



# Defining 'Rural' and 'Rurality' for Health and Health Services Research

**Workshop Report  
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For the

**Rural Development Institute, Brandon University and the  
Department of Community Health and Epidemiology,  
Dalhousie University**

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May we offer our most sincere thanks to each of you and wish you continued success in your rural health research activities as we move forward in this new millennium.

Sincerely,

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# Introduction

## Background

The health of rural populations and rural communities is an underdeveloped and emerging field of research. Little is documented about the health of rural people or how the determinants of health influence the lives of rural residents. Rural health research is pivotal to monitor and improve the health status of rural Canadians, advance the delivery of health services in rural Canada, and foster the health of rural communities.

Integral to rural health research is an understanding of the concepts of 'rural' and 'rurality'. Currently, both researchers and policy makers are struggling to define and operationalize 'rural' for use with health and health service research. Recent publications (Definitions of Rural by du Plessis, et. al., 2002) and forums (St. John's Forum, Building a Strong Foundation for Rural and Health Research in Canada, September, 2001; Steering Committee, Canadian Rural Health Research Society, 2001; Rural Health Research Study Meeting, 2002) have begun to address the issues and challenges in defining 'rural'. These publications and forums have illustrated the growing interest in this issue, and provided the impetus for the organization of a workshop to further explore the concepts of 'rural' and 'rurality' as they apply to health research.

The workshop was convened as a pre-conference event at the Third National Conference of the Canadian Rural Health Research Society entitled, *Health Research in Rural and Remote Canada: Meeting Challenges, Creating Opportunities*, held in Halifax, Nova Scotia in October 2002. The workshop was co-organized by the Rural Development Institute, Brandon University and the Department of Community Health and Epidemiology at Dalhousie University. Funding was provided by the Institute of Population and Public Health of the Canadian Institutes of Health Research; the Rural Secretariat of Agriculture and Agri-Food Canada; Population Health, Special Populations of Health Canada; the Rural Development Institute at Brandon University; and the Department of Community Health and Epidemiology at Dalhousie University.

## Goals and Objectives of the Workshop

The goal of the workshop was to bring rural health researchers from Canadian universities and agencies, together with program administrators and policy makers from Health Canada, Statistics Canada, and the Rural Secretariat, and experts from Australia and the USA, to discuss defining 'rural' and 'rurality' for health and health service research in general, and to inform, in particular, the use of large health databases and surveys. The objectives of the workshop were:

- To discuss the importance of a common definition of rural for initial phases of research and the value of varied definitions in successive phases;
- To provide an opportunity for researchers to come to a common understanding of the benefits of a universal definition of rural and rurality as a comparative and comprehensive approach to rural population and public health research;
- To provide workshop participants with a set of pre-workshop documents about issues in defining rural and rurality for health research, to inform deliberations among participants;
- To provide a critical analysis of the pre-workshop documents by knowledgeable discussants well versed in defining rural and rurality for health research;

- To discuss health planning and policy implications related to variations in defining rural and rurality;
- To provide an opportunity for researchers interested in rural population health research to network and build linkages with other rural health researchers from across Canada; and
- To develop and disseminate workshop proceedings including presentations, discussions and conclusions.

This report provides a synthesis of the workshop presentations and summarizes the main outcomes of the small groups discussions including: participants' feedback about the benefits of common and varied definitions of rural; participants' input into the elements of a common definition of rural; planning and policy implications of a common definition; and suggested next steps for advancing this field of research.

## Workshop Design

After the welcome and greetings, the morning was comprised of keynote presentations and discussant papers. Dr. Roger Pitblado and Dr. Steven Dukeshire presented critical analyses of the pre-workshop documents and initiated dialogue on the topic. The discussants were followed by presentations by keynote speakers, Dr. John Humphreys and Dr. James Merchant, who shared their experiences and lessons learned from Australia and the USA. Workshop participants were given an opportunity to reflect on the presentations and ask questions in a 15-minute question and answer session following discussant presentations and the keynote addresses.

In the afternoon, participants worked in discussion groups to reflect on the morning presentations and offered their ideas on the benefits of common and varied definitions of rural, elements of a common definition, and planning and policy implications. Finally, discussion groups offered concrete next steps for advancing this field of research.

## Profile of Participants

In their application guidelines for workshop funding, CIHR clearly states that they “*financially support meetings of a limited number of persons (10-30) who are individually invited to address specific questions or problems important to the development of the strategic funding agendas of CIHR Institutes*”. The mandate of this workshop was to obtain the input of selected researchers, policy-makers, practitioners and program planners currently involved in defining rural for health-related purposes, who were invited to participate in the workshop. However, in their desire to be inclusive of other participants of the Third National Conference of the Canadian Rural Health Research Society, who might be interested in the issue, an invitation was extended to all conference registrants to participate in this pre-conference event.

In addition to the 30 invited colleagues, more than 50 other interested individuals applied to attend (see Appendix A for a list of the invited participants and workshop registrants). While planners were ecstatic with the interest, challenges in meeting the CIHR mandate and fulfilling responsibilities to all participants ensued. The resulting plan included a morning session where all participants could benefit from the keynote presentations and papers by the discussants. The afternoon sessions would focus on small working groups with the invited colleagues moving to separate meeting rooms to maintain the focus of their discussions.

