Rural Poverty and Health: What Do We Know?

Presentation to the Standing Senate Committee
on Agriculture and Forestry

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Introduction

I wish to say how much I appreciate the work of the Standing Senate Committee on Agriculture and Forestry in examining rural poverty – an important but difficult issue. I am also grateful for the invitation to appear before the Committee and make a short presentation on this topic.

I am the Research Director of the Centre for Rural and Northern Health Research (CRaNHR) and a professor at Laurentian University. CRaNHR is an academic and applied research centre whose mandate is to conduct multidisciplinary research on rural health issues, with a view to using research to better understand the nature of rural health and improve the health of rural Canadians. It is one of a few research centres in Canada that conduct health research in the rural, northern or remote context. This presentation represents my own views, and not necessarily those of CRaNHR, though some of what I am going to say is based on research done by me and my colleagues.

Because the interim report of the Committee (*Understanding Freefall: The Challenge of the Rural Poor*) has discussed in considerable detail what "rural" and "poverty" mean, I shall not revisit those issues as I generally concur with the ways the Committee understands "rural" and "poverty".

This presentation focuses on the health aspect, as rural health is an area I am interested in and know something about. I also believe health is an important issue for rural Canadians, especially for those who face economic difficulties.

What Do We Know about Rural Poverty and Health?

As a researcher, I try to stay close to what research tells us about the link between rural poverty and health. But there is a need to venture beyond what is known because, unfortunately, not much is known about rural poverty and health. As the Committee's interim report has correctly pointed out, the rural poor are under-researched, it is therefore not too surprising that there is even less research on rural poverty and health in Canada.

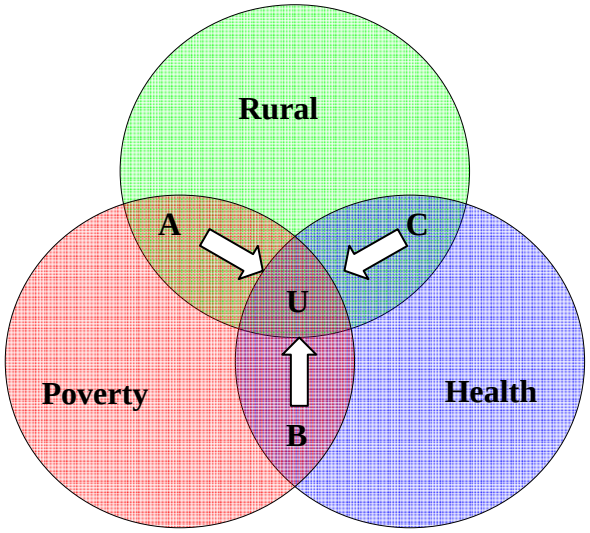
The approach I have chosen to use is to go from the relatively known to the relatively unknown. The "relatively known" is from published studies and the "relatively unknown" refers to a series of extrapolations or inferences made on the basis of research findings. These inferences can be treated as hypotheses for future investigation.

This approach can best be explained by using Figure 1. The three circles represent the bodies of knowledge about the three broad issues - rural, poverty and health. The green, red and blue circles denote studies or publications related to the topics of rural, poverty and health, respectively. It should be mentioned

that although the three circles are the same in size, it does not imply that the three topics are equal in terms of the number of publications. Clearly, there are many more published studies on health issues than on poverty and rural. The areas where two circles intersect (labeled “A”, “B”, and “C”) are areas where there is some research evidence about the interface between two topics, namely, the relationship between rural and poverty (“A”), the relationship between poverty and health (“B”) and the relationship between rural and health (“C”).

Figure 1

What is Known about “Rural”, “Poverty” and “Health”



Finally, the area where the three circles intersect (labeled “U”, which stands for “unknown”) indicates that the interface between rural, poverty and health is something we know very little about because very little research has been done to date. Indeed, a literature search has found very few published Canadian studies on the relationship between rural poverty and health.

The following presents what is known about “A”, “B” and “C”, based on what can be gleaned from the research literature. On the basis of this, I shall try to make

some inferences or hypotheses about rural poverty and health, as denoted by the three arrows in the diagram.
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Rural and Poverty

In a 2002 Health Canada publication, I described the challenges facing rural Canada as follows: “Although there is a lingering idyllic notion of the countryside and rural lifestyle and a lot of talk about a rural renaissance, many rural communities in Canada face demographic, ecological, economic, and social challenges due to geographic isolation, depletion of natural resources, boom-and-bust cycles in resource-extraction industries, chronic high unemployment, the vulnerability of single-industry towns, population aging, inadequate municipal infrastructure, and so on. These problems have profound implications for the health and well-being of rural Canadians” (Pong 2002: p. 2). A number of empirical studies documenting the economic difficulties facing rural Canada have lent credence to this impressionistic portrayal of rural Canada.

