

Definition/Description:

Mortality data helps to identify opportunities for interventions to improve the health of the population, particularly where deaths are premature or preventable. Both rates and standardized mortality rates provide valuable information to describe populations. The former describe actual events, and are used to reflect the burden of health care needs while the latter are indicators of relative risk when comparing mortality among sub-populations (geographies or sex) that have different age characteristics.

Standardized mortality rate (SMR) is a traditional measure of mortality. SMR is the number of deaths age standardized to a reference or standard population. In other words, age-adjusted to a standard population. Age-adjusted mortality rates are constructs that show what the level of mortality would be if no changes occurred in the age composition of the population from year to year. Age-adjusted mortality rates are used to compare relative mortality risks among groups over time. For this report, age-adjusted rates were computed using the direct-standardized method and the 2000 WHR population as the standard population.

The indicators are measured using counts, crude rates, age-adjusted rates, relative rates, and rate differences.

Relative ratios were calculated to determine how each neighbourhood cluster rate compares to the rest of Winnipeg. Differences in rates are generated to determine how much the rates differ in the population. In other words, relative ratios are generated to determine the magnitude of the risk that exists between areas, and rate differences are generated to quantify the risk. For further information on how to interpret relative ratios and rate differences see Methods, Data Book, CHA Report 2004.

The rates have been generated for sub-geographies within the WHR called Neighbourhood Clusters (See Neighbourhood Cluster Map, Methods, Data Book, CHA Report 2004).

Source:

The death data used in this report was obtained from Vital Statistics Agency, Consumer and Corporate Affairs, Manitoba Finance and Manitoba Bureau of Statistics, Government of Manitoba. All numerical values, tables, and figures (including spatial analyses) were generated by the Population Health and Health System Analysis Unit, Winnipeg Regional Health Authority.

For further information, a comprehensive Mortality Report, Winnipeg Regional Health Authority, 2004, can be found at

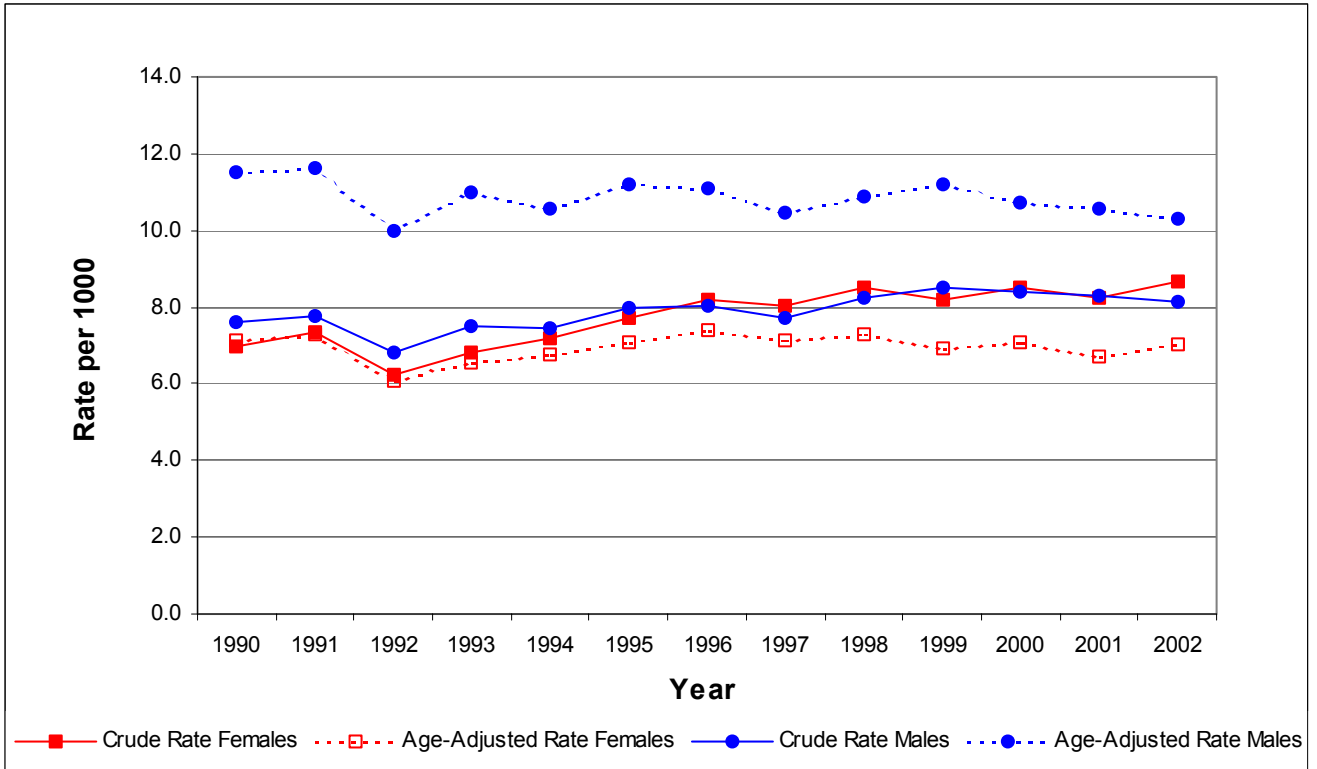
<http://www.wrha.mb.ca/howcare/decsup/files/population/WRHAMortalityReport2004.pdf>

Findings:**Mortality: Crude and Age-Adjusted Rates in the Winnipeg Health Region by Sex, 1990-2002**

