

Chapter 2 Literature Review

2.1 Socio-Demographic and Economic Context of Canada's Rural Communities

Most people have an intuitive notion of what “rural” means, but a precise and universally accepted definition has thus far eluded researchers and public administrators. “Rural,” to most people, is “non-urban,” “urban” is “non-rural” — a largely tautological definition that is not particularly helpful for research purposes. Depending on the specific definition of “rural” that is used, very different results can be obtained. For example, rural Canada can be shown to have made up as little as 22% and as much as 38% of Canada’s population in 1996, depending on which definition is chosen.²⁶ In a large portion of research publications, though, this problem is side-stepped by authors who do not explicitly define “rural,” typically using the term as if the readers already know what it means. The lack of a precise definition means that comparisons of the results are problematic.

Definitions of rurality based on distance and density have been employed with some success in quantitative research using secondary data sources; du Plessis et al.²⁶ and Pong and Pitblado²⁷ have identified some definitions of “rural” commonly used in Canada and have noted their strengths and limitations. In general, these definitions introduce some sort of gradation of “rural” (that is, categories of rurality), primarily based on distance and density. A key strength of these types of definition is that they allow for comparisons. A common limitation of each of these definitions is that they do not deal in any depth with a social representation of “rural” and may not be appropriate for use in other types of research.

Using a definition of “rural” that is based on distance and density (such as the metropolitan influenced zone, or MIZ, which is based on the commuting flow between rural and small towns and larger centres),[§] Canada’s rural communities can be characterized, among other things, by their widely scattered population. Though well over 95% of Canada’s land mass is rural according to 1996 Census data, that mass is populated by only 22.1% of Canadians.^{28, 29} Between 1996 and 2001, the total rural population (all MIZ categories combined) declined relative to urban areas in both absolute numbers and proportion of the Canadian population (Table 1). When examining the different categories of rurality in the MIZ classification scheme, Strong MIZ areas and, to a lesser extent, No MIZ areas, actually reported an increase in population, whereas Moderate and Weak MIZ areas reported a decrease in population.**

§ Refer to Section 3.1 for a detailed definition of “metropolitan influenced zone.”

** Examples of how some of Canada’s communities are classified to each degree of rurality using the metropolitan influenced zone (MIZ) classification can be found in Appendix A at the end of this report.

Table 1 Population by Degree of Rurality (Metropolitan Influenced Zone, or MIZ), Canada, 1996 and 2001	Population and Percent Distribution (Within 2001 Boundaries)				Percent Change Within MIZ Groups Between 1996 and 2001
	1996	%	2001	%	
Urban (CMA/CA)	22,654,692	78.5	23,839,086	79.4	5.2
All rural and small town areas	6,192,069	21.5	6,168,008	20.6	-0.4
Strong MIZ	1,470,493	5.1	1,524,579	5.1	3.7
Moderate MIZ	2,307,387	8.0	2,285,538	7.6	-0.9
Weak MIZ	2,027,488	7.0	1,969,211	6.6	-2.9
No MIZ	330,616	1.2	333,847	1.1	1.0
Rural and small town territories	56,085	0.2	54,833	0.2	-2.2
Total	28,846,761		30,007,094		4.0

Source: Adapted from the Statistics Canada Census of Population, 1996 and 2001.
This analysis is based on the Statistics Canada Census of Population, 1996 and 2001.
All computations, use and interpretation of these data are entirely that of the authors.

The percent changes within MIZ groups at the national level mask some important variations at the provincial/territorial level (Table 2). For example, though there was a general increase in percent of the population living in census metropolitan areas/census agglomerations (CMA/CAs) at the national level, those urban areas in Newfoundland and Labrador, the Yukon and the Northwest Territories experienced decreases in their populations. For the different rural areas, at one end of the spectrum, Newfoundland and Labrador experienced strong decreases in population for all MIZ areas, whereas Alberta experienced increases in population in all MIZ areas, especially in Strong and No MIZ areas. The other provinces fell somewhere between these two extremes, with provinces such as Nova Scotia, New Brunswick and Saskatchewan tending towards rural population decline and provinces such as Manitoba and Ontario tending towards rural population increase during this five-year period.

