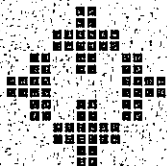


Population Health Information System
1991/92

**Utilization of
Personal Care Home Resources
Volume II: Methods and Tables**

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

Carolyn DeCoster, R.N., M.B.A.
Norah Lou Roos, Ph.D.
Bogdan Bogdanovic, B.Comm., B.A.

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The Manitoba Centre for Health Policy and Evaluation

The Manitoba Centre for Health Policy and Evaluation (MCHPE) is a unit within the Department of Community Health Sciences, Faculty of Medicine, University of Manitoba. The MCHPE is active in health services research, evaluation and policy analysis, concentrating on using the Manitoba health data base to describe and explain patterns of care and profiles of health and illness.

Manitoba has one of the most complete, well-organized and useful health data bases in North America. The data base provides a comprehensive, longitudinal, population-based administrative record of health care use in the province.

Members of the MCHPE consult extensively with government officials, health care administrators, and clinicians to develop a research agenda that is topical and relevant. This strength, along with its rigorous academic standards and its exceptional data base, uniquely position the MCHPE to contribute to improvements in the health policy process.

The Centre's researchers are widely published and internationally recognized. They collaborate with a number of highly respected scientists from Canada, the United States and Europe.

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UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92

VOLUME II: METHODS AND TABLES

Introduction to the Population Health Information System

In January 1991, the Manitoba Centre for Health Policy and Evaluation (MCHPE) was established at the University of Manitoba to provide the Department of Health with research-based analyses, evaluation and policy options. The researchers agreed to undertake several specific projects each year. In addition, they agreed to develop a health information system for the province.

The Population Health Information System (PHIS) is designed to focus on the link between health care utilization and health, and to make it possible to examine how effectively and efficiently health care services produce health in the population. We have attempted to develop an information system to facilitate rational decision making and ultimately to permit shifting the focus of discussions from the demand for health care services to the demand for health. The system is population-based, designed to track the health status and the use of health care services by residents of given regions (regardless of where such use takes place), as distinct from examining use of clinical care for individual patients or treatments by specific providers. The PHIS also identifies the socioeconomic characteristics of regional residents since low socioeconomic status has long been linked to poorer health outcomes and greater need for health care.

The Population Health Information System will produce separate reports for each of the modules outlined. Each module will contain a summary and detailed discussion of findings, as well as an appendix with detailed tables. This report contains the Utilization of Personal Care Home Resources Module.

MODULES OF THE POPULATION HEALTH INFORMATION SYSTEM

Population Health: Health Status Indicators

Socioeconomic Characteristics

Utilization of Hospital Resources

Utilization of Personal Care Home Resources

Utilization of Physician Resources

We intend for this first report of the PHIS to have limited distribution, primarily to obtain comment and feedback. Subsequent reports will examine several years of data; trends over time will be of most interest.

Note that the data to date are presented without benefit of statistical tests or confidence intervals.

This is not a problem since we are dealing with data for an entire population, not a sample. Also, we use multiple independent indicators and only draw conclusions when several indicators point in the same direction. The data represent usage for the entire Manitoba population at one point in time.

The small size of some regions (specifically Thompson and Norman) must be acknowledged: conclusions drawn from the data from these regions must remain tentative.

METHODS

Introduction

The Personal Care Home module of the Population Health Information System (PHIS) examines Manitoba's utilization of nursing homes for the fiscal year in question (April 1 to March 31). For this report, claims for the year 1991/1992 were analyzed; in subsequent reports, several years of data will be analyzed and trends assessed.

Analyses were conducted to study utilization of PCH resources by residents of regions defined by Manitoba Health, with Winnipeg examined as a single region. Overall provincial utilization patterns were used as a comparison. Since Winnipeg utilization patterns strongly affect the provincial averages, an aggregate of non-Winnipeg regions was also developed. Since this is a population-based analysis, population figures for each region were used as the denominators for all rate calculations.

The numerator for all rates was calculated either by counting individuals (eg. number of individuals admitted) or by summarizing events (e.g. number of days in PCH) for individuals who had been residents of the specific region upon entry to PCH.

Rates of the number of persons using PCH services, the number of admissions, the number of days of PCH care and the estimated annual costs for PCH care (per 1000 residents of a region) were developed. In addition to crude rates, age- and sex-standardized rates of indicators were developed to permit comparisons across regions. Rates were standardized using an indirect method.

Definitions

Manitoba Population All tables are based on claims for Manitoba residents alive as of December 31, 1991. Thus persons who died between January 1 and March 31, 1992, were counted in the population denominators.

Although residents who move to another province are covered by Manitoba for hospital and medical services for three months, this is not true of nursing home services. Therefore, as soon as a person leaves the province, he or she is excluded from the population counts for PCH utilization.