Year	Measures of Mortality								
	Both Genders			Females			Males		
	Number of Deaths	Crude Rate	Age-Adjusted Rate	Number of Deaths	Crude Rate	Age-Adjusted Rate	Number of Deaths	Crude Rate	Age-Adjusted Rate
1990	4622*	7.28	8.80	2281	6.98	7.12	2341	7.59	11.51
1991	4821*	7.54	8.97	2412	7.34	7.29	2409	7.76	11.62
1992	4151*	6.50	7.59	2045	6.23	6.10	2106	6.80	9.98
1993	4604*	7.17	8.27	2263	6.84	6.57	2341	7.52	10.99
1994	4729	7.32	8.26	2395	7.20	6.78	2334	7.44	10.58
1995	5037	7.82	8.68	2554	7.69	7.10	2483	7.95	11.20
1996	5186	8.11	8.81	2703	8.20	7.39	2483	8.01	11.07
1997	5049	7.90	8.46	2651	8.05	7.13	2398	7.73	10.48
1998	5312	8.35	8.70	2777	8.48	7.29	2535	8.22	10.90
1999	5303	8.33	8.57	2674	8.16	6.93	2629	8.50	11.22
2000	5407	8.44	8.53	2799	8.50	7.06	2608	8.38	10.73
2001	5314	8.26	8.24	2722	8.23	6.69	2592	8.30	10.59
2002	5435	8.42	8.30	2881	8.68	7.03	2554	8.14	10.28

*Excludes 2 deaths in 1990, 2 deaths in 1991, 1 death in 1992, 1 death in 1993.
These 6 deaths were excluded from all rate calculations due to unknown ages.

Mortality: Crude and Age-Adjusted Rates in the Winnipeg Health Region for Males and Females, 1990-2002



**Mortality Rates in the Winnipeg Health Region by Neighbourhood Cluster and Sex,
1995-1999**

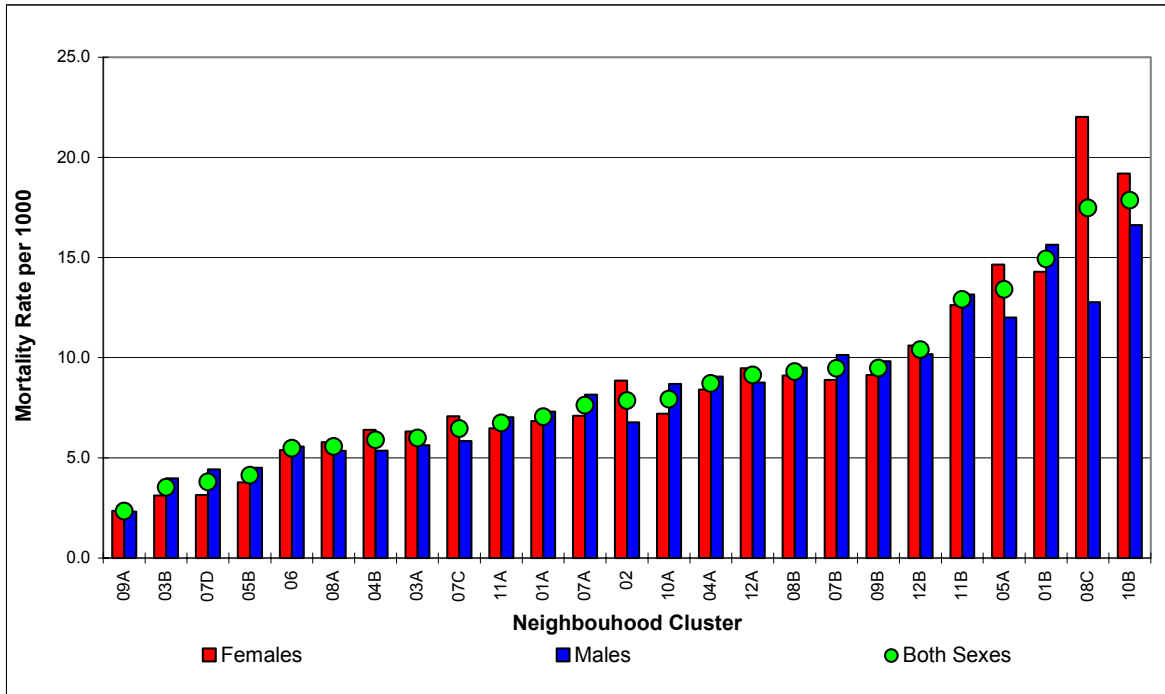
Community Area	Neighbourhood Cluster	Both Sexes			Females			Males		
		Deaths	Crude Rate per 1000	Age-Adjusted Rate per 1000	Deaths	Crude Rate per 1000	Age-Adjusted Rate per 1000	Deaths	Crude Rate per 1000	Age-Adjusted Rate per 1000
St. James-Assiniboia	01A	1168	7.1	8.0	587	6.8	6.5	581	7.3	10.9
	01B	2042	14.9	10.6	1032	14.3	8.5	1010	15.6	13.9
Assiniboine South	002	1425	7.9	8.6	837	8.9	7.7	588	6.8	10.3
Fort Garry	03A	757	6.0	7.3	413	6.3	6.5	344	5.6	8.3
	03B	602	3.5	6.2	272	3.1	4.9	330	4.0	8.1
St. Vital	04A	1193	8.7	7.6	607	8.4	6.4	586	9.1	9.8
	04B	956	5.9	10.1	535	6.4	9.2	421	5.4	11.3
St. Boniface	05A	1052	13.4	9.2	609	14.7	7.7	443	12.0	11.6
	05B	618	4.1	6.3	286	3.8	5.3	332	4.5	7.6
Transcona	006	856	5.5	8.8	424	5.4	7.4	432	5.6	10.9
River East	07A	680	7.6	9.2	319	7.1	7.6	361	8.1	11.4
	07B	1835	9.5	7.5	916	8.9	5.9	919	10.1	10.4
	07C	882	6.5	10.9	491	7.1	9.8	391	5.8	12.5
	07D	115	3.8	8.0	47	3.1	5.7	68	4.4	12.7
Seven Oaks	08A	580	5.6	9.7	308	5.8	8.4	272	5.3	11.6
	08B	1517	9.3	8.2	781	9.1	7.2	736	9.5	9.5
	08C	340	17.5	13.0	218	22.0	11.7	122	12.8	15.4
Inkster	09A	204	2.3	5.8	103	2.3	5.4	101	2.3	6.3
	09B	643	9.5	10.4	314	9.1	8.5	329	9.8	13.2
Point Douglas	10A	1054	7.9	7.9	487	7.2	6.3	567	8.7	10.2
	10B	1285	17.9	14.9	669	19.2	11.7	616	16.6	19.8
Downtown	11A	1294	6.7	7.2	634	6.5	5.6	660	7.0	9.8
	11B	2052	12.9	12.7	961	12.6	9.7	1091	13.2	17.3
River Heights	12A	1629	9.1	7.4	901	9.5	6.2	728	8.8	9.6
	12B	1108	10.4	8.1	608	10.6	6.8	500	10.2	10.6
Winnipeg Health Region		25887	8.1	8.6	13359	8.1	7.2	12528	8.1	11.0

