

Health Services Use of Manitoba First Nations People

Is It Related to Underlying Need?

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ABSTRACT

Background: To compare health status and health services use of Registered First Nations to all other Manitobans (AOM). If the Canadian health care system is meeting underlying need, those experiencing the greatest burden of morbidity and mortality should show the highest rates of health service use.

Methods: Registered First Nations' (n=85,959) hospitalization and physician visit rates were compared to rates of all other Manitobans (n=1,054,422) for fiscal year 1998/99. The underlying "need" for health care was measured using premature mortality (PMR), an age- and sex-adjusted rate of death before age 75. Data were derived from Manitoba's Population Health Research Data Repository, linked to federal Status Verification System files to determine Registered First Nations status.

Results: Registered First Nations' PMR was double the rate of all other Manitobans (6.61 vs. 3.30 deaths per thousand, $p < 0.05$). Registered First Nations ambulatory physician visit rates (6.13 vs. 4.85 visits per person, $p < 0.05$), hospital separation rates (0.348 vs. 0.156 separations per person, $p < 0.05$) and total days of hospital care (1.75 vs. 1.05 days per person, $p < 0.05$) were higher than AOM rates. Consultation rates (first visit to a specialist) were slightly higher for Registered First Nations (0.29 vs. 0.27 visits per person, $p < 0.05$), and overall specialist visit rates were lower (0.895 vs. 1.284 visits per person, $p < 0.05$) compared with AOM.

Conclusion: Although hospitalization and ambulatory physician visit rates for First Nations reflect their poorer health status, consult and specialist rates do not reflect the underlying need for health care services.

MeSH terms: Indians, North American; health services research; use of physicians, specialists; Canada

La traduction du résumé se trouve à la fin de l'article.

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If the Canadian universal health care system is meeting underlying needs, those experiencing the greatest burden of morbidity and mortality should also show the highest rates of hospital and physician use. Consistent findings across many studies have indicated that First Nations Canadians experience substantially greater mortality and morbidity rates, and poorer self-rated health compared to other Canadians.¹⁻⁷ First Nations' perceptions of the health care system and self-reported contact have been documented in a 1998 Manitoba survey. Eighteen percent of First Nations Manitobans reported needing care but not receiving it, 13% reported adequate availability of physicians, and 6% reported adequate availability of specialists.⁵

The objective of this research was to compare population-based rates of hospitalization and physician visits by Manitoba's Registered First Nations people to all other Manitobans (AOM), taking into account the underlying differences in overall health status. "Registered" refers to those First Nations people who, under the federal Indian Act, are entitled to Treaty rights. For hospital use, two indicators were chosen – separation rates and total days of care. Physician use was compared using overall physician visits and two indicators of specialist use – the consultation rate, and the specialist visit rate.

The underlying "need" for health care services was measured through a global health status indicator – the premature mortality rate (PMR) – which is considered the best overall indicator of population health status due to its strong associations with overall morbidity, self-rated health, and socio-economic risk.⁸⁻¹² There has been much discussion in the literature surrounding the attempt to obtain a global indicator reflecting the overall health of a region's population. Some of the suggested global indicators include: life expectancy at birth, infant mortality, child mortality, mortality rate for ages 15 to 65, all-cause mortality, self-reported health, disease-specific mortality rates, and low birth-weight rates.¹³⁻¹⁸ In Canada, there has been a call for measures of "need" based on health status indicators for use in needs-based regional funding for health care. Eyles and Birch¹⁰ caution that regional patterns of health services use may not necessarily reflect regional "need" for

health care, and may actually perpetuate existing availability, accessibility and usage patterns. For example, it is well documented in the province of Manitoba that rural/urban differences exist that have very little to do with underlying health status, and more to do with urban access issues – urban populations visit physicians (family practitioners and specialists) more frequently, but rural populations have higher rates of hospital use per capita.¹⁹ Moreover, Eyles and Birch state that self-reported health through survey questions relies on random samples of the population (which often excludes “on-reserve” First Nations people, such as in the Canadian Community Health Survey), and could be “gameable”, that is, able to be influenced in order to manipulate the funding to a region. Using demographic measures such as age, gender and ethnic background are not inherent measures of healthiness, so these may or may not have justification as overall global health status measures.

