POPULIS: Providing Health Information to RHA Planners

THE MANITOBA CENTRE FOR HEALTH POLICY AND EVALUATION

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Suppose we were to tell you that the people of South Eastman are the healthiest in Manitoba. Or that Burntwood has the highest proportion of people aged 0-4. Or that Leaf Rapids has one of our province's lowest premature mortality rates, yet is in the region with one of the highest. Or that the residents of Pine Creek see a doctor more often than anywhere else in Manitoba, yet they have no doctors there. What would it mean?

To most Manitobans, not much—at least not directly. But for RHA managers in those regions, such information means a great deal. It may help answer the question of whether to build a nursing home, or expand obstetrics or develop social programs. And that's precisely the sort of information that MCHPE (the Manitoba Centre for Health Policy and Evaluation) has put together in a new report, using their Population Health Information System—otherwise known as POPULIS.

But before we go any further, if you are not a manager of an RHA, your questions are likely much more fundamental, such as what is an RHA? Or for that matter, where exactly is South Eastman?

RHA stands for Regional Health Authority. There are 11 in Manitoba. They were established in 1997, each responsible for the planning, integration and monitoring of health care services in their region. South Eastman is one RHA. Listed in order they are: South Eastman, South Westman, Brandon, Central, Marquette, Parkland, North Eastman, Interlake, Burntwood, Norman, and Churchill. Winnipeg is not an RHA; it has two different authorities.

Now when we say "in order" what we mean is how they rank from the healthiest to the least healthy populations. And ultimately, that's the sort of information—how healthy are the people in a particular region—that POPULIS was uniquely designed for.

POPULIS focusses on the relationship (or lack thereof) between health and the use of health care services. Through it, MCHPE has been able to provide information to help RHAs assess and respond to questions like the following:

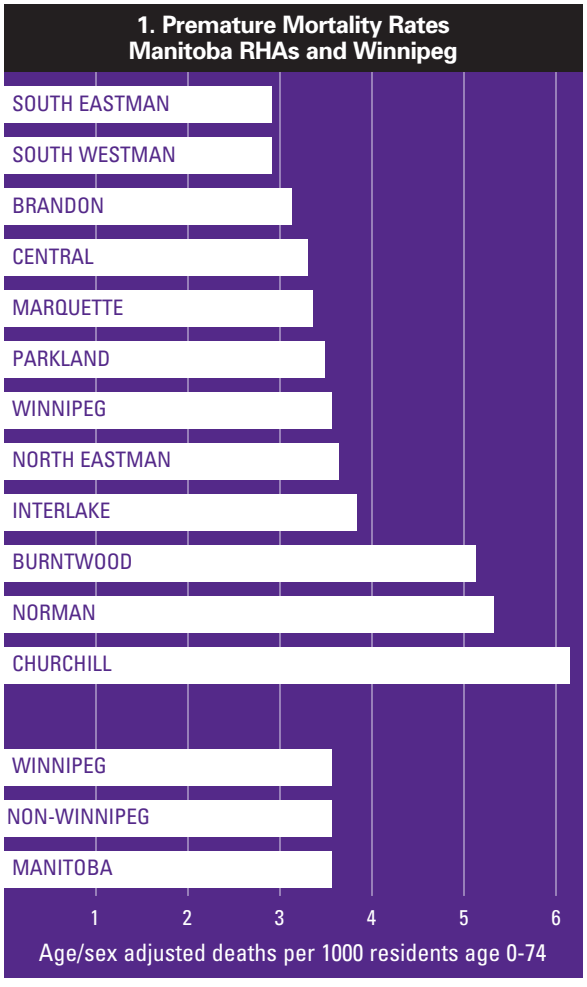
- Do residents receive care in our area, or do they travel for care?
- Does high use of hospitals represent overuse, or is use related to need?
- Do patterns of surgery correspond to needs of the area?
- Do areas with fewer nursing home beds use hospital beds instead?
- Do high-risk groups have poor access to health care? Or can health be poor despite high use of health care services?
- Does low use of physicians suggest a healthy population or a shortage of physicians?

How POPULIS works

POPULIS's strength is that it is *population based.* It tracks all the health care services used by the people of an area—regardless of where the use took place. Since people often travel elsewhere to

access health care services (remember Pine Creek with no doctors), especially in rural areas, this makes POPULIS particularly useful to RHAs. This is unlike other reporting methods that focus not on the people, but on the health care services themselves.