Mortality Rates in the Winnipeg Health Region by Neighbourhood Cluster and Sex, 1990-1994

Community Area	Neighbourhood Cluster	Both Sexes			Females			Males		
		Deaths	Crude Rate per 1000	Age-Adjusted Rate per 1000	Deaths	Crude Rate per 1000	Age-Adjusted Rate per 1000	Deaths	Crude Rate per 1000	Age-Adjusted Rate per 1000
St. James-Assiniboia	01A	973	5.7	7.8	460	5.2	6.1	513	6.2	10.8
	01B	1691	12.1	9.4	856	11.6	7.6	835	12.6	12.3
Assiniboine South	002	1256	6.9	9.2	700	7.5	7.8	556	6.3	11.8
Fort Garry	03A	672	6.0	8.0	348	6.1	6.8	324	6.0	10.0
	03B	557	3.4	7.4	248	2.9	6.0	309	3.8	9.4
St. Vital	04A	970	6.9	6.8	484	6.6	5.6	486	7.4	8.9
	04B	759	5.0	10.1	421	5.4	8.9	338	4.6	12.1
St. Boniface	05A	1028	12.6	9.1	536	12.3	6.9	492	12.9	12.9
	05B	552	3.9	6.5	239	3.3	5.1	313	4.4	8.3
Transcona	006	776	5.0	9.0	381	4.9	7.7	395	5.1	10.8
River East	07A	647	7.1	8.5	280	6.0	6.5	367	8.2	11.0
	07B	1499	7.6	7.1	746	7.2	5.6	753	8.1	9.6
	07C	557	4.2	8.9	279	4.1	7.6	278	4.2	10.7
	07D	33	1.9	6.5	10	1.2	4.2	23	2.6	11.4
Seven Oaks	08A	458	4.6	10.5	259	5.1	9.7	199	4.1	12.3
	08B	1274	7.9	7.6	598	7.1	6.2	676	8.8	9.4
	08C	263	14.5	10.9	185	19.9	10.4	78	8.9	12.4
Inkster	09A	151	1.8	6.5	61	1.4	5.2	90	2.2	8.1
	09B	618	8.8	10.2	308	8.7	8.6	310	9.0	12.6
Point Douglas	10A	1130	8.1	8.2	485	6.8	6.2	645	9.5	10.9
	10B	1268	15.9	13.6	607	15.5	9.6	661	16.2	18.6
Downtown	11A	1329	6.7	7.3	613	6.1	5.5	716	7.3	10.3
	11B	1886	10.8	11.1	891	10.5	8.3	995	11.1	15.2
River Heights	12A	1550	8.4	7.3	868	8.8	6.2	682	8.0	9.3
	12B	1030	9.4	7.8	533	8.9	6.1	497	9.9	10.7
Winnipeg Health Region*		22927	7.2	8.4	11396	6.9	6.8	11531	7.4	10.9

* Winnipeg Health Region total excludes 6 deaths between 1990-1994
These 6 deaths were excluded from all rate calculations due to unknown ages.

Comparison of Crude Mortality Rates per 1000 population by Neighbourhood Cluster, 1995-1999

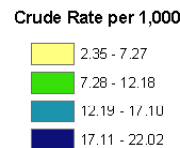
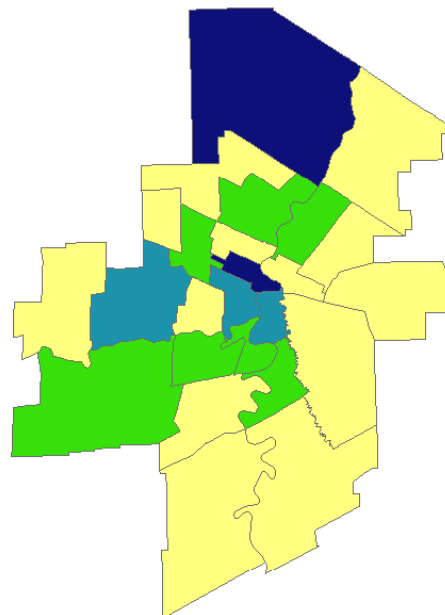


Note: Please refer to the Methods, Data Book 2004 for a listing of Neighbourhood Clusters by Name

Mortality Rate for Females in the Winnipeg Health Region by Neighbourhood Cluster, 1995-1999

A spatial representation of the crude mortality rates for females is shown to the right. The highest crude mortality rates were found in:

- Seven Oaks - 08C
- Point Douglas - 10B
- St. Boniface - 05A
- St. James-Assiniboia - 01B
- Downtown - 11B