Region of Residence Manitoba is divided by Manitoba Health into eight regions: Central, Eastman, Interlake, Norman, Parklands, Thompson, Westman and Winnipeg. For numerator data, i.e. PCH use data, Region of Residence was assigned according to the Municipal Code in the PCH file, which refers to the last region of residence prior to admission to PCH and does not change regardless of the location of the PCH. ¹ For non-PCH residents, Region of Residence is identified from the MHSC population registry. Many Status Indians do not actually reside on the reserve with which they are registered. In this case, the postal code associated with each claim is used to determine region of residence.

The Health Information System is designed to provide comparative information on the population's use of the health care system. If a Norman resident enters a PCH in the Norman region, but

¹ The registry could not be used to assign region of residence because of the length of stay in PCH: municipal code in the registry changes to that of the PCH whereas the municipal code in the PCH file remains the same for as long as the person resides in a PCH.

subsequently is transferred to a PCH in Winnipeg, the individual's use remains associated with the Norman region, just as Norman residents hospitalized in Winnipeg are counted in the Norman rates. This is the accepted method for obtaining a picture of various populations' use of the health care system.

Analyses were also conducted based on Personal Care Home Region, rather than Region of Residence prior to admission to PCH; these tables are available on request from the Manitoba Centre for Health Policy and Evaluation (Volume III of the Utilization of Personal Care Home Resources, 1991/92).

Age The age of an individual is determined as of December 31. Age was stratified into six age groups (0-64, 65-74, 75-79, 80-84, 85-89, 90+). For most of the analyses the latter four age groups were combined into one: all individuals aged 75 or older.

Nursing Homes and Beds In 1991/92 there were 118 nursing homes in Manitoba², comprising 8,558 beds. There are three hospitals in the province, with a total of 27 beds, that function like nursing homes, but are not accredited as such.³ We have not included them in this analyses; they are counted in the hospital analyses.

Residents Residents are all persons who lived in a Personal Care Home at some time during the fiscal year. In 1991/92, there were 10,237 residents of PCH.

² For all analyses, we have excluded the 100-bed Rideau Park PCH in Westman, since the majority of its residents are from the Brandon Mental Health Centre, thus constituting a long term institutionalized population.

³ They are Cartwright (10 beds), Elkhorn (8 beds), and Hartney (9 beds) all in Westman Region.

Admissions In 1991/92, there were 2,152 admissions to nursing homes. Included in this figure are those whose status changed from Respite Care (intermittent care for individuals who live outside of a PCH), to a long term PCH admission.

Estimated PCH Costs Annual costs were estimated based on the gross per diem rates established by Manitoba Health for determining payment to proprietary homes. These rates represent the median of rates in free-standing, non-proprietary nursing homes. The gross per diems include a resident fee, equivalent to about 30% of the total per diem in 1991/92. Our estimated costs are based on these gross per diems, i.e., the resident fee is not netted out. Hence our costs should overestimate the costs of PCH care when compared to data in the Manitoba Health Services Commission Annual Report, which are based on payments. However, several factors mitigate against this:

- (1) Pharmacy costs, which are insured but are not reflected in the per diem, are equivalent to about 10% of the annual resident fee.
- (2) The per diem that we use, i.e. based on the median costs to non-proprietary free-standing homes, is less than the actual median costs to all non-proprietary homes for the following reasons⁴:
 - i) It was developed based on median costs established in 1979/1980, with percentage increases since then.
 - ii) It does not include the costs for juxtaposed facilities because they are prorated between the hospital and the nursing home, and may not reflect actual use costs.

⁴ Personal communication with Long Term Care Branch, Manitoba Health, May 1993.

- iii) The per diem for proprietary homes includes only \$2.40 for capital costs, which is lower than the actual per diem capital costs for non-proprietary homes.

Levels of Care Manitoba has four levels of care designations based on nursing time required. Persons in Levels 3 and 4 require at least 3.5 hours of nursing time over a 24-hour period; Level 2 care provides 2 hours; and Level 1 provides 0.5 hour.

In general, level of care does not change for an entire fiscal period; when level of care does change, the change is not recorded until the beginning of the next fiscal year.

Expected Length of Stay (ELOS) for Admissions Shapiro and Tate⁵ analyzed admissions to Manitoba nursing homes over the period 1974 to 1982, and then determined for each of those individuals their actual length of stay in nursing home. All use was tracked until 1982. To determine which characteristics affect length of stay, a number of characteristics were analyzed, including age, sex and care level at entry. They found average lengths of stay to be quite similar over the entire period studied so we have some basis for using these data, even though they are somewhat dated. From their results, we constructed Table A, reflecting the expected average length of stay for different age, sex and level of care characteristics.

⁵ Shapiro E and Tate R. Survival Patterns of Nursing Home Admissions and Their Policy Implications. *Cdn Jnl Pub Hlth* 1988;79:268-274.

For our analysis, every admission was assigned an Expected Length of Stay (ELOS) based on the person's age, sex and level of care, and these numbers were used to derive mean expected lengths of stay. If standards of admission varied markedly across regions or type of home, (that is, if some facilities tended to admit younger, healthier individuals), this would be reflected in variations in ELOS for individuals admitted.