Rural communities face a number of socio-demographic and economic challenges. In general, rural communities have different socio-economic and demographic profiles than urban communities. The aging of the population, economic difficulties and geographic isolation are among the factors that could contribute to specific health vulnerabilities in rural areas and small towns in developed countries.

Table 2 Population Change by Degree of Rurality (Metropolitan Influenced Zone, or MIZ) Between 1996 and 2001	Percent Change Within MIZ Groups Between 1996 and 2001							Total
	Urban	Rural and Small Town (RST) Areas						
	CMA/CA	All RST Areas (Subtotal)	Strong MIZ	Moderate MIZ	Weak MIZ	No MIZ		
Newfoundland and Labrador	-2.6	-10.6	-10.7	-10.9	-10.0	-11.2	-7.0	
Prince Edward Island	1.8	-1.0	0.1	-1.2	-2.0	-5.8	0.5	
Nova Scotia	1.2	-2.3	4.9	-2.1	-3.2	-1.3	-0.1	
New Brunswick	0.3	-2.7	-1.6	-3.5	-2.9	3.0	-1.2	
Quebec	2.0	-0.8	2.3	-1.3	-4.4	-0.4	1.4	
Ontario	6.8	1.5	4.1	-0.1	-2.9	11.6	6.1	
Manitoba	0.5	0.5	3.1	1.8	-1.3	1.4	0.5	
Saskatchewan	0.6	-3.5	0.8	-2.6	-4.4	-3.5	-1.1	
Alberta	12.0	5.5	12.7	5.9	1.8	17.9	10.3	
British Columbia	6.0	-1.1	2.5	0.7	-3.9	1.1	4.9	
Yukon Territory	-1.8	-18.9	n/a	n/a	n/a	n/a	-6.8	
Northwest Territories and Nunavut	-4.2	0.9	n/a	n/a	n/a	n/a	-0.5	

n/a = not applicable
Census metropolitan areas (CMAs) have 100,000 or more residents in the urban core and include all neighbouring towns and municipalities where 50% or more of the workforce commutes to the urban core.
Census agglomerations (CAs) have 10,000 to 99,999 people in the urban core and include all neighbouring towns and municipalities where 50% or more of the workforce commutes to the urban core.
Metropolitan influenced zones (MIZ) are assigned on the basis of the share of the workforce that commutes to any CMA or CA (Strong MIZ: 30 to <50%; Moderate MIZ: 5 to <30%; Weak MIZ: >0 to <5%; No MIZ: no commuters).
Note: Using the 2001 boundaries, the MIZ classification groups all three territories into a unique category that is not further broken down into MIZ categories.
Source: Adapted from the Statistics Canada Census of Population, 1996 and 2001.
This analysis is based on the Statistics Canada Census of Population, 1996 and 2001.
All computations, use and interpretation of these data are entirely that of the authors.

Most rural communities have a high dependency ratio—that is, large populations of children and youth (0 to 19 years of age) and seniors (older than 60 years of age), and a relatively small population of working-age individuals (20 to 59 years of age). Rural populations are generally older than their urban counterparts. Many factors contribute to an older age distribution, including the aging of the rural population, the tendency of retirees to move to rural areas and the migration of rural youth to urban centres for further education and employment opportunities.²⁹

Employment and education opportunities are critical to the well-being of small communities. Unfortunately, there is a prevailing view that rural areas are lacking in these opportunities, as well as in the social, cultural and recreational facilities that attract skilled labour. In general, rural populations are less highly educated, have higher unemployment rates and have lower incomes than urban populations. In 2001, the proportion of people aged 20 to 34 with less than a high school graduation certificate was higher in rural (23%) than in urban (14%) communities.³⁰ Finally, income disparities between rural and urban populations are still apparent, families in rural communities having a median income of \$49,449 compared with \$56,817 for their urban counterparts.³⁰

Labour force participation and employment and unemployment rates provide an indication of the general economic performance of a community or region. The labour force participation and employment rates increased in both rural and urban areas between 1996 and 2000 (6% and 8%, respectively). While both the labour force and employment rates in rural areas remained lower than in urban areas, growth was similar in rural and urban regions, at just over 5%. During the same period, the unemployment rates in rural and urban areas declined, but the rate of reduction was slightly less in rural areas.³¹