Generally speaking, people’s incomes are lower in rural Canada. According to a study by Rupnik et al. (2001), in the last three decades of the last century, families in rural areas had the lowest average incomes and those in the most populated areas (i.e., 100,000 population or more) had the highest incomes. In 1997, the average income for rural families was $48,850, while the average family income was $59,920 (in constant 1996 dollars) in the most populated areas. Using 2000 data, Singh (2004) was able to show that within each province, incomes in rural regions were lower than those in urban regions.

In addition, the study by Singh (2004) has shown that for Canada as a whole, the rural-urban income gap slightly widened between 1980 and 2000. Another analysis conducted by Alasia and Rothwell (2004) has also shown that the share of income disparity due to between-province disparity decreased over the 1990s, while within-province disparity increased substantially. In other words, the geography of income disparities in Canada is shifting from a provincial to a rural-urban divide. Clusters of persistently low-income census divisions can be identified in marginal and northern regions whose relative economic position has deteriorate over time. In contrast, clusters of rich census divisions can be found in core urban regions whose relative economic position continues to improve.

Low income does not necessarily mean poverty. Depending on how poverty is defined, one gets a somewhat different picture of poverty in rural Canada. The proportion of families with income below the low income cut-off (LICO) is smaller in rural areas (slightly below 10% in rural areas vs. about 17% in areas with a population of 500,000 or over). This suggests that rural communities are somewhat better off than urban communities in that a lower proportion of rural residents is constrained in their ability to purchase basic necessities. On the other hand, the proportion of families with income below the low income measure

(LIM) is higher in rural areas (about 15%) than in areas with a population of 500,000 or over (about 12%). The proportion of families with income less than LIM indicates the economic well-being of a community in terms of the proportion of its residents with income one-half of the adjusted national median income (Rupnik et al. 2001).

Using another source of data from the Survey of Labour and Income Dynamics, Vera-Toscano and associates (2001) were able to show that the average income of people in rural and small-town Canada was uniformly below that of residents in large urban centres for the 1993-1994 period. A greater proportion of rural residents concentrated in the bottom income categories. The proportion of "persistently" poor (i.e., being poor for the two years of the survey) was higher for those in rural areas and small towns than for those in larger urban centres.

Interestingly but significantly, the Gini coefficient of inequality is lower in rural areas. Since the 1980s, rural areas have had the lowest degree of income inequality, while areas with a population of 100,000 or over have had the highest. This suggests that incomes are more evenly distributed in rural areas, though they are lower on average (Biggs et al. 1993; Rupnik et al. 2001).

Poverty and Health

There are two major perspectives on how inequality in economic well-being can affect the health of the population. One is the absolute deprivation hypothesis, which suggests that very low living standard is bad for health. The other is the relative position hypothesis, which emphasizes individuals' position on the socioeconomic (SES) hierarchy, independent of standard of living, as the key to understanding the link between economic well-being and health (Phipps 2003; also see: Marmot 2004; Ross 2004; Wilkinson 1996; Xi et al. 2005).

There are many studies on the relationships between SES and health, though only a small number of these studies refer specifically to poverty. One such study (Auchincloss and Hadden 2002) has concluded that poor health is associated with increasing concentration of poverty. In another study, Patrick and his colleagues (1988) have proposed a model that "explains" the relationship between poverty and health status, particularly in a rural context:

Poverty → Health care needs → Access to services → Health status

This is a simple, even simplistic, model as it assumes that access to health services is the most important mediating factor between poverty and health status. But there are other possible intervening factors such as undesirable health beliefs or behaviours, food insecurity, unhealthy living environment and social exclusion. Nevertheless, having adequate access to health care is undoubtedly an important consideration.

Other studies, though not strictly on poverty, are still relevant. The National Population Health Survey shows that in 1996/97, 73% of Canadians in the highest income group rated their health as excellent, while only 47% of those in the lowest income group reported excellent health. Disability or activity limitation is much more common among individuals with incomes in the bottom 30% of the income distribution, compared to those in the top income category (Phipps 2003).