Table A: Expected Average Length of Stay (Years) by Age and Care Level on Admission for Males and Females

Age	Male		
	Care Level 1	Care Level 2	Care Level 3
<65	14.8	8.2	7.4
65-74	7.2	5.4	3.8
75-84	6.2	3.8	2.7
85+	4.5	3	1.8

Age	Female		
	Care Level 1	Care Level 2	Care Level 3
<65	16.5	10.3	10.3
65-74	14.7	8	5.8
75-84	9.3	6.1	4.4
85+	6.3	4.5	3

Types of Nursing Homes There were two major categories into which all nursing homes were divided: proprietary/non-proprietary and secular/ethno-cultural.

Proprietary/Non-proprietary: Twelve of the 17 proprietary (for-profit) nursing homes are located in Winnipeg. For-profit homes comprise 2311 or 27% of all Manitoba nursing home beds. Non-proprietary homes can be further divided into those that are juxtaposed to an acute care facility and those that are freestanding. There are 39 juxtaposed homes (all outside of Winnipeg), with 1073 or 13% of all nursing home beds and 17% of all non-proprietary nursing home beds.

Secular/Ethno-cultural: Ethno-cultural homes are those residents have chosen because the majority of persons living in those homes profess a particular religious faith, or prefer to speak a language other than English. There are 31 ethno-cultural PCHs in Manitoba, with 2931 or 35% of PCH beds. (All ethno-cultural homes are also non-proprietary.)

From Hospital In deciding whether an individual was admitted to PCH from hospital or community we relied primarily on the "From-code" on the PCH abstract. A check of this coding against discharge dates in the hospital file proved the code to be highly accurate (approximately 99%). Individuals who on the From-code were coded Transfers from PCH were placed in the Admitted from Community category, since upon examination, these proved to be cases previously on respite care, or cases which were transferred from one PCH to another in the first year. The "Other" category includes individuals admitted from Mental Health Centres or which were unspecified in the PCH file.

Other Issues

Change of Residence Prior to PCH Entry One of our concerns in reviewing the nursing home data was the extent of movement by residents in the year or two prior to nursing home admission. If there was considerable movement in order to be close to health care providers or family members, particularly to a region such as Winnipeg, analyses focussing on Region of Residence prior to entry would tend to overstate Winnipeg residents' use of nursing homes. We compared the municipal code

from the population registry file both at 24 months before and at the time of admission with municipal code from the PCH file. In most regions, except for Eastman, Interlake and Thompson, over 90% of individuals are admitted to PCH from the same region in which they lived two years previously. In both Interlake and Eastman, there are many small communities near Winnipeg which are virtually suburbs of Winnipeg. In Thompson, there is only one nursing home that is in the provincial PCH program, and it is on a Reserve; hence the out-migration from Thompson to Winnipeg, Norman and Parklands.

Inclusion of Status Indians The question of inclusion of Status Indians arises because we do not have data on federally funded PCHs for Status Indians.⁶ Whereas inclusion of the Status Indians who are in provincial PCH program would understate the usage by Status Indians, the exclusion of all Status Indians because of the missing data on federally-funded nursing homes would understate both the population and the utilization for all of Manitoba.

The number of Status Indians in PCH is very small, less than 1% of all users. This small number makes a negligible difference in the calculation of summary statistics. For the sake of consistency in the PHIS System, Status Indians for which data are available are included in this analysis, even though we know their use is underreported.

⁶ There are 165 federally funded PCH beds in five Regions of the province.

TABLES FOR VOLUME II

TABLE 1
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 ALL AGES¹

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	94,466	85,166	71,925	24,940	45,997	45,011	117,639	654,798	485,144	1,139,942
PCH beds per 1000 population ²	7.9	5.3	7.0	5.2	10.8	0.6	11.9	7.1	7.8	7.4
Residents of PCH per 1000 population (number)	8.7 (944)	8.9 (574)	9.4 (637)	11.3 (147)	8.1 (569)	6.8 (60)	9.6 (1,658)	8.9 (5,648)	9.1 (4,589)	9.0 (10,237)
Admissions to PCH per 1000 population (number)	2.0 (210)	1.6 (106)	2.1 (147)	1.9 (26)	2.1 (150)	1.7 (16)	1.9 (318)	1.9 (1,179)	1.9 (973)	1.9 (2,152)
Days of PCH care per resident of region	2.5	2.6	2.7	3.4	2.3	1.8	2.8	2.6	2.6	2.6
Estimated costs of PCH care per resident of region (\$)	193	203	211	263	172	136	212	208	201	205

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Excluded to population ratios. Riding Park PCH in Westman has been excluded.