It has been shown that young people living in rural communities tend to migrate to more urban centres for different reasons, including better employment opportunities, and this situation is reflected by lower employment rates of rural youth.²⁹ Young people aged 15 to 24 years old living in rural areas had lower labour force participation rates than those in both urban areas and the general rural population. Although the unemployment rates have decreased over time, they were higher for youth living in rural areas compared to urban youth in 2000 (15% and 12%, respectively); the unemployment rates were particularly high among male youth (over 15%) living in rural areas.³¹

The ethnic composition of rural areas also differs from that of urban areas. In 1996, rural Canada had the lowest proportion of immigrants, including recent immigrants and visible minorities; 88% lived in urban regions.³² Immigrants who settled in rural regions preferred the higher-income provinces (British Columbia, Ontario and Alberta) and the Yukon. In rural regions of Saskatchewan, Quebec and the Atlantic provinces, immigrants represented less than 4% of the population.³²

Another important characteristic of rural communities is their relatively high proportion of Aboriginal People compared with urban centres. Canada has the second-highest Aboriginal Peoples' share of the total population, at 3.3%. New Zealand ranked first, with Aboriginal Peoples making up 14% of its total population. Aboriginal Peoples accounted for 2.2% of Australia's population and 1.5% of the population of the U.S.³³ In Canada in 2001, a little over half (51%) of the population who identified themselves as Aboriginal—First Nations, Inuit and Métis—lived in rural areas;³³ 31% of the total rural Aboriginal population lived on Indian reserves and settlements and 19.5% lived in rural non-reserve areas.³³ These proportions have declined slightly since 1996, as the Aboriginal population is experiencing the same issues of youth migration to urban areas.

In addition to the challenges of rural life, many Aboriginal communities have the added challenges that come from living in remote communities. Health Canada (2003)⁴ has developed a four-level classification system of remoteness for First Nations and Inuit communities: type I—remote isolated—no scheduled flights or road access and minimal telephone or radio service; type II—isolated—scheduled flights, good telephone services, no road access; type III—semi-isolated—road access, physician services at greater than 90 kilometres; and type IV—non-isolated—road access and less than 90 kilometres away from physician services. The majority of Aboriginal communities, 64%, are non-isolated; 14% are semi-isolated; and 22% are isolated or remote isolated.⁴

2.2 Health Status and Determinants of Health in Rural Areas and Small Towns

Despite the general consensus in the literature that people in rural and remote communities have poorer health status than those who live in larger centres, it is prudent to not take this as a blanket statement for all rural and remote communities. Studies of differences in rural and urban health status, sometimes even published within the same country, have produced conflicting conclusions of whether certain characteristics confer an advantage or disadvantage on rural areas, depending on the level of geographic detail and the chosen outcomes of a particular study.

Mortality

Studies of overall mortality offer an example of the range of conclusions that can be drawn when data are analyzed by place of residence. Several studies published in the U.S. and in Australia have shown higher overall mortality rates among people living in rural areas and small towns.^{34, 35} In the UK, as early as the mid-19th century, it had been shown that urban areas had higher mortality rates, a difference that has continued in more recent reviews.^{36, 37} This, however, may mask more subtle variations at smaller geographic areas within countries. For example, in the UK, some rural northern districts had higher mortality rates than urban districts in the south, and remoter rural districts had higher and more rapidly increasing mortality rates than less remote rural areas.³⁶

Not only do countries differ about whether rural areas are disadvantaged, but this research question is also further complicated when age, sex and other important possible confounders are taken into account. Eberhardt et al.³⁵ reported higher mortality rates among persons 65 years of age and over living in the U.S.'s rural areas. Conversely, a study looking at the effect of rural residence on the mortality hazards of people aged 55 years and older found an urban mortality gradient—mortality risk decreasing as population density declines—even after the effect of age, sex, marital status, ethnicity and socio-economic status had been controlled for.³⁸ It also concluded that the introduction of major confounders did not explain away the association between level of urbanization and all-cause mortality.