In Montreal, it was found that people in the lowest income quintile consistently had poorer health. Infant mortality rates increased from high to low income quintiles. Likewise, life expectancy decreased steadily from high to low income quintiles. As well, suicide rate was considerably higher in the poorer east-central Montreal, compared to the richer west Montreal (Auger et al. 2004).

Chen and associates (2006) have concluded that individuals lower in SES experience higher rates of morbidity and mortality, compared to those higher in SES, across many different health outcome indicators and across many countries, regardless of whether they have universal medicare systems. Most other studies on SES and health (e.g., Reutter 1995) have produced findings that are consistent with their observations.

Poverty rarely exists alone. More likely than not, it is part of a syndrome of multiple adversities that may include homelessness, low educational attainment, malnutrition, social isolation, psychological stress, low self esteem and so forth. For instance, rural areas not only have a higher proportion of low-income people, they also have a higher proportion of people with below average educational level. A study by Alasia (2003) has shown that the gap in educational attainment between urban and rural regions in Canada persisted over the period between 1981 and 1996. Individuals with only primary education are more concentrated in rural regions. Studies (e.g., Davidson et al. 2006; Lleras-Muney 2004; Polanyi et al. 2004; Ronson and Rootman 2004; Wilkinson and Marmot 2003) have shown that such conditions as illiteracy, work insecurity and low educational level are also correlates or causes of poor health. For example, Ormond and associates (2000) have suggested that lower educational attainment and low exposure to mass media may hamper health education efforts, resulting in rural residents being less familiar with preventive health measures or less aware of public social programs.

Rural and Health

That there are considerable disparities between rural and urban Canada in relation to population health status has been noted by many researchers (e.g., Badgley 1991; Fair 1992; Sahai et al. 2000; Wilkin 1992). Additionally, population health status appears to be inversely related to the degree of rurality: Residents in the most rural or remote regions are likely to have the worst health status. As

Pampalon (1991) has pointed out, in Quebec, there is a “trend toward a progressive deterioration in health as one moves from that area bordering urban centres into the very remote hinterland” (p. 359). Using data from the 2000-2002 Canadian Community Health Survey, Mitura and Bollman (2003) also found that the self-rated health of Canadians (i.e., those reporting their health as excellent) declined from the most urban regions to the most rural and remote parts.

Table 1 is borrowed from *Building on Values: The Future of Health Care in Canada*, or commonly known as the “Romanow report” (Romanow 2002). The indicators used in this table all show that people in predominantly rural health regions tend to have poorer health status and a heavier burden of illness, when compared to those in predominantly urban health regions.

Table 1

Health Status for Populations in Predominately Urban, Intermediate and Predominantly Rural Health Regions in Canada, 1996

Indicator of Health Status	Predominately Urban	Intermediate	Predominately Rural
Life expectancy at birth: years	78.8	77.7	77.0
Infant mortality rate per 1,000 live births	5.1	6.3	7.1
Total mortality: age-standardized rate per 100,000 people	657.0	704.8	748.3
All circulatory disease-related deaths: age-standardized rate per 100,000 people	243.4	260.5	269.6
All cancer-related deaths: age-standardized rate per 100,000 people	181.1	193.0	194.6
Unintended injury-related deaths: age-standardized rate per 100,000 people	25.9	34.7	45.4