# Issues in Defining Rural and Rurality for Health Research

## Discussants on the Issue

Prior to the workshop, participants were asked to read three publications (Humphreys, 1998; Pitblado et al., 1999; du Plessis et al., 2002) to prepare for dialogue and discussion about how the terms 'rural' and 'rurality' might be defined in the context of health research. (The Humphrey's paper is available on the RDI website at <http://www.brandonu.ca/organizations/RDI/> The du Plessis et al., 2002 paper is available on the Stats Can website at <http://www.statcan.ca/english/research/21-601-MIE/21-601-MIE2002061.htm> and the Pitblado et al. paper is available at <http://cranhr.laurentian.ca/onlrpts.html>). Two discussants, Dr. Roger Pitblado and Dr. Steven Dukeshire, presented a critical analysis of some of the key issues in defining 'rural' and 'rurality' based on the workshop materials. Syntheses of their presentations are presented below with text and power point slides available on the RDI website at <http://www.brandonu.ca/organizations/RDI/>.

**Dr. Roger Pitblado, Centre for Rural and Northern Health Research,  
Laurentian University, Ontario, Canada**

During his presentation, *Defining "Rural" and "Rurality": Commentary by Roger Pitblado*, Dr. Pitblado provided an overview and analysis of some of the key issues in defining "rural" and "rurality" as presented in the pre-workshop material including a discussion of "traditional" geographical definitions, "physical" boundaries, and health indicators.

### "Traditional" Geographical Definitions

The six traditional geographical definitions (in the box to the right) were presented and Dr. Pitblado illustrated how the proportion of a population (in this case the people of Newfoundland and Labrador) defined as rural can be quite different depending on the definition that is used. The inadequacies of using postal codes to define rural in some provinces (e.g. New Brunswick and Quebec) was discussed. Dr. Pitblado then presented maps of Canada to illustrate the building blocks of traditional geographical definitions and their impact on how many Canadians are classified as rural. It was noted that the 'Rural and Small Town Canada' or 'Census Rural' are currently the most often used definitions.

*"You know that you are rural if there is no Starbucks or Second Cup..."*

*You know that you are remote if there is no Tim Hortons..."*

- *Census rural* – not 1000+ or 400+/sq.km;
- *Rural and Small Town (RST)* – outside commuting zone, 10,000+, MIZ;
- *Non-metro regions* (Beale Codes);
- *OECD rural communities* – CCS, less than 150/sq.km;
- *OECD regions* – CD, >50% living in OECD rural communities;
- *Rural postal codes* – "0" as second character

The problems with the recommendation put forth by du Plessis et al., suggesting that analysts consider the scale of investigation before selecting a definition of rural, were illustrated. Using

examples from prenatal and dental services studies, Dr. Pitblado illustrated that although choosing the rural definition, and therefore the geographical units, before hand is desirable, the data may not support the study. Therefore, researchers and practitioners should be prepared to use multiple definitions of rural when the definition is driven by type of available data.

### “Physical” Boundaries

Next Dr. Pitblado discussed the importance of using not only administrative boundaries, but also “physical” boundaries, such as eco-regions, in defining rural. Dr. Pitblado reinforced that there are a large number of databases in Canada dealing with the physical environment of our country that are untapped by health researchers, especially those concerned with rural health research.

### Recommendations

During his analysis/critique, Dr. Pitblado presented insights from his research experiences, which are summarized in the box below.

#### Recommendations

The geography that we apply rural classifications to should be reasonably stable, and in the case of traditional geographical building blocks, changing boundaries (e.g. Regional Health Authorities) are a source of significant frustration for researchers in Canada and preclude time series analyses or longitudinal comparisons.

Concatenate the classification codes of five of the traditional definitions of rural (omit the postal code approach) to “focus on a specific sub-sector of the rural population”.

Use the traditional geographical definitions (sometimes using more than one, out of necessity) as the basic “skeletal” framework for conducting rural health research.

Consider the context in discussions of defining “rural” and “rurality” (e.g. Is the context “health care” or is it broader than that, such as “health in rural Canada”, and does it make a difference?)

### Health Indicators

Dr. Pitblado discussed the use of health indicators in rural Canada, and indicated that defining ‘health’ is just as problematic as defining ‘rural’ or ‘rurality’. Dr. Pitblado reviewed the usefulness of health indicators (e.g. to be a yardstick for spatial and/or temporal comparisons, to help assess health conditions, to provide evidence to support health programs and policies, to provide clear statements of the starting point and desired end point of any intervention, to identify levels of and gaps in health and well-being of a population or community), and noted that the list of desirable characteristics for health indicators and those of a rurality index are in agreement. Examples of health indicators from the National Consensus Conference on Population Health Indicators and The National Atlas of Canada were presented and Dr. Pitblado concluded his discussion on health indicators by emphasizing the issue of data availability, and cautioned that choices of health indicators and choices of definitions of rural and rurality made in



isolation (i.e. in the absence of the knowledge of the relative contribution of health and non-medical determinants of health databases) are doomed to fail.