TABLE 1A
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 ALL AGES (CRUDE RATES)

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	94,466	85,166	71,925	24,940	45,997	45,011	117,639	654,798	485,144	1,139,942
PCH beds per 1000 population ¹	7.9	5.3	7.0	5.2	10.8	0.6	11.9	7.1	7.8	7.4
Residents of PCH per 1000 population (number)	10.0 (944)	6.7 (574)	8.9 (637)	5.9 (147)	12.4 (569)	1.3 (60)	14.1 (1,658)	8.6 (5,648)	9.5 (4,589)	9.0 (10,237)
Admissions to PCH per 1000 population (number)	2.2 (210)	1.2 (106)	2.0 (147)	1.0 (26)	3.3 (150)	0.4 (16)	2.7 (318)	1.8 (1,179)	2.0 (973)	1.9 (2,152)
Days of PCH care per resident of region	2.9	2.0	2.5	1.8	3.4	0.4	4.2	2.5	2.7	2.6
Estimated costs of PCH care per resident of region (\$)	222	153	199	137	261	27	312	202	209	205

¹ For all bed to population ratios, Rideau Park PCH in Westman has been excluded.

TABLE 2
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 CHARACTERISTICS OF ADMISSIONS, ALL AGES^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Admissions to PCH per 1000 population	2.0	1.6	2.1	1.9	2.2	1.7	1.9	1.9	1.9	1.9
Admissions per 1000 population by proprietary & secular type										
1. Proprietary	*	0.2	0.8	*	*	*	0.2	0.8	0.2	0.5
2. Non-Proprietary	1.9	1.5	1.3	1.9	2.1	1.5	1.6	1.1	1.7	1.4
2.1a Juxtaposed	0.3	0.6	0.5	1.5	0.5	*	0.7	0.0	0.6	0.3
2.1b Free-Standing	1.6	0.9	0.8	0.4	1.7	1.3	1.0	1.1	1.2	1.1
2.2a Secular	1.3	0.5	0.7	1.9	1.8	*	1.5	0.4	1.2	0.8
2.2b Ethno-Cultural ³	0.7	1.0	0.6	*	0.3	1.3	0.1	0.7	0.5	0.6
Admissions per 1000 population from hospital or community										
1. Hospital	1.1	0.9	1.0	1.2	1.2	0.5	0.9	1.0	1.0	1.0
2. Community	0.8	0.7	1.0	0.7	0.9	0.8	0.8	0.8	0.8	0.8
3. Other ⁴	0.1	*	0.1	*	*	*	0.1	0.1	0.1	0.1
Mean expected length of stay per admission (years)	4.5	4.6	4.4	5.2	4.5	5.8	4.9	4.6	4.7	4.7

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

³ Refers to Personal Care Homes in which a majority of the residents are of an identified religious or linguistic group.

⁴ Refers to persons from Mental Health Centres and others not specified in MHSC data

TABLE 3.1
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 0-64 YEARS^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	80,931	76,013	62,328	23,016	37,142	43,692	97,070	570,222	420,192	990,414
Residents of PCH per 1000 population (number)	0.5 (36)	0.5 (33)	0.4 (28)	0.5 (9)	0.5 (23)	0.4 (10)	0.6 (61)	0.4 (240)	0.5 (200)	0.4 (440)
Admissions to PCH per 1000 population (number)	0.14 (11)	0.07 (5)	0.07 (5)	*	*	*	0.13 (14)	0.08 (45)	0.11 (45)	0.09 (90)
Days of PCH care per resident of region	.13	.15	.12	.15	.17	.11	.17	.13	.15	.14
Estimated cost of PCH care per resident of region (\$)	10	12	10	11	13	9	13	11	12	11
Mean expected length of stay per admission (years)	9.5	*	*	*	*	*	8.9	8.2	9.1	8.6

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

TABLE 3.2
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 65-74 YEARS¹

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	7,312	5,327	5,559	1,113	4,747	822	10,808	48,088	35,688	83,776
Residents of PCH per 1000 population (number)	10.1 (74)	9.8 (52)	14.9 (83)	20.7 (23)	10.5 (50)	14.6 (12)	11.7 (126)	13.7 (661)	11.8 (420)	12.9 (1081)
Admissions to PCH per 1000 population (number)	2.2 (16)	2.1 (11)	3.4 (19)	*	2.5 (12)	6.1 (5)	2.5 (27)	3.1 (151)	2.6 (92)	2.9 (243)
Days of PCH care per resident of region	2.9	2.8	4.6	6.6	3.1	3.6	3.5	4.1	3.5	3.8
Estimated costs of PCH care per resident of region (\$)	222	211	354	498	244	259	255	333	263	304
Mean expected length of stay per admission (years)	5.9	6.4	5.8	*	5.9	5.6	6.6	6.2	6.1	6.2