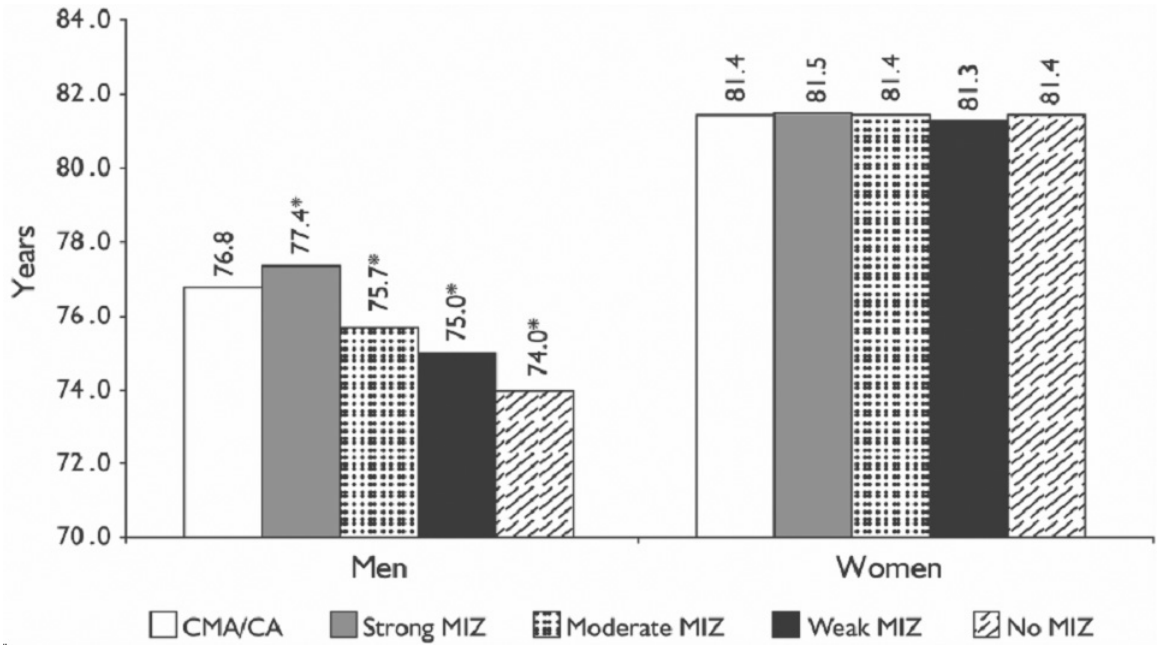
Source: Romanow 2002

A study titled *How Healthy Are Rural Canadians? An Assessment of Their Health Status and Health Determinants*, conducted by CRaNHR in collaboration with the Public Health Agency of Canada and several other research centres (DesMeules et al. 2006), has produced similar but more up-to-date findings. Life expectancy at birth for men is generally lower in rural areas than in urban areas, though the differences are negligible across regions for women. Areas that are the most rural - the Weak or No Metropolitan Influence Zone (MIZ) areas - are often at

greater risk. Mortality rates due to circulatory diseases, respiratory diseases and diabetes are significantly higher in rural regions, with the exception of Strong MIZ areas. All-cancer mortality rates are slightly lower in some rural areas, but residents in all rural areas have increased mortality rates due to injuries and poisoning. Some of the findings are presented in Figures 2 and 3.

Figure 2

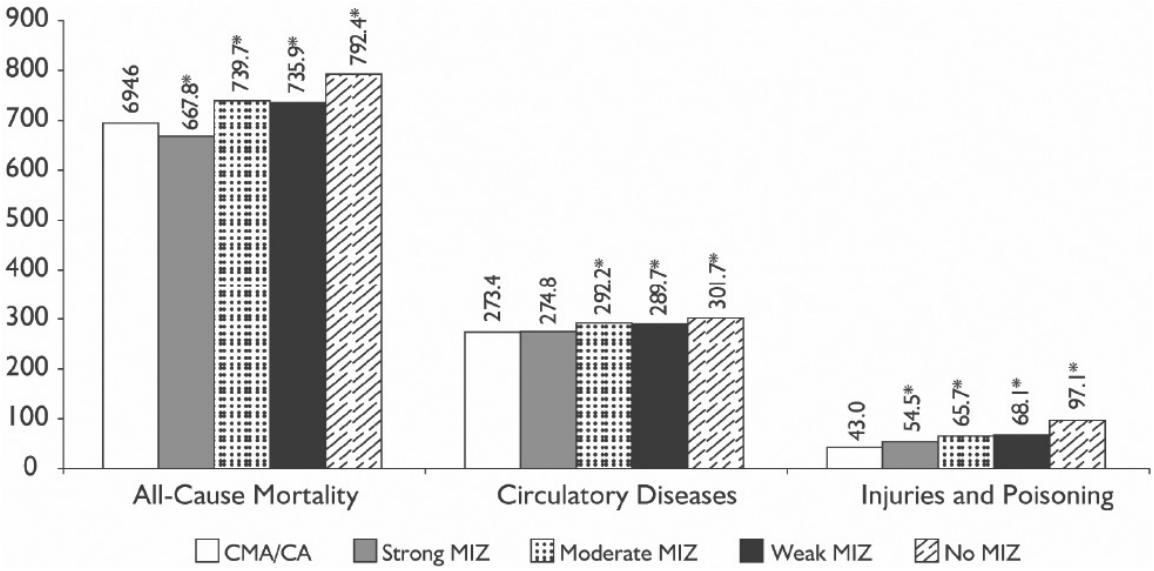
Life Expectancy at Birth, by Place of Residence and Sex, Canada, 1999 to 2001