Given the limitations on various measures to indicate overall health status measures, the PMR (age- and sex-adjusted premature mortality rate based on death before the age of 75 years) is considered a valid regional health status measure.^{9,10} First, mortality is a very direct measure of a health outcome – although most people prefer a morbidity rather than a mortality “outcome”. Mortality is not affected by patterns of health care use that may not be related to need. Second, mortality data are readily available from Vital Statistics administrative data which are collected in a valid and reliable manner, and which are not considered a “gameable” indicator. Moreover, age- and sex-adjusted PMR has been found to correlate with types of morbidity associated with considerable and continual needs for health care, such as chronic illnesses, low birth-weight rates, and self-reported health, as well as one of the basic underlying determinants of health – socio-economic status.⁸⁻¹²

The purpose of this research was to determine whether differences in health care use patterns by the Registered First Nations people of Manitoba compared to all other Manitobans truly reflects differences in underlying health status (as measured by PMR) as a surrogate for “need” for health care services. This



Figure 1. Location of the Regional Health Authority (RHA) geographical divisions of the province of Manitoba in 1998/99

research was derived from a report on First Nations health status and health care use patterns completed by the Manitoba Centre for Health Policy (MCHP), commissioned by the provincial department of health. MCHP is a unit of the Department of Community Health Sciences at the University of Manitoba.²⁰ The working group for this study was the Assembly of Manitoba Chiefs’ Health Information Research Committee, comprised of the Health Directors of each Tribal Council and Independent First Nations community, as well as the Health Advisors of the Assembly of Manitoba Chiefs and Manitoba Keewatinowi Okimakanak.

METHODS

Geographical regions and population counts

This study included the entire Manitoba population for the fiscal year 1998/99, comparing the Registered First Nations people residing in Manitoba who have Band affiliation with a First Nations community of Manitoba ($n=85,959$) to all other Manitobans (1,054,422). Aboriginal people in Manitoba who are not classified as Registered First Nations – such as First Nations who do not have Treaty rights, Inuit and Métis – are included in the “all other Manitoban” comparison group.

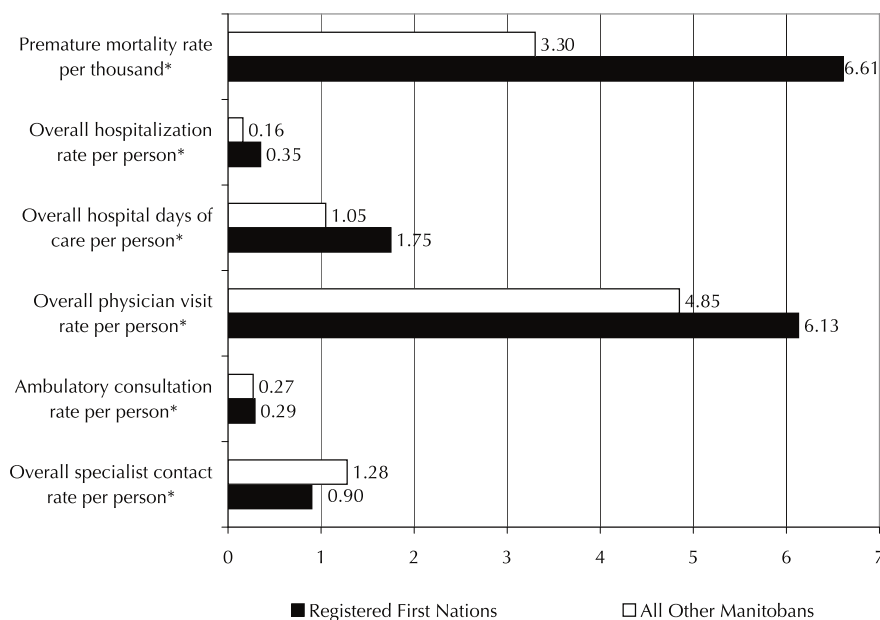


Figure 2. Health services use for the fiscal year 1998/99 and health status comparison of Registered First Nations (n=85,959) and all other Manitobans (n=1,054,422)