To illustrate this population-based difference, let's look at an example using Parkland RHA. There are no hip replacements performed in Parkland; most residents travel to Brandon or Winnipeg for hip surgery. So if you were a health care planner in the region, what information would be more useful to you: that there were no hip replacements performed in Parkland? Or, as POPULIS would report, that Parkland residents had more hip replacements per capita than the provincial average? (And if you want to know where, POPULIS tells you that too.)



Another advantage of POPULIS is that its rates are age/sex-adjusted. What this means is regardless of the population make-up of the various RHAs—proportionately more men? more women? more young? more old?—POPULIS makes essentially an "all things being equal" comparison. So an RHA with, say, a large proportion of elderly residents could have a crude (unadjusted) hospitalization rate above the provincial rate, but an age-adjusted rate that is below it.

A Focus on Health

So what makes us say South Eastman is the healthiest RHA? Well, three things mainly, but the key measure used is PMR—Premature Mortality Rate or death before age 75 (Fig.1). PMR is a widely used measure of health because populations with higher rates also report more sickness and more symptoms of illness. The healthiness ranking mentioned earlier is based on this most important measure. All figures in the report list RHAs in that same order.

Along with PMR, there are two other key measures that help give a more complete health picture. One of them is Socioeconomic Status; simply put: the poorer and less educated you are, the sicker you are likely to be, and the greater your need for health care. So for each RHA, we provide census information on influences like: unemployment, education, percentage of single mothers, and housing costs.

The other important measure of "healthiness" included in our report is life expectancy. Where people live longer, it follows that their health is generally better. So one of the things that makes, for example, South Westman one of the healthiest RHAs is its relatively high life expectancy—in fact the highest for Manitoba males.

Health status, then, is the focal point of our report. The report begins by informing RHAs how relatively healthy they are. That is, how the health of their residents compares to that of other RHAs.

Relating Health to Health Care

The report also provides decision-makers with a great deal of data about health care services in their RHAs. Indicators such as:

- Preventive care, including immunization for children and mammography screening for women
- Aspects of physician service use: in-area supply, visits, consultations, provider type (GP/FP vs specialist) and location of visits (in/out of region)
- Acute care hospitals: bed supply, admissions and days, location of hospitalizations
- Long term care: supply and use of personal care (nursing) homes, days of chronic care (45 or more days in hospital)
- Access to high profile procedures, such as specialized cardiac and orthopedic procedures or cataract surgery

With this information, comparisons can be made not only between RHAs, but also within them. Each is subdivided into 2 to 8 smaller PSAs (physician service areas): communities in which physicians practice, plus the smaller nearby towns and districts whose residents seek care from these physicians (Fig. 2 and 3). Just because a region is "healthy" doesn't mean all the communities within it are healthy. This enables RHAs to pinpoint areas, targeting possible concerns and/or possible solutions.

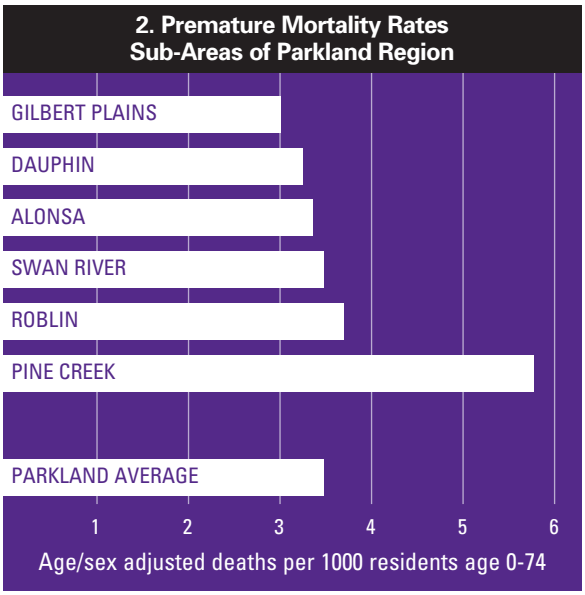
For example, Burntwood planners might say, "compared to other RHAs, our residents have poorer health; yet within our region we have Leaf Rapids, one of the healthiest PSAs in Manitoba. So what can be learned from that area? Is it healthy because employment is high? Or because preventive programs like immunization are working? What would benefit other areas?"