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

TABLE 3.3
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 75-79 YEARS^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	2,810	1,843	2,034	400	1,848	230	4,210	17,148	13,375	30,523
Residents of PCH per 1000 population (number)	39.4 (110)	37.3 (68)	46.3 (93)	55.5 (22)	35.0 (64)	40.0 (9)	43.5 (182)	45.3 (782)	41.3 (548)	43.6 (1330)
Admissions to PCH per 1000 population (number)	10.4 (29)	11.5 (21)	12.9 (26)	*	11.4 (21)	*	10.7 (45)	13.2 (227)	11.0 (146)	12.2 (373)
Days of PCH care per resident of region	11.6	10.7	13.3	16.7	9.5	12.1	13.1	12.7	12.1	12.4
Estimated costs of PCH care per resident of region (\$)	902	827	1,064	1,284	715	930	958	1,016	920	974
Mean expected length of stay (years)	4.7	4.5	4.5	*	4.8	*	5.2	4.6	4.8	4.7

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

TABLE 3.4
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 80-84 YEARS¹

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	1,851	1,115	1,093	242	1,228	166	2,986	10,766	8,681	19,447
Residents of PCH per 1000 population (number)	102.5 (187)	102.4 (111)	122.3 (130)	172.6 (42)	92.6 (112)	91.6 (15)	115.0 (340)	101.6 (1,108)	109.7 (937)	105.2 (2,045)
Admissions to PCH per 1000 population (number)	28.3 (52)	26.3 (29)	32.4 (35)	37.1 (9)	24.6 (30)	36.4 (6)	30.6 (91)	24.1 (261)	29.2 (252)	26.4 (513)
Days of PCH care per resident of region	29.9	28.9	33.5	53.0	25.6	18.1	32.5	29.5	30.9	30.1
Estimated costs of PCH care per resident of region (\$)	2,264	2,214	2,576	4,100	1,956	1,374	2,459	2,336	2,356	2,345
Mean expected length of stay (years)	4.7	5.2	4.6	5.3	5.0	5.7	5.1	4.9	5.0	4.9

¹ Data are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

TABLE 3.5
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 85-89 YEARS^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	990	583	585	124	686	71	1,625	5,711	4,664	10,375
Residents of PCH per 1000 population (number)	239.0 (233)	275.0 (156)	260.0 (151)	228.3 (27)	235.8 (158)	180.9 (12)	266.8 (430)	235.4 (1,362)	254.3 (1,167)	243.8 (2,529)
Admissions to PCH per 1000 population (number)	56.93 (56)	38.17 (22)	70.30 (41)	*	69.19 (47)	*	46.31 (75)	49.98 (287)	53.10 (246)	51.37 (533)
Days of PCH care per resident of region	68.8	81.6	72.0	76.0	63.5	55.7	80.7	69.5	74.2	71.5
Estimated costs of PCH care per resident of region (\$)	5,307	6,379	5,663	5,784	4,735	4,042	6,012	5,468	5,643	5,545
Mean expected length of stay (years)	3.7	3.2	3.6	*	3.8	*	3.9	3.8	3.7	3.7

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

TABLE 3.6
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 90+ YEARS^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	572	285	326	45	346	30	940	2,863	2,544	5,407
Residents of PCH per 1000 population (number)	534.9 (304)	555.0 (154)	473.3 (152)	546.9 (24)	473.9 (162)	*	554.0 (519)	517.4 (1,495)	523.1 (1,317)	520.1 (2,812)
Admissions to PCH per 1000 population (number)	80.4 (46)	63.2 (18)	64.4 (21)	111.2 (5)	104.1 (36)	*	70.2 (66)	72.6 (208)	75.5 (192)	74.0 (400)
Days of PCH care per resident of region	154.9	161.6	140.8	142.0	133.3	*	163.8	154.0	153.6	153.3
Estimated costs of PCH care per resident of region (\$)	11,847	12,733	11,089	11,047	10,156	*	12,418	12,074	11,712	11,906
Mean expected length of stay (years)	3.9	3.7	3.5	3.7	3.9	*	4.0	3.8	3.9	3.8

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk

TABLE 4
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 75+¹

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	6,223	3,826	4,038	811	4,108	497	9,761	36,488	29,264	65,752
PCH beds per 1000 population ²	121	118	125	160	122	52	144	128	130	128
Residents of PCH per 1000 population (number)	130.6 (834)	136.2 (489)	137.3 (526)	161.3 (115)	120.0 (496)	87.2 (38)	142.0 (1,471)	130.8 (4,747)	134.8 (3,969)	132.6 (8,716)
Admissions to PCH per 1000 population (number)	28.8 (183)	24.4 (90)	31.8 (123)	26.6 (20)	32.2 (134)	19.3 (9)	27.1 (277)	27.1 (983)	28.3 (836)	27.7 (1,819)
Days of PCH care per resident of region	37.9	39.6	39.0	48.8	33.0	23.3	41.9	38.2	39.0	38.6
Estimated costs of PCH care per resident of region (\$)	2,903	3,081	3,060	3,762	2,495	1,766	3,144	3,018	2,977	3,000

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² For all bed to population ratios, Rideau Park PCH in Westman has been excluded.