* statistically significant difference ($p < 0.05$) comparing rates of Registered First Nations and All Other Manitobans (note: even small differences, such as the consultation rate, are significantly different due to the very large population size in each group)

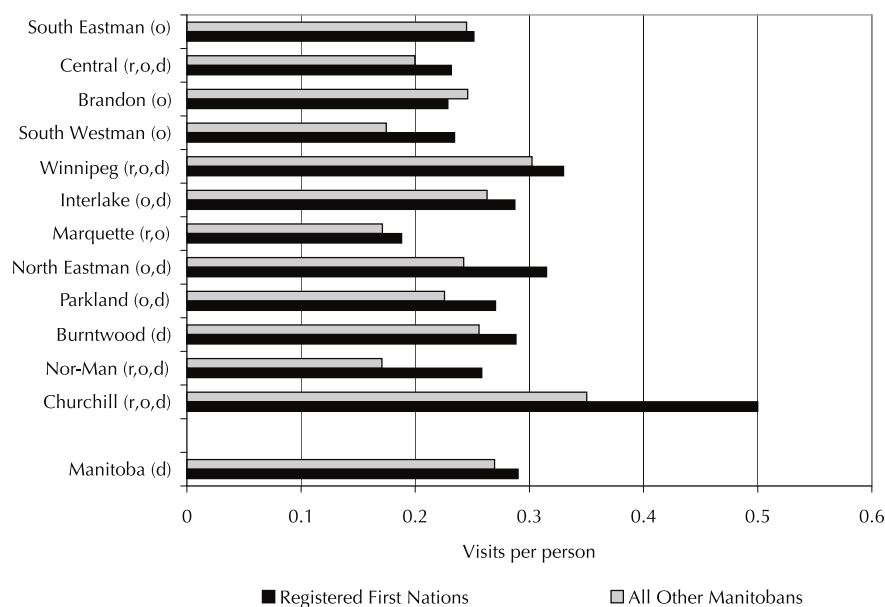


Figure 3. Ambulatory consultation rate (age- and sex-adjusted visits per person for fiscal year 1998/99) comparing Registered First Nations to all other Manitobans by Regional Health Authority

Statistical notation:

r: the Registered First Nations (RFN) regional rate is significantly different from the Manitoba rate for RFN ($p < 0.05$)

o: the "all others" rate in the region is significantly different from the Manitoba rate for "all other Manitobans" ($p < 0.05$)

d: within the region, the two group rates are significantly different ($p < 0.05$)

For purposes of this paper, rates of use are reported at the provincial level. As well, for two indicators of particular interest –

those involving specialist care – a comparison is also given by Regional Health Authority (RHA) geographical divisions of

the province. In 1998/99, there were 12 RHAs in Manitoba, each having a Board of Directors overseeing the health services of the region (see Figure 1). Although the provincial RHAs do not have jurisdiction over health services for First Nations communities, the First Nations people frequently use provincially-funded health care services.

Sources of data for the research

Information was derived from the Population Health Research Data Repository, which contains anonymized medical billing claims, health registry, and vital statistics information from the province's administrative files. All Manitobans have universal health insurance, and the Repository contains anonymized records for all residents of Manitoba except members of the military, RCMP, and federal inmates. For the purposes of this study, the Repository was linked to the federal Status Verification System (SVS) files for the years 1995 through 1999. Indian and Northern Affairs Canada maintain the SVS files of all Registered First Nations persons for purposes of entitlements through the Indian Act. Permission for this linkage was obtained from the five stakeholders – the Assembly of Manitoba Chiefs, Indian and Northern Affairs Canada, First Nations and Inuit Health Branch of Health Canada, MCHP, and Manitoba Health. All files were anonymized, meaning that names and addresses were removed prior to use by MCHP. The linkage process is explained in detail in the article by Jebamani, Burchill and Martens in this supplement.²¹ Ethical approval was obtained from the Health Research Ethics Board, Faculty of Medicine, University of Manitoba.