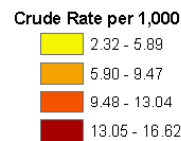
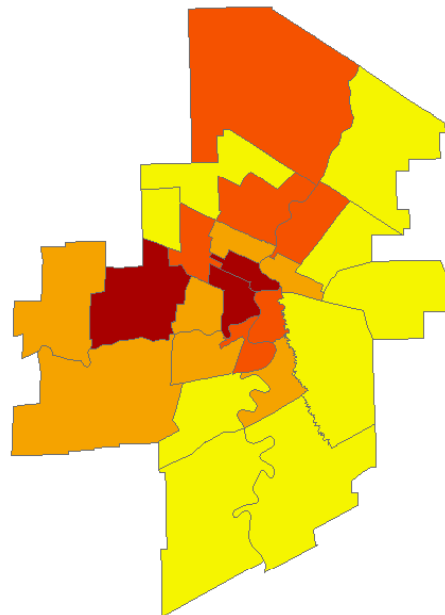


Note: Seven Oaks 08C has the highest crude mortality rate. However, the reader should be cautious when interpreting, as 08C has a small population and a large personal-care home, which may contribute to a higher crude rate. When the rates are age-adjusted, the difference narrows.

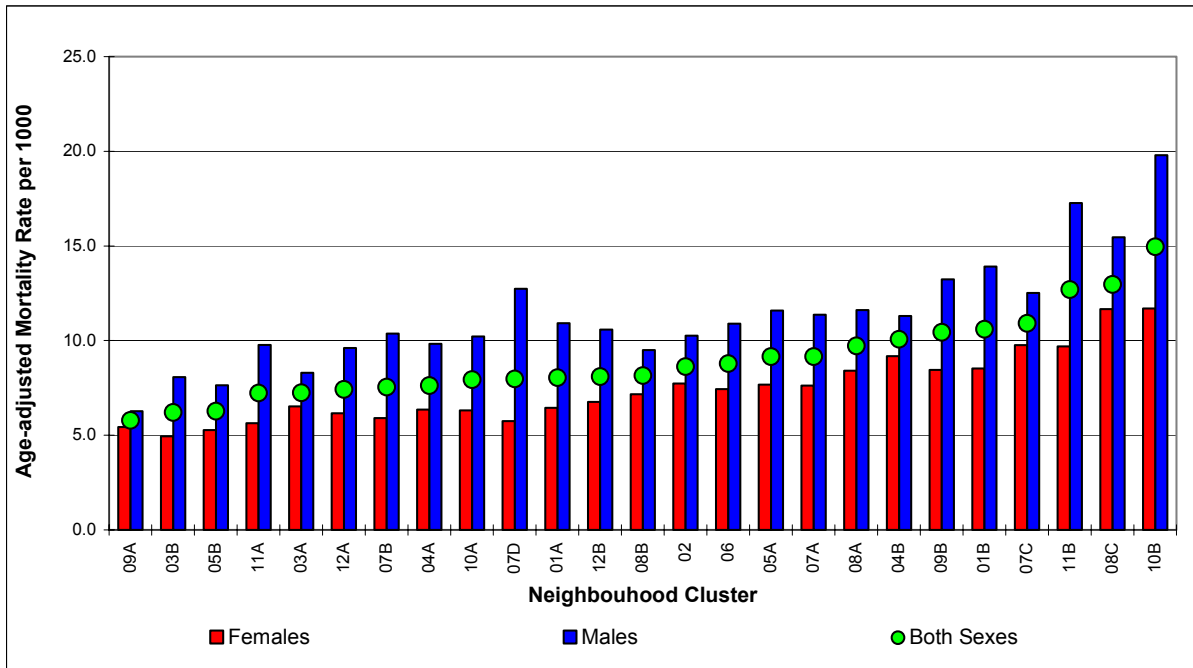
Mortality Rate for Males in the Winnipeg Health Region by Neighbourhood Cluster, 1995-1999

A spatial representation of the crude mortality rates for males is shown to the right. The highest crude mortality rates were found in:

- Point Douglas - 10B
- St. James-Assiniboia - 01B
- Downtown - 11B
- Seven Oaks - 08C
- St. Boniface - 05A



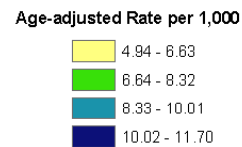
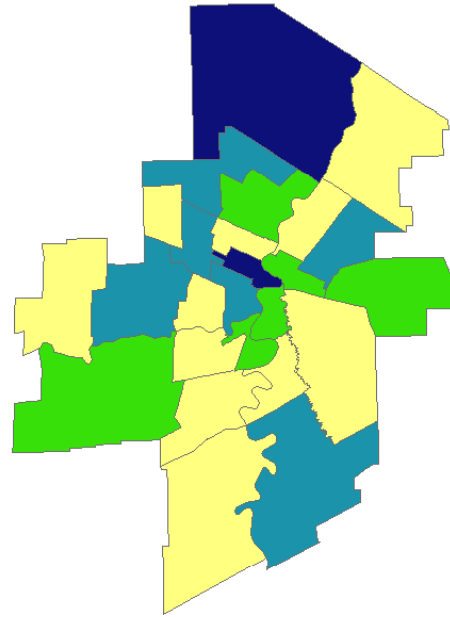
Comparison of Age-Adjusted Mortality Rate per 1000 population by Neighbourhood Cluster, 1995-1999



Age-Adjusted Mortality Rate for Females in the Winnipeg Health Region by Neighbourhood Cluster, 1995-1999

A spatial representation of the age-adjusted mortality rates for females is shown to the right. The highest age-adjusted mortality rates were found in:

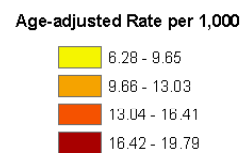
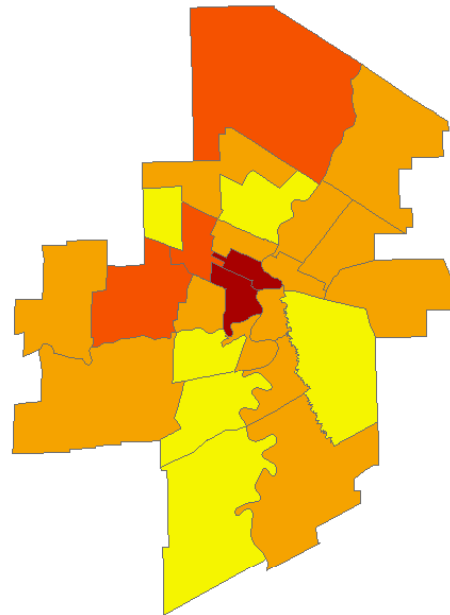
- Point Douglas - 10B
- Seven Oaks - 08C
- Downtown - 11B
- River East - 07C
- St. Vital - 04B



Age-Adjusted Mortality Rate for Males in the Winnipeg Health Region by Neighbourhood Cluster, 1995-1999

A spatial representation of the age-adjusted mortality rates for males is shown to the right. The highest age-adjusted mortality rates were found in:

- Point Douglas - 10B
- Downtown - 11B
- Seven Oaks - 08C
- St. James-Assiniboia - 01B
- Inkster - 09B

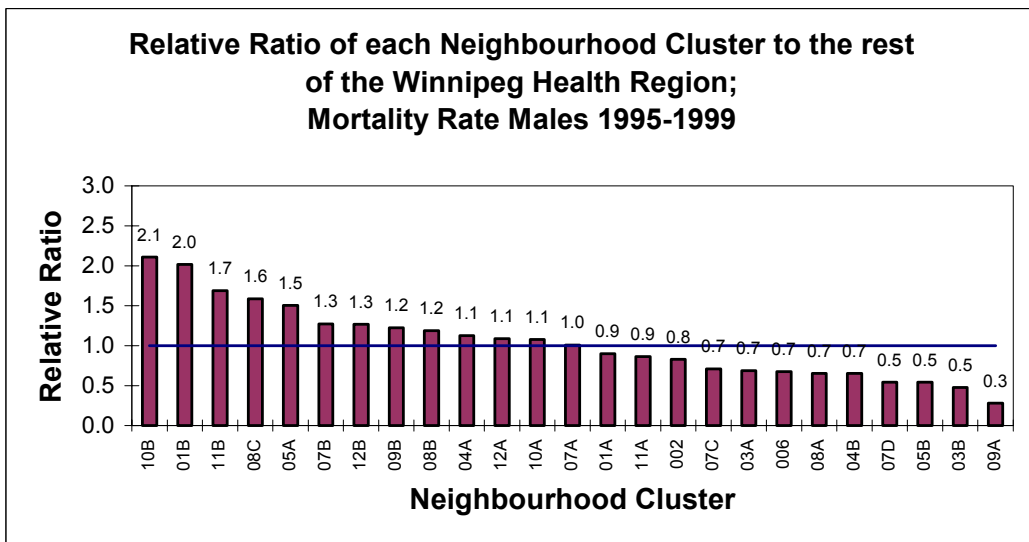
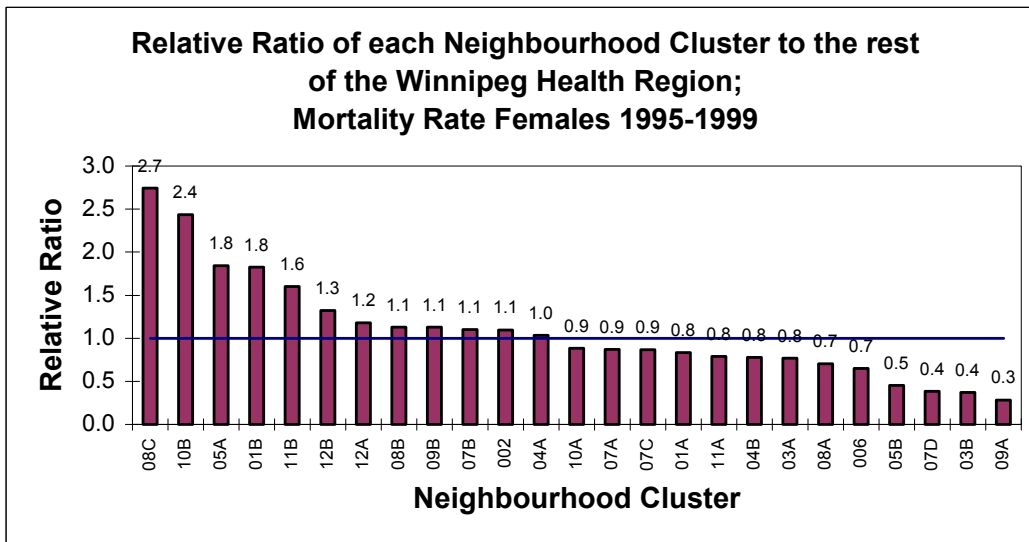
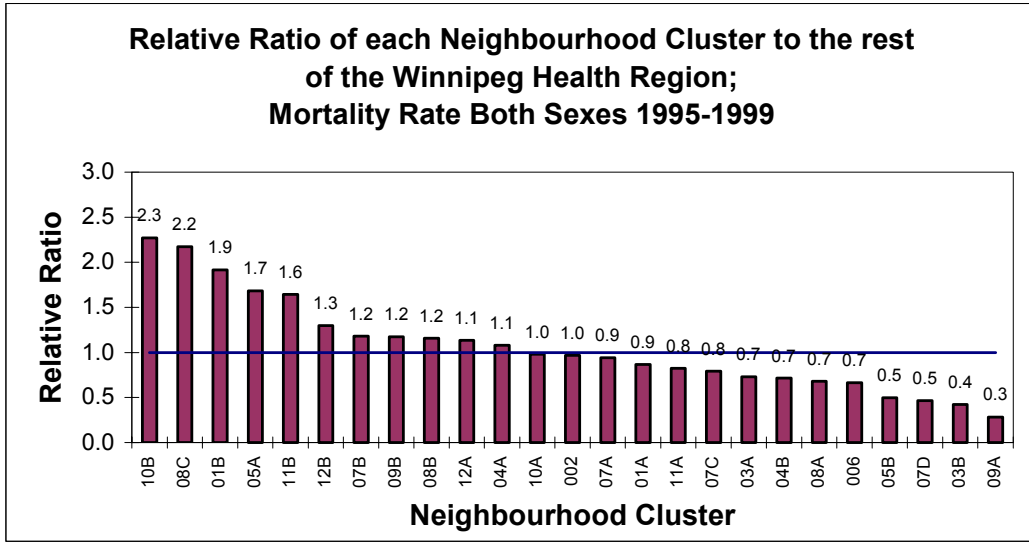