Source: DesMeules et al. 2006

Figure 3

Age-Standardized All-Cause Mortality Rates and Selected Cause-Specific Mortality Rates (per 100,000), by Place of Residence, All Ages, Canada, 1986 to 1996



Source: DesMeules et al. 2006

In short, the DesMueles et al. (2006) study has shown that rural Canadians tend to be less healthy than their urban counterparts. They have higher overall mortality rates and shorter life expectancy. Those living in the most rural or remote areas tend to have the worst health status, including high mortality rates due to injuries, cardiovascular diseases and diabetes.

Rural-urban disparities in health status are not unique to Canada. Other countries with similar geography and social and economic systems such as Australia and the United States face similar situations. According to the Australian Institute of Health and Welfare (1998 and 2006), Australians living in rural and remote areas generally have worse health status than urban dwellers. In particular, they have higher cause-specific morbidity and mortality rates and lower life expectancy, and higher hospitalization rates for some illnesses. Elevated levels are most pronounced for injuries and road accidents and, to some extent, coronary health disease. Similarly, according to Ormond and associates (2000), in the United States, rural areas of a state tend to fare worse than urban areas on health indicators such as infant mortality, low birth weight and morbidity. Rural counties as a whole are worse off than non-rural counties on

most age-adjusted health indicators.

Not only are there differences between rural and urban Canadians with respect to health status, there are also differences in their access to and use of health services. In an as yet unpublished study, CRaNHR, in collaboration with the Public Health Agency of Canada and several other research centres, has examined patterns of health care utilization by rural and urban Canadians. A few findings are worth highlighting. Significantly greater proportions of rural residents than urban residents reported that they had not consulted a family doctor in the previous 12 months. As well, visit rates to all physician specialists for both men and women showed a decreasing gradient from major urban centres to No MIZ areas.

On the other hand, hospitalization rates increased for both sexes with increasing rurality, but average lengths of hospital stay decreased with increasing rurality. Also, greater proportions of rural residents reported receiving care in emergency departments or hospital out-patient clinics. A greater proportion of rural residents also reported seeing a nurse who, in many small or remote communities, may be the only health care personnel available.

Differences between rural and urban Canadians in relation to health services utilization could be due to the maldistribution of health care resources, including health human resources, and the ways health services are organized or delivered in rural areas. Chronic shortages of rural physicians have been well documented. Some data from a study by Pong and Pitblado (2005) are shown in Table 2. Less than 10% of all physicians were located in rural areas, compared with slightly over 21% of Canadians. Just under 16% of family physicians/general practitioners and only 2.4% of all specialists practised in rural Canada.

Table 2

Number and Percentage of Physicians and Canadian Population by Urban and Rural Category, Canada, 2004