TABLE 4A
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 75+ (CRUDE RATES)

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Population	6,223	3,826	4,038	811	4,108	497	9,761	36,488	29,264	65,752
PCH beds per 1000 population ¹	121	118	125	160	122	52	144	128	130	128
Residents of PCH per 1000 population (number)	134 (834)	128 (489)	130 (526)	142 (115)	121 (496)	76 (38)	151 (1,471)	130 (4,747)	136 (3,969)	132.6 (8,716)
Admissions to PCH per 1000 population (number)	29.4 (183)	23.5 (90)	30.5 (123)	24.7 (20)	32.6 (134)	18.1 (9)	28.4 (277)	26.9 (983)	28.6 (836)	27.7 (1,819)
Days of PCH care per resident of region	38.8	36.9	36.9	42.7	33.1	20.2	44.4	38.1	39.2	38.6
Estimated costs of PCH care per resident of region (\$)	2,975	2,876	2,894	3,289	2,504	1,531	3,335	3,008	2,989	3,000

¹ For all bed to population ratios, Bidean Park PCH in Westman has been excluded.

TABLE 5
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 CHARACTERISTICS OF ADMISSIONS, AGE 75+^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Admissions to PCH per 1000 population	28.8	24.4	31.8	26.6	32.2	19.3	27.1	27.1	28.3	27.7
Admissions per 1000 population by proprietary & secular type										
1. Proprietary	*	2.7	12.0	*	*	*	3.0	10.7	3.1	7.3
2. Non-Proprietary	28.5	21.7	19.7	26.6	32.1	15.0	24.1	16.4	25.2	20.4
2.1a Juxtaposed	4.8	9.5	7.1	19.6	7.5	*	10.3	0.4	8.3	4.0
2.1b Free-Standing	23.7	12.1	12.5	6.9	24.6	15.0	13.7	16.0	16.9	16.4
2.2a Secular	18.1	7.4	10.0	26.2	26.9	*	22.3	5.6	18.3	11.4
2.2b Ethno-Cultural ³	10.3	14.4	9.7	*	5.1	15.5	1.8	10.8	6.8	9.0
Admissions per 1000 population from hospital or community										
1. Hospital	16.6	13.0	15.4	15.9	18.3	*	13.7	14.4	15.0	14.7
2. Community	11.6	11.1	14.5	9.4	13.5	*	12.3	12.1	12.3	12.2
3. Other ⁴	*	*	1.8	*	*	*	1.2	0.6	1.0	0.8
Mean expected length of stay per admission (years)	4.2	4.2	4.0	4.4	4.2	4.7	4.5	4.2	4.3	4.3

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

³ Refers to Personal Care Homes in which a majority of the residents are of an identified religious or linguistic group.

⁴ Refers to persons from Mental Health Centres and others not specified in MHSC data.

TABLE 6
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 75+, BY LEVEL OF CARE^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Residents of PCH per 1000 population										
Level 1	4.0	3.3	4.2	*	3.8	*	9.3	3.7	5.8	4.7
Level 2	53.5	50.9	48.8	57.4	55.9	36.5	62.1	42.2	55.7	48.3
Level 3	42.2	47.6	48.5	55.2	39.2	24.6	44.7	48.3	44.2	46.5
Level 4	31.0	34.4	35.9	43.2	21.0	24.1	25.9	36.5	29.0	33.2
Admissions to PCH per 1000 population										
Level 1	*	*	*	*	*	*	1.4	1.0	0.8	0.9
Level 2	18.0	16.7	19.8	13.4	22.5	13.2	18.0	14.7	18.5	16.4
Level 3	9.1	5.3	9.1	7.7	6.7	*	5.5	9.1	6.9	8.1
Level 4	1.3	1.6	2.0	*	3.1	*	2.2	2.3	2.1	2.2
Days of PCH care per resident of region										
Level 1	1.4	1.0	1.1	*	1.4	*	3.1	1.1	2.0	1.5
Level 2	15.0	14.1	12.8	18.3	14.2	10.4	17.7	11.8	15.5	13.4
Level 3	12.4	14.2	14.1	16.2	11.3	6.5	13.5	14.4	13.1	13.8
Level 4	9.2	10.3	10.9	12.4	6.1	6.2	7.6	10.9	8.6	9.9
Estimated cost of PCH care per resident of region										
Level 1	85	62	72	*	86	*	193	70	119	93
Level 2	942	886	804	1,151	888	651	1,110	742	970	844
Level 3	1,078	1,238	1,232	1,412	989	565	1,179	1,253	1,141	1,203
Level 4	798	895	953	1,078	530	533	660	952	746	861

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Mean expected length of stay per admission (years)										
Level 1	*	*	*	*	*	*	6.3	6.6	6.2	6.4
Level 2	4.7	4.5	4.5	4.8	4.5	4.8	4.7	4.7	4.6	4.7
Level 3 & 4 ³	3.1	3.2	2.8	3.3	3.2	*	3.2	3.3	3.1	3.2

³ The formula used to calculate expected length of stay does not separate Level 3 and Level 4.