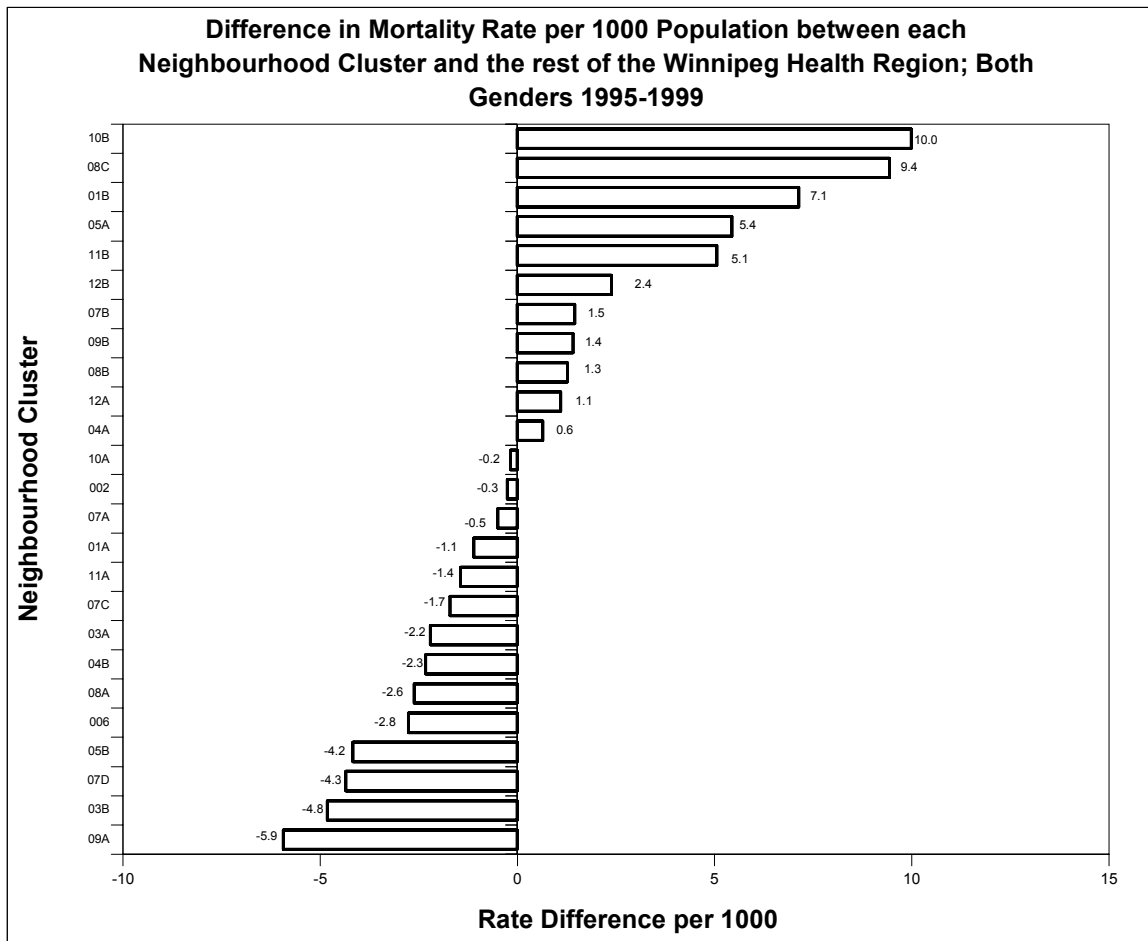
Relative Ratios and Rate Differences for Mortality Rates in the Winnipeg Health Region by Neighbourhood Cluster and Sex, 1995-1999