Studies of cause-specific mortality patterns provide more examples of how rural areas and decreased health status are not always synonymous. In the U.S., mortality rates from ischemic heart disease were higher among men living in rural communities, but lower among rural women compared with their urban counterparts.³⁵ In Australia, rates of death from heart disease were higher in rural and remote areas among both sexes.^{34, 39} In Canada, a study done in the province of Quebec reported lower mortality rates in rural areas from ischemic heart disease.⁴⁰

Similar to cardiovascular mortality, cancer mortality varies when analyzed by place of residence: geographic differences seem to vary according to sex and cancer site. In Australia, all-cancer mortality was higher among males living in rural and remote areas, but among females the rates were similar across all rural–urban categories.³⁴ Breast cancer mortality in rural areas is either lower than or similar to the rates in urban areas, whereas death rates for cervical and lung cancer appear higher in rural and remote areas.^{34, 40, 41} Ethnicity could also play an important role in the risk of dying from cervical cancer, particularly among women living in the most remote areas. An Australian study has shown that, compared with non-Aboriginal women living in either urban or rural areas, Aboriginal women living in rural areas were at greater risk of dying from cancer of the cervix.⁴²

Mixed results are also found in the literature on chronic diseases. A provincial study done in Canada did not find any evidence of an urban–rural gradient for several chronic conditions, including arthritis, food allergies, asthma, heart disease, diabetes and back pain.⁴⁰ This was corroborated by two studies (Canadian and Australian), which found that people living in rural areas were less likely to report a chronic condition, and that the health problems experienced by women in rural and remote areas were very similar to those reported by urban women.^{43, 44} However, remote area women were more likely to report skin cancer and diabetes.⁴³ Studies on cancer incidence indicate that, overall, it is similar in rural and urban areas. However, the data do indicate that the incidence of cancer in the buccal cavity, lips and pharynx is substantially higher in rural areas and affects more men than women.^{45, 46}

Injuries, motor vehicle accidents and suicide are increasingly recognized as being greater problems in rural areas. All studies examined showed that mortality from unintentional injury, motor vehicle accidents and suicide increased strongly with increasing rurality.^{34, 35, 37, 40, 47, 48} The farming environment and the diversity of production processes that are carried out on a daily basis on farms can contribute to the high rate of injury.⁴⁹ Moreover, injury is the leading cause of mortality among children living in rural areas of Manitoba, particularly among those living in the north.⁵⁰

Suicide is also a major health and social problem in rural areas. There is a clear urban–rural increase in suicide rates among males, but not among females.^{35, 40, 47, 48} Moreover, marital status (being divorced) and ethnic composition (being of Caucasian or Aboriginal origins) reinforce the relation between an increasing degree of rurality and increasing suicide rates among both sexes.⁴⁸

Greater proportions of rural and northern people have reported poor or fair health, activity limitations and a Health Utility Index (HUI) indicative of disability.^{14, 35, 40} In contrast, an Australian study found that there was very little difference between mid-age women from rural and urban areas on the physical and mental health component summary scores of the Medical Outcomes Study Short-Form Health Survey (SF-36). Moreover, ratings of self-reported health were also similar across the rural–urban continuum.⁴³

Considerable consensus exists in the research community on the reasons for the health disparities between rural and urban populations in industrialized countries. In particular, lifestyle risk factors, physical environment factors and health service access and utilization are repeatedly cited. There are also other social determinants of health that contribute to the disparities, namely, gender, socio-economic status, race and ethnicity and socio-cultural and psychosocial factors.

Socio-Economic Status (SES)

Personal or family income, education and occupation are strongly related to most indicators of health status, health care access and use and health-related behaviours. Thus, a community's economic well-being and the share of its people living below the poverty line, in particular, greatly influence the health and health needs of its residents.^{35,51}

In the U.S., the highest concentration of poverty was among people living in large metropolitan areas and in rural and small town areas; the lowest was among those living in fringe counties of large metropolitan areas.³⁵ In Canada, it was found that people who were living in northern Ontario (compared to the rest of the province) had the highest percentage of single-parent families and the highest percentage of people whose main daily activity was caring for family. Northern Ontario also had the lowest percentage of people working for pay, the highest percentage of people who had not completed high school and the highest unemployment rate as compared with the province as a whole.¹⁴ Results from an Australian longitudinal study on women's health indicated that, compared with urban women, a higher proportion of rural and remote women had fewer than 10 years of formal education.⁴³ Moreover, a lower proportion of rural and remote women worked for pay outside the home, and a higher proportion worked in a family business, as compared with urban women.⁴³