TABLE 7
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 75+, BY PROPRIETARY TYPE^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
PCH beds per 1000 population ³										
Proprietary	0	11	45	0	0	0	19	52	14	35
Non-Proprietary	126	107	80	160	122	52	125	76	116	94
Juxtaposed	20	38	32	123	37	0	43	0	37	16
Free-Standing	106	69	48	37	85	52	81	76	79	77
Residents of PCH per 1000 population										
Proprietary	3.4	12.2	45.6	*	*	11.7	18.3	53.2	14.9	36.2
Non-Proprietary	127.0	123.8	91.7	159.9	118.9	75.2	123.6	77.4	119.7	96.4
Juxtaposed	17.8	43.1	32.2	126.5	29.3	*	46.2	1.7	36.9	17.6
Free-Standing	109.1	80.6	59.4	33.3	89.4	66.8	77.3	75.7	82.6	78.8
Admissions to PCH per 1000 population										
Proprietary	*	2.7	12.0	*	*	*	3.0	10.7	3.1	7.3
Non-Proprietary	28.5	21.7	19.7	26.6	32.1	15.0	24.1	16.4	25.2	20.4
Juxtaposed	4.8	9.5	7.1	19.6	7.5	*	10.3	0.4	8.3	4.00
Free-Standing	23.7	12.1	12.5	6.9	24.6	15.0	13.7	16.0	16.9	16.4
Days of PCH care per resident of region										
Proprietary	1.0	3.3	12.6	*	*	2.6	5.5	15.5	4.3	10.5
Non-Proprietary	36.7	36.2	26.5	48.3	32.7	20.6	36.3	22.7	34.6	28.1
Juxtaposed	5.0	11.6	9.3	37.9	8.1	*	13.0	0.4	10.4	4.9
Free-Standing	31.8	24.5	17.0	10.2	24.5	17.8	23.2	22.2	24.2	23.1

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

³ For all bed to population ratios, Rideau Park PCH in Westman has been excluded.

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Estimated cost of PCH care per resident of region										
Proprietary	86	281	1050	*	*	214	436	1,280	350	866
Non-Proprietary	2,815	2,798	2,010	3,728	2,476	1,550	2,706	1,736	2,625	2,134
Juxtaposed	394	896	746	295	618	*	1,007	31	807	382
Free-Standing	2,419	1,900	1,262	731	1,856	1,344	1,697	1,703	1,816	1,752
Mean expected length of stay per admission (years)										
Proprietary	*	4.2	3.9	*	*	*	4.2	4.0	4.0	4.0
Non-Proprietary	4.2	4.2	4.1	4.4	4.2	5.0	4.5	4.4	4.3	4.4
Juxtaposed	3.9	4.2	3.7	4.1	4.3	*	4.3	4.2	4.1	4.2
Free-Standing	4.3	4.3	4.4	5.0	4.2	5.0	4.7	4.4	4.4	4.4

TABLE 8
 UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
 AGE 75+, BY SECULAR TYPE^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
PCH beds per 1000 population ³										
Secular ⁴	75	53	82	160	95	0	134	74	97	84
Proprietary	0	11	45	0	0	0	19	52	14	35
Non-Proprietary	75	42	37	160	95	0	115	22	83	49
Ethno-Cultural	51	66	43	0	27	52	10	54	33	45
Residents of PCH per 1000 population										
Secular	77.6	51.6	89.6	159.1	91.8	24.9	131.9	77.0	98.3	86.6
Proprietary	3.1	12.1	45.6	*	*	11.6	18.4	53.3	14.9	36.2
Non-Proprietary	73.6	39.6	44.0	157.2	90.4	13.4	113.3	23.6	83.3	50.4
Ethno-Cultural	53.1	84.7	47.7	*	28.1	62.5	10.0	53.7	36.4	46.0
Admissions to PCH per 1000 population										
Secular	18.6	10.2	22.1	26.3	27.1	*	25.4	16.3	21.5	18.7
Proprietary	*	2.7	12.0	*	*	*	3.0	10.7	3.1	7.3
Non-Proprietary	18.1	7.4	10.0	26.2	26.9	*	22.3	5.6	18.3	11.4
Ethno-Cultural	10.3	14.4	9.7	*	5.1	15.5	1.8	10.8	6.8	9.0
Days of PCH care per resident of region										
Secular	22.2	14.8	25.1	48.2	24.8	7.1	38.9	22.3	28.3	25.0
Proprietary	1.0	3.3	12.6	*	*	2.6	5.5	15.5	4.3	10.5
Non-Proprietary	21.0	11.5	12.6	47.6	24.5	4.5	33.2	6.7	23.9	14.5
Ethno-Cultural	15.7	24.8	13.9	*	8.2	16.2	3.0	16.0	10.7	13.6

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

³ For all bed to population ratios, Rideau Park PCH in Westman has been excluded.