Health services indicators

Five health services indicators were compared for fiscal year 1998/99: hospital separation rates, total days of hospital care, ambulatory physician visit rates, ambulatory consultation rates, and ambulatory visit rates to specialists.

Rates were adjusted to reflect the provincial age and sex distribution of the Manitoba population as of December 31, 1996, using direct standardization. The age distribution of First Nations is very

different from that of the general population – First Nations groups tend to be much younger. To minimize bias in comparing rates across the two groups, the rates are standardized to allow for comparison.

Health services use is attributed back to the region in which the person resides. All rates are population-based, meaning that the total service use is divided by the total number of people in that population, whether they used the service or not, to give a rate per person.

Hospital separation rates are the total number of hospital separations per person. A separation from hospital occurs any time a patient leaves because of discharge, transfer to another facility, sign-out against medical advice, or death. Inpatient and selected surgical outpatient records are included. Rates excluding birthing are available in the original report, but similar patterns are evident for these rates.²⁰

The total days of hospital care are the number of days spent as inpatients or surgical outpatients in a hospital. Any patient who stayed in hospital for more than 365 days was assigned a length of stay of 365 days, to prevent a few cases from distorting the results. Surgical outpatients were assigned a length of stay of one day to reflect resource requirements. Minor procedures, such as the biopsy or removal of “lumps and bumps”, are excluded from the outpatient surgeries, since these impact very little on resource use within a hospital. See the Concept Dictionary at MCHP’s website for a detailed definition of outpatient identification.

Ambulatory physician visits refer to contacts with physicians that occur while the client is not an inpatient of a hospital. Physician visits (both general practitioner/family practitioner, and specialist) to people in a clinic, nursing home, or on an outpatient basis, as well as most visits occurring in emergency rooms, are included. Contacts with fee-for-service physicians are reimbursed through the Manitoba Health billing system. Salaried physicians are expected to submit evaluation claims with diagnoses for the visit, called “shadow bills”, but their salary does not depend upon these claims as is the case for the fee-for-service physician. Therefore, there may be an underestimate for rural or

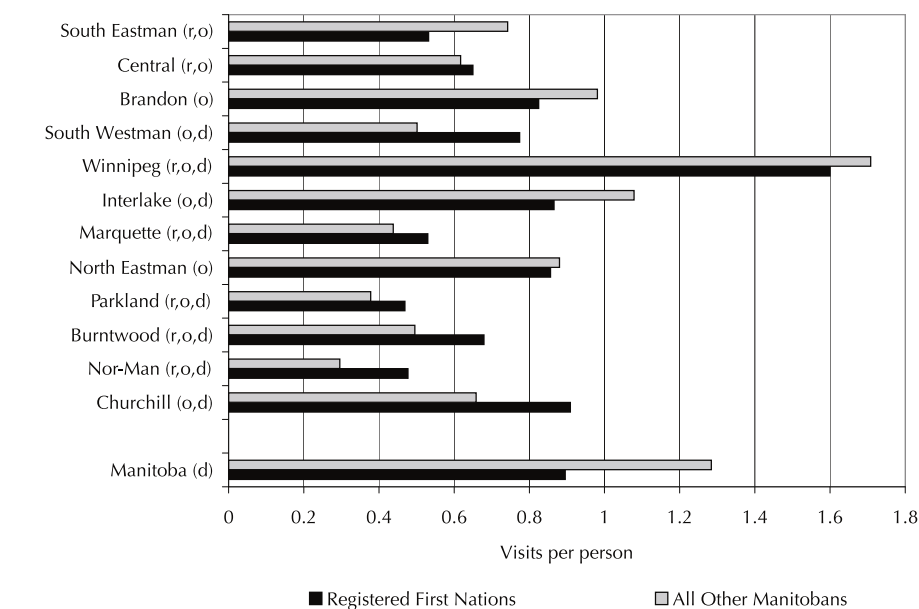


Figure 4. Overall ambulatory visit rate to specialists (age- and sex-adjusted visits per person for fiscal year 1998/99) comparing Registered First Nations to all other Manitobans by Regional Health Authority