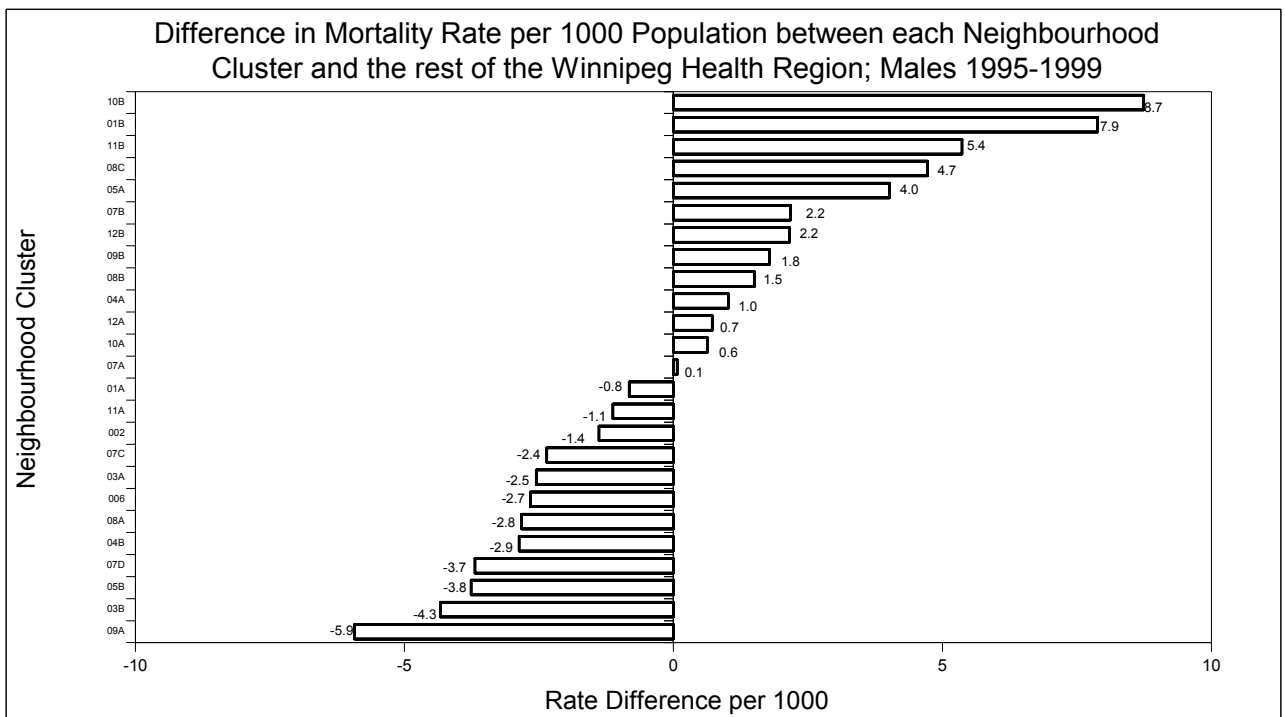
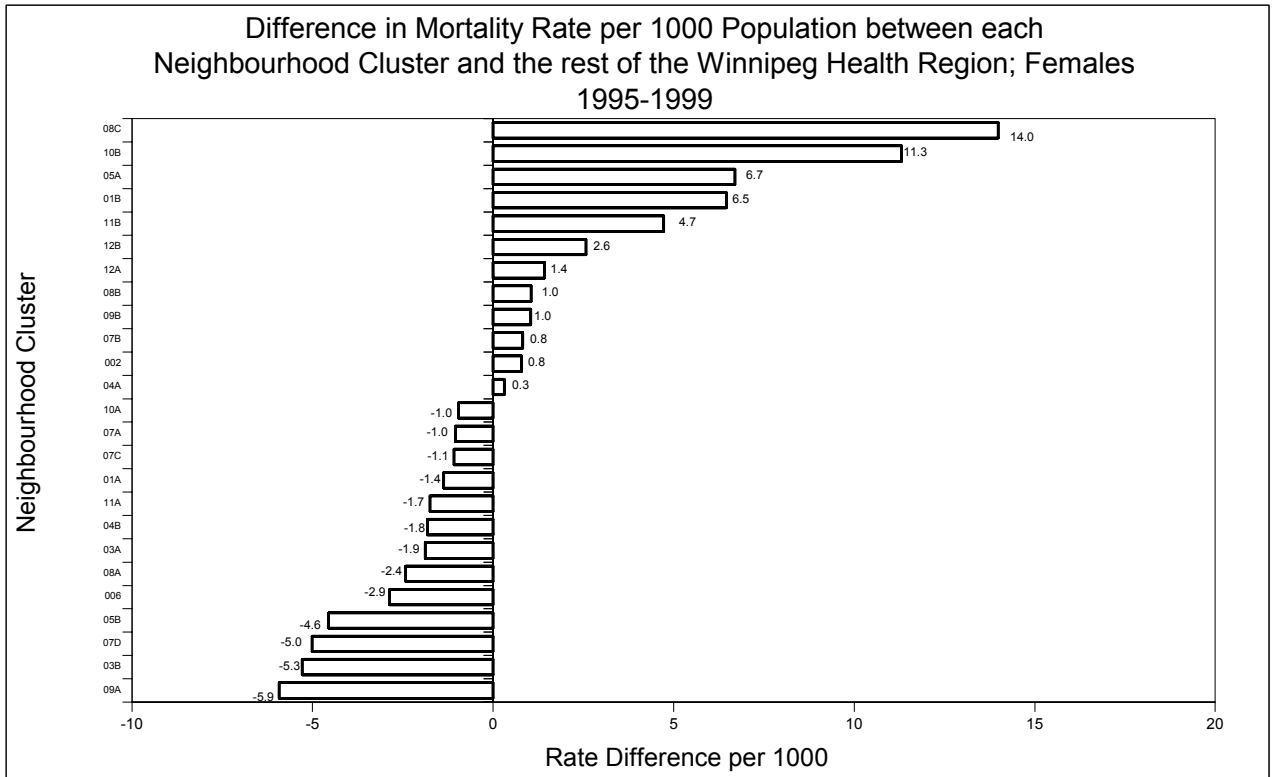
Community Area	Neighbourhood Cluster	Both Sexes		Females		Males	
		*Relative Ratio of each NC compared to the rest of the WHR	** Difference in Rate per 1000 between each NC and the rest of the WHR	*Relative Ratio of each NC compared to the rest of the WHR	** Difference in Rate per 1000 between each NC and the rest of the WHR	*Relative Ratio of each NC compared to the rest of the WHR	** Difference in Rate per 1000 between each NC and the rest of the WHR
St. James-Assiniboia	01A	0.9	-1.1	0.8	-1.4	0.9	-0.8
	01B	1.9	7.1	1.8	6.5	2.0	7.9
Assiniboine South	002	1.0	-0.3	1.1	0.8	0.8	-1.4
Fort Garry	03A	0.7	-2.2	0.8	-1.9	0.7	-2.5
	03B	0.4	-4.8	0.4	-5.3	0.5	-4.3
St. Vital	04A	1.1	0.6	1.0	0.3	1.1	1.0
	04B	0.7	-2.3	0.8	-1.8	0.7	-2.9
St. Boniface	05A	1.7	5.4	1.8	6.7	1.5	4.0
	05B	0.5	-4.2	0.5	-4.6	0.5	-3.8
Transcona	006	0.7	-2.8	0.7	-2.9	0.7	-2.7
River East	07A	0.9	-0.5	0.9	-1.0	1.0	0.1
	07B	1.2	1.5	1.1	0.8	1.3	2.2
	07C	0.8	-1.7	0.9	-1.1	0.7	-2.4
	07D	0.5	-4.3	0.4	-5.0	0.5	-3.7
Seven Oaks	08A	0.7	-2.6	0.7	-2.4	0.7	-2.8
	08B	1.2	1.3	1.1	1.0	1.2	1.5
	08C	2.2	9.4	2.7	14.0	1.6	4.7
Inkster	09A	0.3	-5.9	0.3	-5.9	0.3	-5.9
	09B	1.2	1.4	1.1	1.0	1.2	1.8
Point Douglas	10A	1.0	-0.2	0.9	-1.0	1.1	0.6
	10B	2.3	10.0	2.4	11.3	2.1	8.7
Downtown	11A	0.8	-1.4	0.8	-1.7	0.9	-1.1
	11B	1.6	5.1	1.6	4.7	1.7	5.4
River Heights	12A	1.1	1.1	1.2	1.4	1.1	0.7
	12B	1.3	2.4	1.3	2.6	1.3	2.2