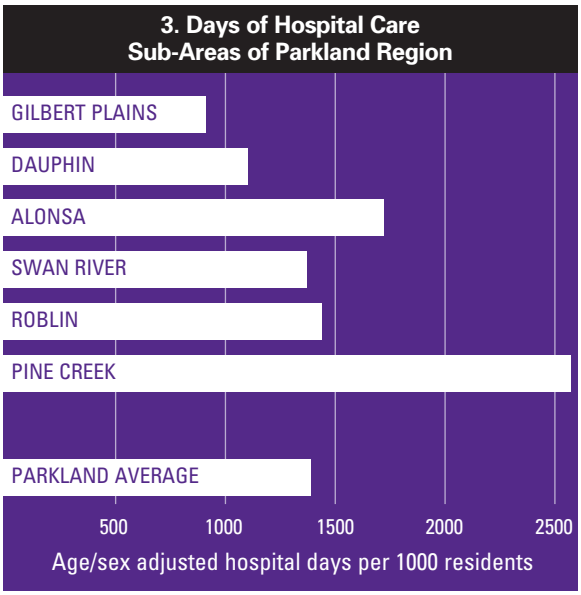
To further define the health and health care picture, most figures also include a provincial rate, a Winnipeg rate, and a non-Winnipeg rate (RHA average). In addition, RHA Profiles—individual graphs of each RHA—compare their health and supply/use of health care services to a *rural average*. This is different than the other rates because it does not include Winnipeg or Brandon—which drive the provincial rate—or Churchill, where data are incomplete.

How RHAs might use this information

Most of the information in this report has been generated from 1995/1996 and 1996/1997 records, a point just prior to when the RHAs were formed. Therefore, it offers a baseline assessment before RHAs made changes to their health care delivery system, and a reference point against which future policy or program decisions can be measured.

MCHPE has not focussed on providing a detailed understanding of the data. We believe that much of this interpretation should come from the RHAs themselves, based on their





Health can be poor despite high use of health care services

understanding of local circumstances. But, to confirm decision-makers' understanding of the information, the report offers some sample interpretations and questions that might arise. We've included some here.

The population pyramid is a cornerstone of the information MCHPE provides to the RHAs. It's a picture of a region showing what percentage of the population is distributed in each five-year age and gender group. This alone might suggest possible directions to take. An RHA with a young population, such as Churchill, might decide their emphasis should be on prenatal care or early childhood development programs. Meanwhile, an RHA with an older population might want to look at health care services for seniors.

But when you start putting together all the pieces, a "look" can get complicated. For example, in Marquette, 10% of people are seventy-five years of age or older. That's higher than the provincial average of 6%. Yet their number of PCH beds per thousand, 114, is below the provincial average of 128.

So, it looks simple: Marquette needs more personal care homes. Or do they?

From a population-based point of view, for every 1000 people in Marquette aged 75 or older, 138 live in a PCH. This is above the provincial average of 134. And Marquette's residents wait 31 days less than the Manitoba average for a PCH bed.

So it isn't so simple. Do we need more PCH beds? How can access be higher than average when supply is lower? If there is a bed shortage, why aren't waits longer? Are people using beds outside of Marquette? If so, does that take them farther from family? Closer to family? For planners in Marquette and nearby RHAs, these are but some of the questions.

Our report doesn't provide all the answers. It simply makes the analysis each RHA undertakes as informed as it can be.

At a recent presentation, a representative of South Eastman showed how POPULIS data can help RHAs identify areas of greater need. While they have one of the healthiest populations in the province, one area within their RHA is one of the least healthy. That PSA's mortality rate is higher than the provincial average, and much higher than South Eastman's. Why?

A look at socioeconomic factors in the area offers some insight: high unemployment and roughly 1/3 of residents with a grade 9 or less education. Here we see the link between socioeconomic status and health. So what's needed? More health care services? Or job creation strategies and education? Or both? South Eastman RHA is currently looking at this issue.

What this report underscores is the fact that the relationship between health and health care is not straightforward. What makes one RHA healthier than another, or the residents of one town healthier than those in another? What impact will an aging population have? Why does a place with no physicians have the highest physician visit rate? Why aren't areas with good access to physicians always the healthiest? How many people can we expect to "walk through the door" of the various health care facilities?

There are many such questions—at times almost mysteries—facing decision-makers in each RHA. In a sense, they often find themselves as sort of "health detectives," looking for answers. And in that sense, MCHPE is the informant, trying to provide them with as many clues as possible. And while information like population pyramids may not mean much to many Manitobans, indirectly, if it leads to improving their health or the health of their community, it means a lot.

Summary by RJ Currie, based on the report:
Comparative Profiles of Health and Health Care Use for Manitoba's Regional Health Authorities: A POPULIS Report, *by Charlyn Black, Noralou Roos, Randy Fransoo and Patricia Martens.*

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