A person's SES, combined with his or her place of residence, is related to disease occurrence. An Australian study concluded that the higher risk of coronary heart disease in rural populations compared with urban populations was due, in part, to a lower SES and the ethnic composition (that is, fewer immigrants).⁵¹ Senior et al.⁵² also found that when SES characteristics were controlled for, the tendency for lower mortality in the most rural areas of the UK was substantially reduced. However, the association between SES and mortality seems to be weaker among rural older men and stronger among their urban counterparts, leading to a health advantage for rural men.⁵³

Race and Ethnicity

Very few studies have looked at the health of rural people from different racial/ethnic backgrounds. This can be explained partly by the small proportion of immigrants living in rural areas and the associated difficulties of undersampling and data suppression, and concerns of statistical reliability, privacy and confidentiality. A report published in the U.S. in 2000 revealed that rural minorities are disadvantaged compared with their urban counterparts in certain areas of health, such as cancer screening and management, cardiovascular disease and diabetes.⁵⁴ Those differences were mainly driven by the black and American Indian/Alaska population.

An important ethnic subpopulation in Canada's rural and remote areas is Aboriginal Peoples (which refers to First Nations, Inuit and Métis). It is recognized that they face additional challenges in terms of health. Health conditions such as diabetes, heart disease, hypertension, cancer and arthritis are more prevalent in this population.⁵⁵⁻⁵⁷ While there is a paucity of data on Métis and Inuit health, the available literature on First Nations shows that they experience poorer overall health, higher smoking rates and higher mortality rates due to cancer, motor vehicle accidents, circulatory diseases, diabetes, alcoholism and suicide than their non-Aboriginal counterparts.^{4, 58-61}

Physical Environment

There has been an increasing research emphasis on the physical environment as a major determinant of health,^{62, 63} though it still lags behind compared to research on other health determinants. Environmental health scientists relate the external environment and environmental factors, including manufactured and natural substances and radiation, to individual human health and the health of communities.^{63, 228, 229, 230} Although there is much overlap of this complex issue, some environmental issues, such as air and water quality, directly affect very specific human health issues (for example, respiratory health and intestinal disease). Other environmental issues, such as climate change, acidic precipitation and soil contamination, have an indirect health impact. Even relatively mundane environmental changes like inclement climate and weather may indirectly affect health by becoming significant barriers to accessing health services in rural and remote communities.⁶⁴

Much of the research examining the association between the environment and health has focused on problems of air, water and soil pollution⁶² and has taken place in almost exclusively urban study settings.⁶⁵ A lack of rural environmental health indicators, which could allow us to assess the state of the environment and its potential impact on health in rural areas, has been identified as one of the major gaps in the limited research on the physical environment as a determinant of health. Although the feasibility of developing environmental rural health indicators has been examined,⁶⁴ there is still much work to do in this area.

Health-Related Behaviours

There are also conflicting results in the health-related behaviour literature, likely due to methodological issues. Generally, it does not show clear disparities between rural and urban communities. Smoking and physical activity are the two indicators for which there seem to be clear urban-rural differences. The proportion of smokers was found to be higher in rural areas, and greater proportions of individuals living in rural communities were physically inactive.^{14, 40, 46, 66} The same gradient for smoking rates was found in both adolescents aged 12 to 17 and adults.^{35, 67} On the other hand, fewer rural women reported low levels of work-related and leisure time physical activity.⁴³ There were no differences in alcohol consumption, breastfeeding or food insecurity.^{14, 35, 40} Obesity rates were found to be higher in rural areas in three studies; rural men overall and rural women living in poverty or mid-age rural women were more likely to be obese than urban men and women.^{14, 35, 40, 43, 68} In contrast to these results, a Canadian study found that the overall body mass index (BMI) values in rural men and women were not significantly different from those of their urban counterparts.⁶⁹

Physical and Cultural Access to Services^{††}

The reality of living in rural and remote areas is that there are fewer health care services.⁷⁰ Geographic isolation and problems with access to and shortage of providers and services are multidimensional problems. For instance, poor road quality combined with greater periods spent on the road not only contribute directly to higher incidence of injury, but also compromise access to health services.^{49, 70} Moreover, difficult economic circumstances, travelling time to the city and the lack of car ownership can affect access to and demand for health services.⁷¹

One's definition of health also affects use of health care services. An Australian study found that people in rural areas commonly describe health in the negative, as an absence of disease.⁷² Therefore, if health is understood to be an absence of disease, the main concern will be the cure of illness as opposed to the maintenance of good health. Consequently, curative treatment becomes the focus of a health care system, and demand is made for acute care as opposed to primary care and health promotion and prevention.⁷⁰ Whether this is the case in Canada needs to be investigated.