* A measure of the relative risk of that area with respect to the rest of the Winnipeg Health Region

** A measure of the number of individuals per 1000 in the area potentially at risk compared to the rest of the Winnipeg Health Region







Highlights:

Regional Rates:

- The total number of deaths for residents in the Winnipeg Health Region has been increasing since 1990. In 2002 there were 5435 deaths.
- There was a 12.9% increase in the number of deaths (25887) in 1995-1999 compared to the number of deaths (22933) in 1990-1994. The crude death rate has increased by 12.5% over this same time period, from 7.2 per 1000 population in 1990-1994 to 8.1 per 1000 population in 1995-1999. Increases in numbers of deaths are anticipated with a larger ageing population. Similar trends are noted for males and females.
- The average rate of change in the crude death rate from 1990-2002 for females is 0.14 deaths per 1000 population per year. The average rate of change in the crude death rate from 1990-2002 for males is also increasing, at a rate of 0.05 deaths per 1000 population per year. This results in a change in rate three times greater for females than to males over that time period.
- In 2002, the age-adjusted death rate for females is 7.03 deaths per 1000 WHR standard population and the age-adjusted death rate for males in 2002 is 10.28 deaths per 1000 WHR standard population. Since 1990, the age-adjusted death rate for females has fluctuated between 6.10 and 7.39 deaths per 1000 WHR standard population, reflecting an overall decrease of 0.01 deaths per 1000 population per year. Similarly, the age-adjusted death rate for males has fluctuated between 9.98 and 11.62 deaths per 1000 WHR standard population, reflecting a larger overall decrease of 0.1 deaths per 1000 population per year in this same time frame.

Neighbourhood Cluster Rates:

- The highest crude mortality rates for males, females, and both sexes combined were found in the following neighbourhood clusters for the period 1995-1999:
 - Point Douglas 10B,
 - Seven Oaks 08C,
 - St. James-Assiniboia 01B,
 - St. Boniface 05A,
 - Downtown 11B.
- The NCs found to have the lowest crude mortality rates for males, females, and both sexes combined within the same time period were:
 - Inkster 09A,
 - Fort Garry 03B,
 - River East 07D,
 - St. Boniface 05B
 - Transcona 006.
- Wide variations in age-adjusted mortality rates exist among the 25 NCs. Age-adjusted mortality rates among the NCs range from 5.8 to 14.9 per 1000 population for both sexes for the five-year period 1995-1999. The highest rates were found in:
 - Point Douglas 10B,
 - Seven Oaks 08C,
 - Downtown 11B,
 - River East 07C,
 - St. James-Assiniboia 01B.
- The lowest rates were found in:
 - Inkster 09A,
 - Fort Garry 03B,
 - St. Boniface 05B,
 - Downtown 11A,
 - Fort Garry 03A.
- Overall, NCs St. James-Assiniboia 01B, Seven Oaks 08C and Point Douglas 10B have a death rate between 1.9 and 2.3 times greater than the rest of the WHR. Inkster 09A, Fort

Garry 03B, River East 07D, and St. Boniface 05B have the lowest relative ratio compared to the rest of the WHR, ranging from 0.3 to 0.5.

- Differences in mortality rates between NCs reflect the actual number of deaths per 1000 population. For example, the NC Point Douglas 10B shows a rate difference of 10.0, which translates into 10 more deaths per 1000 population than the rest of the region. Concurrently, Inkster 09A has a rate difference of -5.9, which translates into approximately 6 fewer deaths per 1000 population than the rest of the region.
- Females in NC St. James-Assiniboia 01B have a relative ratio of 1.8, which means that females in this neighbourhood cluster have a death rate 1.8 times greater than females in the rest of the WHR. The rate difference between St. James-Assiniboia 01B and the rest of the WHR was 6.5 more deaths per 1000 female population (Figure 12). In absolute terms, this represents 6.5 more deaths per 1000 female population than the rest of the WHR. Similar comparisons can be repeated for each of the neighbourhood clusters.