⁴ Refers to Personal Care Homes in which a majority of the residents are of an identified religious or linguistic group.

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Estimated cost of PCH care per resident of region										
Secular	1,713	1,187	2,027	3,720	1,857	544	2,923	1,782	2,168	1,957
Proprietary	88	278	1,050	*	*	210	438	1,279	350	866
Non-Proprietary	1,623	907	979	3,679	1,832	334	2,483	501	1,816	1,091
Ethno-Cultural	1,188	1,894	1,033	*	639	1,223	220	1,234	807	1,043
Mean expected length of stay per admission (years)										
Secular	4.1	4.1	4.0	4.4	4.2	*	4.5	4.2	4.3	4.2
Proprietary	*	4.2	3.9	*	*	*	4.2	4.0	4.0	4.0
Non-Proprietary	4.2	4.2	4.0	4.4	4.2	*	4.5	4.5	4.3	4.4
Ethno-Cultural	4.3	4.4	4.2	*	4.3	5.0	4.8	4.4	4.4	4.3

TABLE 9
UTILIZATION OF PERSONAL CARE HOME RESOURCES, 1991/92:
AGE 75+, ADMISSIONS FROM HOSPITAL OR COMMUNITY^{1 2 3}

	Central	Eastman	Interlake	Norman	Parklands	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Admissions to PCH per 1000 population from hospital, community or other									
Hospital	16.6	13.0	15.4	15.9	18.3	13.7	14.4	15.0	14.7
Community	11.6	11.1	14.5	9.4	13.5	12.3	12.1	12.3	12.2
Other ⁴	*	*	1.8	*	*	1.2	0.6	1.0	0.8
Mean expected length of stay per admission (years)									
Hospital	4.1	4.2	4.0	4.0	4.0	4.4	4.1	4.2	4.1
Community	4.4	4.3	4.1	5.1	4.5	4.6	4.4	4.4	4.4

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

³ Because of insufficient observations for analysis, Thompson region has been excluded from the regional analysis; however it is included in the Non-Winnipeg Comparison group.

TABLE 10
UTILIZATION OF NON-ACUTE INSTITUTIONAL CARE, 1991/92:
INCLUDING BOTH PERSONAL CARE HOME AND ACUTE HOSPITAL STAYS OF 60 DAYS OR LONGER
AGE 75+^{1 2}

	Central	Eastman	Interlake	Norman	Parklands	Thompson	Westman	Winnipeg	Non- Winnipeg Comparison	Manitoba
Beds per 1000 population										
age 75+										
1. Hospital	74	58	50	237	85	434	88	108	85	97
2. PCH	121	118	125	160	122	52	144	128	130	128
TOTAL	195	176	175	397	207	486	232	236	215	225
Days of non-acute care per										
resident of region										
1. Hospital stays 60+ days (excluding day 1-59)	2.7	2.3	1.6	3.7	3.5	*	3.5	4.9	2.9	4.0
2. PCH days	37.9	39.6	39.0	48.8	33.0	23.3	41.9	38.2	39.0	38.6
TOTAL	40.6	41.9	40.6	52.5	36.5		45.4	43.1	41.9	42.6
Estimated cost per resident of										
region (\$)										
1. Hospital stays 60+ days (excluding day 1-59) ³	608	519	367	868	785	*	782	1,096	659	900
2. PCH costs	2,903	3,081	3,060	3,762	2,495	1,625	3,144	3,018	2,977	3,000
TOTAL	3,511	3,600	3,427	4,630	3,280		3,926	4,114	3,636	3,900

¹ Rates are age- and sex-adjusted to the Manitoba population using an indirect method of standardization.

² Cells of less than 5 individuals are marked with an asterisk.

³ Costs of non-acute hospital days were estimated to be \$225 per day. (Source: Comparative Cost of Teaching Hospitals Report, p.46)

MANITOBA CENTRE FOR HEALTH POLICY AND EVALUATION

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Population Health Information System (analyses for 1991/92 to be released in 1993)

Utilization of Personal Care Home Resources, by Carolyn DeCoster, R.N., M.B.A., Noralou Roos, Ph.D. and Bogdan Bogdanovic, B. Comm., B.A.

Utilization of Hospital Resources, by Charlyn Black, M.D., Sc.D., Noralou Roos, Ph.D. and Charles Burchill, B.Sc., M.Sc.

Socio-Economic Status and Health: A Preliminary Regional Analysis, by Norman Frohlich, Ph.D. and Cam Mustard, Sc.D.

Population Health: Health Status Indicators, by Marsha Cohen, M.D., F.R.C.P.C. and Leonard MacWilliam, M.Sc., M.N.R.M.

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For copies of these reports, please call or write:

Manitoba Centre for Health Policy and Evaluation
Department of Community Health Sciences, University of Manitoba
S101 - 750 Bannatyne Avenue
Winnipeg, Manitoba, Canada, R3E 0W3
Tel: 204-789-3657 Fax: 204-774-4290