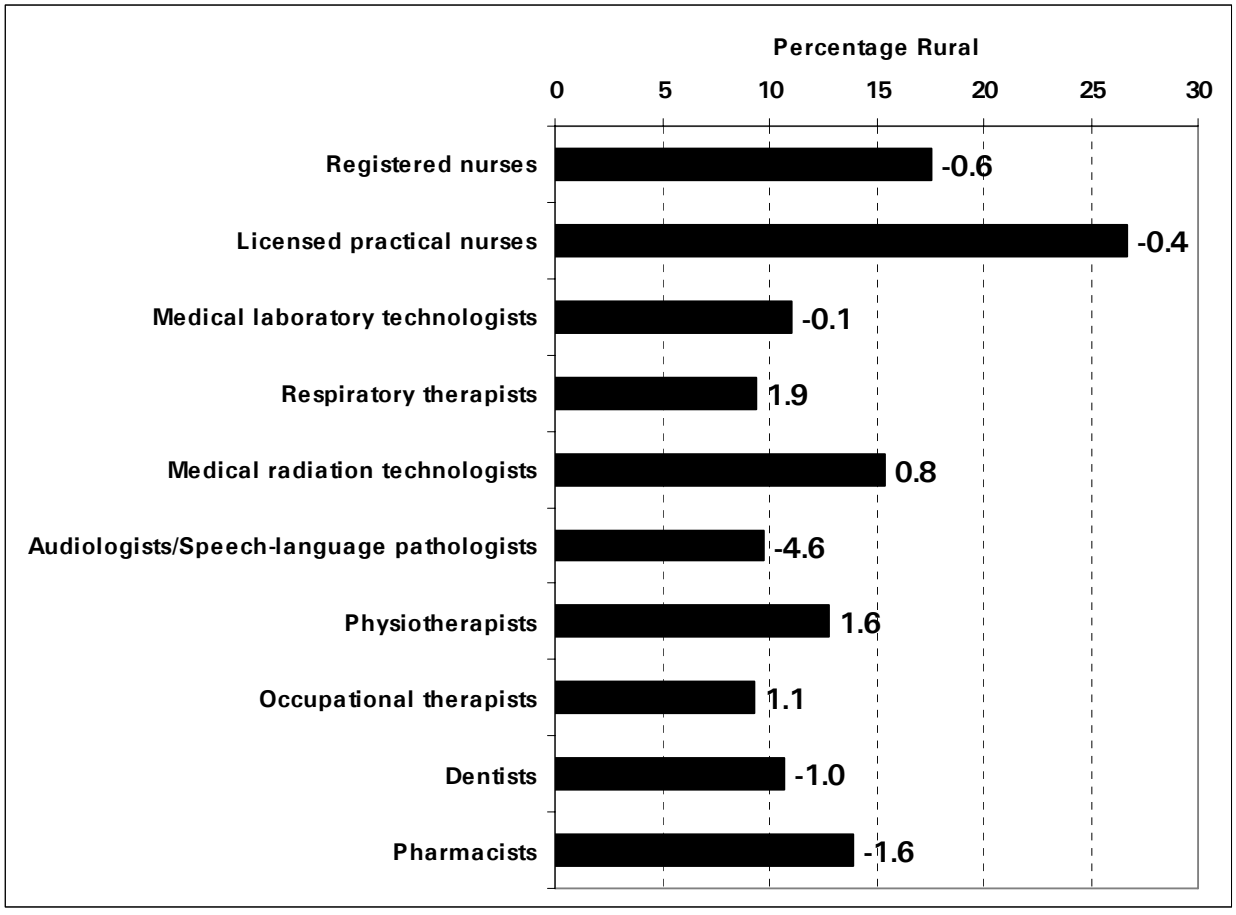
	Urban	Strong MIZ	Moderate MIZ	Weak MIZ	No MIZ	Total
Number of all physicians	54,944	819	1,934	2,691	224	60,612
% of all physicians	90.8	1.4	3.2	4.4	0.4	100.0
% of Canadian population	79.3	5.6	7.6	6.6	1.3	100.0

Source: Pong and Pitblado 2005

Similar to physicians, many other health care providers are not geographically located in a way that corresponds to the spatial distribution of the Canadian population, as can be seen in Figure 4.

Figure 4

Percentages of Health Care Provider in Rural Areas, 2001, and Changes in Rural-based Health Care Providers between 1991 and 2001, Canada



Source: Pitblado 2007

Overall physician shortages in rural areas may help explain the lower likelihood of rural residents seeing a doctor and the higher likelihood of them seeing a nurse. Similarly, the greater reliance on family physicians/general practitioners by rural Canadians may be attributable to the critical shortage of specialists in rural areas. The more frequent use of hospital and emergency department services by

rural residents could be due to the lack of community-based care, such as community health centres and walk-in clinics, in many smaller communities.

But our study on health care utilization does not included services not covered by Medicare such as dental, rehabilitation and community mental health services. It is quite possible that rural residents use such health services to a lesser extent. Also, our study does not single out those living in poverty. For the rural poor, such services may be beyond their reach because they are not covered by third-party payers or because the costs of traveling long distances to access care are simply unaffordable.

Rural Poverty and Health: Some Hypotheses

A recapitulation of what has been presented is needed. First, whether poverty is more prevalent in rural Canada depends on how it is defined. But, generally speaking, rural Canadians have lower average income than their urban counterparts. However, income disparities are less severe in rural areas than in larger urban centres. Second, there is a relationship between socioeconomic status and health status. Typically, people with higher income enjoy better health status. Third, on the whole, rural Canadians have poorer health status relative to urban residents. They also have different patterns of health services utilization. The latter may be due to shortages of health care resources, including health human resources, or the way health services are organized or delivered in rural areas.