Statistical notation:

r: the Registered First Nations (RFN) regional rate is significantly different from the Manitoba rate for RFN ($p < 0.05$)

o: the “all others” rate in the region is significantly different from the Manitoba rate for “all other Manitobans” ($p < 0.05$)

d: within the region, the two group rates are significantly different ($p < 0.05$)

remote areas receiving health care from salaried physicians, which would most likely result in an underestimate for the First Nations rate, given the probability that remote, northern First Nations communities are more likely to receive salaried services. Moreover, nurse practitioner contacts are not recorded in the billing claims. Work within MCHP indicates that approximately 85% of the salaried physician visits are captured in the physician claims. The percentage of family physicians who are salaried varies substantially by area of the province: 7% in Winnipeg, 4% in Brandon, and 38% in the rest of the province.²²

Ambulatory consultations occur when a client is referred by one physician to another because of the complexity, “obscurity”, or seriousness of a patient’s illness, or because of a request for a second opinion. Most consultations are provided by specialists. Specialist visit claims are considered complete due to the fact that these are fee-for-service. Specialist visit rates include the total number of ambulatory visits provided by specialists – both the initial consultation and the follow-up care. The consultation rate is considered the best indicator of

access to specialist care.²³ Urban residents in Manitoba tend to use specialists in different ways, with repeat visits after the initial consult. Therefore, the overall specialist visit rates may show different patterns than the consult rates.

The premature mortality rate (PMR) was used to indicate the underlying need for health care services. PMR is an age- and sex-adjusted rate of death before the age of 75 years, calculated using vital statistics data in the Repository for the calendar years 1995 through 1999.

Analytic approach

The entire population of Manitobans was used in the analyses, not a random sample. Thus, very small differences between groups (First Nations compared with all other Manitobans) often show statistically significant differences. Statistical comparison tests of age- and sex-standardized rates used Hotelling’s T^2 statistic, with 99% confidence limits to control for multiple testing.²⁴ All age and sex adjustments used direct standardization methods. Data management, programming and analyses were performed using SAS® software.

RESULTS

Use of health care services and underlying health status

Figure 2 compares the five health services use indicators, as well as the premature mortality rate, for Registered First Nations people and all other Manitobans (AOM). The premature mortality rate illustrates the poorer health status of Registered First Nations people, with double the rate (6.61 deaths per thousand, 95% CI 6.13-7.12) compared to all other Manitobans (3.30 deaths per thousand, 95% CI 3.24-3.37).

The hospital separation rate of Registered First Nations (0.348 separations per person, 95% CI 0.335-0.361) was more than double that of all other Manitobans (0.156 per person, 95% CI 0.155-0.157). The total days of hospital care per capita (for the entire population, not just for those who were hospitalized) was 1.7 times as great for Registered First Nations (1.75 days per person, 95% CI 1.61-1.89) compared to the rate for all other Manitobans (1.05 days per person, 95% CI 1.02-1.07). Excluding births, similar patterns were observed in hospital separation rates (3.25 versus 1.44 per person, $p < 0.05$) and total days of hospital care (3.48 versus 1.56 per person, $p < 0.05$). Hospital separation rates and total days of care showed consistent differentials throughout almost all of the RHAs, similar to the provincial comparisons (see Martens et al. 2002 report, Chapter 8).¹³ In 1998/99, 15.5% of all Registered First Nations people, and 11.4% of all other Manitobans, were admitted to hospital at least once, for an overall provincial average of 11.8%.

Registered First Nations ambulatory physician visit rates were 1.3 times higher (6.13 visits per person, 95% CI 6.04-6.22) than the AOM rate (4.85 visits per person, 95% CI 4.84-4.87). These patterns held true for most RHAs, except in northern RHAs where missing data on nurse practitioner visits and undercounting of salaried physician visits likely underestimates First Nations rates.²⁰ In the fiscal year 1998/99, 78.2% of Registered First Nations and 83.1% of all other Manitobans made at least one ambulatory visit to a physician during the year (age- and sex-adjusted corresponding rates are 81.5% and 83.0% respectively).

