32.0	0.547	38	0.558
River East E	131	0.807	124	0.751
River East W	209	0.874	201	0.848
River East S	84	0.866	85	0.886
St. James-Assiniboia W	165	0.850	159	0.822
St. James-Assiniboia E	133	0.831	116	0.727
Seven Oaks N	22.0	0.819	26.0	0.849
Seven Oaks W	132	1.09	131	1.05
Seven Oaks E	191	0.968	205	1.01
Inkster W	87	0.906	101	1.08
Inkster E	98	1.353	83	1.19
Downtown W	181	0.907	178	0.907
Downtown E	173	1.13	172	1.18
Point Douglas N	157	1.08	156	1.10
Point Douglas S	84	1.28	92	1.39
Churchill	9.7	2.07	3.00	0.728

Income Quintile	ADJUSTED rate per 100 person-years	
	2004/05-2006/07	2009/10-2011/12
Income Unknown	1.01	1.02
Lowest Rural R1	1.42	1.47
R2	0.924	0.881
R3	0.919	0.868
R4	0.797	0.730
Highest Rural R5	0.789	0.683
Lowest Urban U1	1.12	1.11
U2	0.959	0.887
U3	0.839	0.807
U4	0.736	0.706
Highest Urban U5	0.623	0.569
linear trend rural T1		**<.0001**
linear trend rural T2		**<.0001**
compare rural trends over time		**0.0089**
linear trend urban T1		**<.0001**
linear trend urban T2		**<.0001**
compare urban trends over time		0.3792

bold trend = significant