Psychosocial Factors

It is generally accepted that a healthy social climate that results in residents having a sense of belonging and pride in their community contributes to the health of communities and populations.⁷³⁻⁸² Indeed, some authors have suggested that community characteristics have a greater impact on health status than the availability of medical care.^{11, 83} There is a need to study the mechanisms of how concepts like social capital and community capacity contribute directly and indirectly to the health of a community.⁸⁴ Social capital has been defined in many ways⁸⁵ and generally refers to links between an individual and his or her immediate social environment; it includes concepts such as social networks, mutual trust, civic participation, community engagement and other institutional relations that can affect the health of individuals. Social capital is not a substitute for socio-economic factors such as having warm, secure and safe housing; enough to eat and drink; a good sanitation and water supply; appropriate and safe transport; and adequate income—but it does play an important role in building healthy communities once the “bare necessities” have been met, and therefore it is one of the influential aspects to consider when studying rural health issues.^{74, 82}

Data from an Australian longitudinal study showed that rural and remote women had lower stress scores than urban women, even though the number of stressful life events experienced in the previous 12 months was similar for the two populations.⁴³ In the same study, scores on life satisfaction (measured by satisfaction with achievements in areas such as work, relationships and social activities) were also similar for rural and urban women. However, rural and remote women are exposed to more violence in personal relationships than urban women.^{86, 87} Rural women who are victims of domestic violence are often isolated and are faced with a lack of services that address domestic violence.⁸⁷

^{††} A more detailed literature review of health care services utilization and access will be published in a future report on health services utilization.

A growing body of literature points to an association between positive social support and better recovery from illness and lower mortality.^{78, 88} Conversely, it appears that relative poverty, negative life experiences and a lack of control over work and life in general are factors that could compromise mental health in rural places.⁸⁷ Concurrently, the high rural suicide rate, particularly among males, has drawn attention to the psychological and emotional well-being of people living in rural and remote areas and has highlighted the possible hazards that rural life could represent to mental health, such as isolation, growing unemployment and poverty.⁸⁶

The available literature demonstrates the heterogeneity of rural and urban communities of the industrialized world.^{35, 39, 89} The tendencies for health deficits to be associated with rural areas do exist, though it is far from absolute that rural communities systematically have a negative impact on the health of the population. The diversity of results found in the literature also highlights the complexity of doing rural health research and the variety of the measures used. However, the differences between rural and urban populations seem to lie in the nature of the health problems experienced, as well as in the distribution of the determinants of health.

2.3 Policy-Related Activities in the Area of Rural Health

In recent years, the health status and the determinants of health of small territorial units (for example, health regions or public health units) have increasingly been scrutinized.⁹⁰ There is greater recognition that communities have widely different opportunities and constraints that shape their potential development and their health, and that the policy process should not overlook this diversity of conditions. At the provincial/territorial and federal levels, attention to small territorial units is required in order to understand how universal policies might affect different areas, as well as to assess the potential for local policies. Decentralization of services and increased responsibilities allocated to local and regional administrative bodies have stimulated analysis of health performance on a smaller geographic scale.

Within the context of health care being a direct responsibility of the provinces (except for the First Nations and Inuit and Canadian Forces populations), several federal initiatives to improve rural health have been put in place in response to the concerns of rural Canadians: Innovations in Rural and Community Health initiative, a National Strategy on Rural Health, the Canadian Rural Partnership, the establishment of a National Rural Health Council and the Canadian Institutes of Health Research (CIHR) Strategic Initiative in Rural and Northern Health Research. However, gaps remain in research, interventions and policies and have been identified.⁹¹