Consultation rates were only slightly higher for Registered First Nations (0.290 visits per person, 95% CI 0.282-0.298) compared with

all other Manitobans (0.270 visits per person, 95% CI 0.268-0.271). Specialist visit rates were substantially lower for Registered First Nations (0.895 visits per person, 95% CI 0.871-0.921) compared to all other Manitobans (1.284 visits per person, 95% CI 1.276-1.292).

Use of specialists by Regional Health Authority (RHA) regions

Figures 3 and 4 illustrate the differences in the consultation and specialist visit rates by RHA region. The provincial consultation rates were about 7% higher for Registered First Nations compared to all other Manitobans (see Figure 3). But in Churchill RHA, both the Registered First Nations (0.500 visits per person, 95% CI 0.351-0.713) and the "all other" ambulatory consult rates (0.350 visits per person, 95% CI 0.271-0.452) were higher than the provincial average, including the urban centre of Winnipeg. Most RHAs had similar or slightly elevated rates for Registered First Nations compared to all other residents.

Winnipeg had much higher rates of specialist visits for both the Registered First Nations people (1.60 visits per person, 95% CI 1.51-1.70) and for all other Winnipeggers (1.71 visits per person, 95% CI 1.70-1.72), compared to any other RHA. Some RHAs had higher overall specialist visit rates for Registered First Nations (South Westman, Marquette, Parkland, Burntwood, Nor-Man and Churchill), some had similar rates (South Eastman, Central, Brandon, North Eastman), and some had lower rates (Winnipeg, Interlake) than for all other Manitobans living in the same region.

DISCUSSION

Given the large discrepancy of health status, combined with universal health care coverage in Canada, one would expect First Nations health services use rates to be much higher. The elevated hospitalization rates did, indeed, reflect the poorer health status of First Nations people and paralleled the results of a similar study in Saskatchewan.²⁵ As well, although the physician data are limited by undercounting salaried physician data and omitting nurse practitioner data, there was about 30% greater use of physicians by First Nations people compared to all other Manitobans. Interestingly, the percentages

of Registered First Nations and other Manitobans going to see a physician at least once in 1998/99 were similar, at around 80%. In the 1998 Manitoba First Nations Regional Health Survey, 63% of First Nations respondents reported going for a regular check-up once a year.⁵ Similarly, Newbold (1997) found that 67% of First Nations people in Canada reported seeing a physician in the last year, compared with 82% of Canadians in general.²⁶ Our research indicated higher use of physicians than was reported in these studies. This may, in part, be due to provincial differences, but needs further study to explain the discrepancy.

Despite the limitation of potential undercounting of general physician use, virtually all specialist care is recorded in the Population Health Research Data Repository claims. Overall provincial consult rates (that is, first referral to a specialist) are only 7% higher for First Nations people compared to all other Manitobans, despite the burden of morbidity and complex health problems of First Nations people. With rates of diabetes over four times that of all other Manitobans,²⁰ and related complications of heart disease and organ damage, one would expect a much higher First Nations consultation rate.

Contrary to underlying health status, the Registered First Nations overall specialist visit rate is only 70% that of all other Manitobans. In Winnipeg, First Nations and other residents both show high rates of specialist use compared to other RHA rates. Despite the fact that First Nations people in Winnipeg experience almost double the specialist visits compared with their counterparts throughout the province, their comparative rates to other Winnipeg people do not reflect underlying health status differences.

In Manitoba, remoteness is not necessarily related to specialist access. Some northern remote RHAs had consultation rates for First Nations people similar to the provincial rate – and even much higher, in the case of Churchill. In contrast, some southern RHAs in close proximity to the two urban areas of Winnipeg and Brandon (where most specialists reside) show low consult rates. Moreover, the fact that Figures 3 and 4 "order" the RHAs from top to bottom in terms of overall regional PMR highlights the lack of any relationship between regional consult/specialist rates and underlying

regional health status. Why do some remote area First Nations people actually have better access to specialist care compared to their counterparts in southern regions near urban centres? Possibly, patterns of specialist care reflect the delivery system by which care is given. For example, Churchill RHA and several northern remote First Nations communities receive health care services from the Northern Medical Unit of the University of Manitoba, whereby physicians and specialists visit these communities on a regular basis. In contrast, First Nations people living in southern RHAs are often expected to access physician care in neighbouring towns or cities.