We know something about the relationships between rural and economic circumstances, between rural and health, and between economic well-being and health. But there is a dearth of empirical evidence about the relationship between rural poverty and health in Canada. So, what is to be done? It is suggested that some inferences about rural poverty and health can be made on the basis of what we know about rural and poverty, rural and health, and poverty and health. Needless to say, these inferences are conjectural in nature, but they can be seen as research hypotheses for future empirical testing.

1. Poverty negatively affects health, regardless of where poor people live. However, it is argued that the rural poor have additional disadvantages because of the lack of health services in many rural areas and the need to travel long distances to access care. Although under Canada's Medicare system, all Canadians can access needed medical and hospital services regardless of their ability to pay, the poor may have less access and may have lower utilization if such services are only available in faraway urban centres.

2. The rural poor may have even lower utilization of health services that are not covered under Medicare. Such services like dental care and rehabilitation

may be even more difficult to access by the rural poor than basic medical and hospital care because provincial ministries of health may be under less pressure to make such non-insured services available as widely as possible or the geographic distribution of such services may be driven more by market forces than by needs.

3. Many provincial and territorial ministries of health have developed strategies to help improve access to health services by people living in rural or remote regions, such as the Underserviced Area Program in Ontario. But they tend to be generic in nature and may not address the special needs of the rural poor. It may be necessary to have special programs for rural Canadians living in poverty and who have health problems. Targeting the rural poor for special treatment in order to improve their health is justifiable if the need can be demonstrated and if it can be shown that generic programs have failed to reach them.

4. Although there are many more poor people in cities, they are more concentrated, geographically speaking. This makes it easier to design special programs to attend to their needs. The rural poor, on the other hand, tend to be more widely scattered and less visible. This may means that their problems receive less attention or may make addressing their problems that much more challenging.

5. Canada has been witnessing an unrelenting urbanization trend (Malenfant et al. 2007). Rural depopulation, especially in the more rural or remote areas, will likely continue, unless there are major policy shifts. If rural Canada is experiencing maldistribution of health care resources and if rural Canadians are having difficulties accessing health care, it is likely that the worse is yet to come, as the rural population becomes even smaller and even more widely dispersed and as rural Canada has even less political clout. The rural poor may find themselves even more marginalized and in an even more precarious situation.

6. The access-to-care problem may become even more difficult for rural Canadians, and particularly for the rural poor, if shortages of health care providers become more critical, as many health workforce projections have predicted.

7. The aforementioned study by DesMeules and associates (2006) shows that the observed higher all-cause mortality rates in rural areas are a function of various demographic and socioeconomic factors. In other words, poorer population health status in rural Canada is related to or the outcome of many factors, including rural residence.

   Thus, actions need to be taken on many fronts as the problem of poorer health status in rural areas cannot be cure by a single magic pill. There is

increasing evidence that we need to tackle the social, economic and other health determinants – the so-called upstream causes of poor health. Symptomatic relief is not the long-term solution. But addressing these root causes is not something that can be accomplished overnight. In the mean time, it is necessary to help those who require help most and are most vulnerable. Besides, there is evidence that timely and effective medical interventions have made an important contribution to the decline in mortality from major diseases such as coronary heart disease and cancer (Graham and Kelly 2004). Health-promotion and disease-prevention measures targeting those with special needs are equally important.

Otherwise put, while it is necessary to reduce poverty and other adverse determinants of poor health, it is equally important to ensure more equitable access to needed health services and medical care in rural Canada, particularly for those enduring economic hardship.

8. It has been pointed out that rural Canadians have lower incomes, but income disparities are not as pronounced in rural areas as in urban centres. It has also been noted that there are two major perspectives on the impact of SES disparities on health: the absolute deprivation hypothesis and the relative position hypothesis. Rural Canada may offer an opportunity to test these two competing hypotheses.

Conclusion

Living in poverty is not conducive to good health. As this brief review has shown, rural residence, particularly in smaller or more remote communities, increases one's chances of having lower income and poorer health. The combination of rural residence, poverty and poor health is a triple whammy.

To make matters worse, the rural poor who are in poor health may not even be noticed. This is borne out by the fact that rural poverty is less visible, as the interim report of the Committee has pointed out, and that there is hardly any research in Canada on the relationship between rural poverty and health. To have a better understanding of this complex issue, as a prerequisite to finding solutions, it is essential for society and governments to realize the severity of the problem and for the research community to give the problem the attention it deserves. The work of the Standing Senate Committee on Agriculture and Forestry in addressing the issue of rural poverty is an important step in the right direction.

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