If the Canadian universal health care system is meeting underlying health needs, one would expect First Nations people, who experience the greatest burden of morbidity and mortality, to also have the highest rates of access to hospitals, general physician and specialist care. Of course, in the current system many factors influence visit rates, such as access to care, referral patterns of physicians, characteristics of the clients, and severity of the disease. But given that health services should be responding to need, it makes sense that hospitalization rates and general physician visits do, indeed, reflect underlying health status. However, consult and specialist rates show contrary patterns to what one would expect. Because this administrative claims data research does not reflect the context of decision-making for health care service use, these findings need further research to determine whether or not the differences are related to access issues, referral biases, or possible differences in severity of disease. That being said, provincial and federal policy-makers need to study service provision models and understand barriers to accessing appropriate health care services, to ensure that health care use truly reflects the underlying need for health services for all Canadians.

REFERENCES

- Blandford AA, Chappell NL. Subjective well-being among Native and non-Native elderly persons: Do differences exist? *Can J Aging* 1990;9(4):386-99.
- Carr VA, Lee ES. Navajo tribal mortality: A life table analysis of the leading causes of death. *Soc Biol* 1978;25:279-87.
- Young TK. *The Health of Native Americans: Toward a Biocultural Epidemiology*. New York: Oxford University Press, 1994.
- MacMillan HL, MacMillan AB, Offord DR, Dingle JL. Aboriginal health. *CMAJ* 1996;155(11):1569-78.
- Northern Health Research Unit, Assembly of Manitoba Chiefs, Manitoba Keewatinowik Okimakanak. *Manitoba First Nations Regional Health Survey*. Final Report: September, 1998. Winnipeg: University of Manitoba, 1998.
- Young TK, O'Neil JD, Elias B. Chapter 3: Chronic Diseases. In: *First Nations and Inuit Regional Health Survey: National Report 1999*. Ottawa: First Nations and Inuit Regional Health Survey National Steering Committee, 1999.
- Health Canada. *A Statistical Profile on the Health of First Nations in Canada*. Ottawa: Health Canada, 2003.
- Carstairs V, Morris R. *Deprivation and Health in Scotland*. Aberdeen, Scotland: Aberdeen University Press, 1991.
- Eyles J, Birch S, Chambers S, Hurley J, Hutchinson B. A needs-based methodology for allocating health care resources in Ontario, Canada: Development and an application. *Soc Sci Med* 1991;33(4):489-500.
- Eyles J, Birch S. A population needs-based approach to health care resource allocation and planning in Ontario: A link between policy goals and practice? *Can J Public Health* 1993;84(2):112-17.
- Reid RJ, Roos NP, MacWilliam L, Frohlich N, Black C. Assessing population health care need using a claims-based ACG morbidity measure: A validation analysis in the province of Manitoba. *Health Serv Res* 2002;37(5):1345-64.
- Martens PJ, Frohlich N, Carriere KC, Derksen S, Brownell M. Embedding child health within a framework of regional health: Population health status and sociodemographic indicators. *Can J Public Health* 2002;93(Suppl. 2):S15-S20.
- Wigle DT. Canada's health status: A public health perspective. *Risk Anal* 1995;15(6):693-98.
- Jahrig K. Relevance of socio-economic data for the establishment of solution models based on international statistical material. *Arztl Jugendkd* 1990;81(1):14-22.
- Dogramaci I. Parameters for child health. *S Afr Med J* 1981;60(2):49-56.
- Hertz E, Hebert JR, Landon J. Social and environmental factors and life expectancy, infant mortality, and maternal mortality rates: Results of a cross-national comparison. *Soc Sci Med* 1994;39(1):105-14.
- Adeyi O, Chellaraj G, Goldstein E, Preker A, Ringold D. Health status during the transition in Central and Eastern Europe: Development in reverse? *Health Policy Plan* 1997;12(2):132-45.
- Pegels CC. A cross-sectional country group study of three health level outcomes and four potential causes. *Int J Health Plann Manage* 1989;4(2):107-16.
- Martens PJ, Fransoo R, *The Need To Know* Team, Burland E, Jebamani L, Burchill C, et al. *The Manitoba RHA Indicators Atlas: Population-based Comparisons of Health and Health Care Use*. Winnipeg: Manitoba Centre for Health Policy, June 2003.
- Martens PJ, Bond R, Jebamani LS, Burchill CA, Roos NP, Derksen SA, et al. *The Health and Health Care Use of Registered First Nations People Living in Manitoba: A Population-Based Study*. Winnipeg: Manitoba Centre for Health Policy, 2002.
- Jebamani LS, Burchill CA, Martens PJ. Using data linkage to identify First Nations Manitobans: Technical, ethical, and political issues. *Can J Public Health* 2005;96(Suppl. 1):S28-S32.
- Katz A, DeCoster C, Bogdanovic B, Soodeen RA, Chateau D. *Using Administrative Data to Develop Indicators of Quality in Family Practice*. Winnipeg: Manitoba Centre for Health Policy, 2004.
- Roos NP, Fransoo R, Bogdanovic B, Friesen D, MacWilliam L. *Issues in the Management of Specialist Physician Resources for Manitoba*. Winnipeg: Manitoba Centre for Health Policy and Evaluation, 1997.
- Carriere K, Roos LL. A method of comparison for standardized rates of low-incidence events. *Med Care* 1997;35(1):57-69.
- Waldram JB, Herring DA, Young TK. *Aboriginal Health in Canada: Historical, Cultural, and Epidemiological Perspectives*. Toronto: University of Toronto Press, 1995.
- Newbold KB. Aboriginal physician use in Canada: Location, orientation and identity. *Health Econ* 1997;6(2):197-207.

RÉSUMÉ

Contexte : Cette étude visait à comparer l'état de santé des membres inscrits des Premières nations et leur utilisation des services de santé par rapport au reste de la population du Manitoba. Si le système de soins de santé canadien répond vraiment aux besoins sous-jacents, les personnes dont le fardeau de morbidité et de mortalité est le plus élevé devraient présenter les taux d'utilisation des services de santé les plus élevés.

Méthode : Nous avons comparé les taux d'hospitalisation et de visites chez le médecin des membres inscrits des Premières nations ($n = 85\ 959$) aux taux comparables dans le reste de la population du Manitoba ($n = 1\ 054\ 422$) pour l'exercice 1998-1999. Pour mesurer le « besoin » sous-jacent en services de santé, nous avons utilisé le taux de mortalité prématurée (TMP) – un taux de décès avant 75 ans ajusté selon l'âge et le sexe. Les données ont été dérivées du registre Population Health Research Data Repository du Manitoba, une base de données liée au Système de vérification du statut fédéral, pour déterminer le statut de membre inscrit des Premières nations.

Résultats : Le TMP des membres inscrits des Premières nations était le double du taux dans le reste de la population du Manitoba (6,61 c. 3,30 décès p. 1 000, $p < 0,05$). Le nombre de visites dans les cliniques de soins ambulatoires effectuées par les membres inscrits des Premières nations (6,13 c. 4,85 visites par personne, $p < 0,05$), les taux de diagnostic-congé (0,348 c. 0,156 congé par personne, $p < 0,05$) et le nombre total de journées de soins hospitaliers (1,75 c. 1,05 jour par personne, $p < 0,05$) étaient plus élevés que dans le reste de la population du Manitoba. Les taux de consultation (première visite chez un spécialiste) étaient légèrement supérieurs chez les membres inscrits des Premières nations (0,29 c. 0,27 visite par personne, $p < 0,05$), et les taux globaux de visites chez les spécialistes étaient inférieurs (0,895 c. 1,284 visite par personne, $p < 0,05$) aux taux dans le reste de la population du Manitoba.

Conclusion : Les taux d'hospitalisation et de visites dans les cliniques de soins ambulatoires relevés chez les membres des Premières nations sont conformes à leur moins bon état de santé, mais les taux de consultation et de visites chez les spécialistes ne correspondent pas aux besoins sous-jacents des Premières nations sur le plan des services de santé.