### **Transitions and the Singularity of Rural**

In discussing transition from the traditional geographical definitions of rural, Dr. Pitblado noted that all three papers under discussion recognize that it is insufficient merely to define the geographical containers or indices of rural. All of the authors are concerned about the people located within the regions or at the places along the scale of whatever index is constructed. Several indices were presented, and the limitations of each discussed. Dr. Pitblado indicated that a broader definition and/or index of rural/rurality would better serve the needs of researchers, policy-makers, practitioners, and rural people.

Dr. Pitblado indicated that none of the three papers deal in any depth with the “narrative of rurality” or the “social representation of rural”, which is a critical issue. On the other hand, Dr. Pitblado concluded by saying that there is agreement (among the authors of the papers) that there is no single rural context, and that a definition or definitions of rural and rurality must endeavour to capture the richness and diversity of rural Canada.

### ***Dr. Steven Dukeshire, Atlantic Health Promotion Research Centre, Dalhousie University, Nova Scotia, Canada***

In his presentation, *How Different Definitions of Rurality Impact our Perception and Understanding of Rural Canada*, Dr. Dukeshire provided a brief overview of the work of the *Rural Communities Impacting Policy Project* in Nova Scotia, which is developing a Rural Report to “paint the landscape of rural Nova Scotia”. In the development of the Report and in work with another project examining the utility of national data sets to assess the health of rural Canadians, several issues emerged including defining ‘rural’ and ‘rurality’, and how different definitions of rural can potentially impact the outcomes of rural research. Several key questions emerged which are presented in the box to the right.

What is the most appropriate definition of rural to use?

How well do different definitions of ‘rural’ reflect Canadians’ own perception of rurality?

What are the impacts of using different definitions of rural in understanding information from large datasets?

Based on questions and issues raised during his work with Rural Communities Impacting Policy and his work on the project examining the utility of national data sets, a proposal has been submitted to examine issues related to defining rurality. The main activities in this proposed research are:

- To produce an overview of the most commonly used definitions of rural in Canada, focusing on the advantages and disadvantages of each;
- To examine rural Nova Scotians own concepts of rurality and the degree of overlap between how Nova Scotians classify themselves as rural/nonrural and how different definitions of rural classify Nova Scotians as rural/nonrural; and

- To examine the robustness of variables from large datasets to different definitions of rurality. Variables will be selected based on their importance and relevance to the rural community.

### Description of Proposed Research

Dr. Dukeshire provided a description of the proposed research activities.

**Summary of Definitions** - A literature search summarizing the different definitions of rurality, with a focus on the advantages and disadvantages of using each one will be conducted. The definitions will be compared to those used in other industrialized countries to aid in exploring their utility within the context of understanding rural Canada.

**Self-Perceptions of Rural** - Dr. Dukeshire discussed the importance of exploring citizens' self-perceptions of rurality, and provided examples, which illustrated how members of communities may perceive themselves quite differently from what traditional definitions tell us. In an attempt to capture citizens' self-perceptions, the proposed research would include a telephone survey with a sample of Nova Scotians and use GIS mapping and data analysis techniques to determine how well different definitions of rural corresponded to citizens' perceptions of their own rurality. Dr. Dukeshire illustrated the potential classification schemes using a two-by-two table.

The manner in which data are collected and made available partially shapes the definitions used and how they are applied.

Using two different definitions, both considered legitimate definitions of rural, can have a significant impact on the way one may view rural Nova Scotia.

**Robustness of Variables** - The types of geopolitical information collected along with the sampling frame and sample size dictate the type of definition of rural that can be used when conducting analyses from any given dataset. Dr. Dukeshire provided an example which illustrated that the number of Nova Scotians classified as rural and the conclusions drawn regarding rural population shifts varied significantly based on the definition of rural that was used.

Gaining a better understanding of rural Canada will be of particular relevance to decision-makers and policy-makers, researchers, and funders. Dr. Dukeshire discussed how the proposed research could help to raise awareness about the issues faced in defining 'rural' and 'rurality', and ultimately contribute to community planning and rural policy development at a provincial and national level.

### The Importance of the Perception of "Ordinary Canadians" in Defining Rural

Returning to the issue of individuals' self-perceptions of 'rural', Dr. Dukeshire asked, "*is it even worthwhile to consider the perceptions of ordinary Canadians or ordinary Nova Scotians when defining rural, particularly in the context of health research.*" Dr. Dukeshire indicated that this may depend on the type of research being conducted (e.g. quantitative using large datasets versus qualitative methods), and may have greater significance in terms of moving research to policy. Examples that highlighted the potential importance of self-perceptions of ordinary Canadians in moving research to policy were provided.

## Questions to Ponder and Conclusion

Dr. Dukeshire offered the participants a few “questions to ponder”, in the hopes of stimulating further discussion and debate.

- Is ‘rural’ even a useful or meaningful concept?
- Should we care about which definition of rural we use?
- What are the elements that should go into a rural definition?
- Can someone be rural one minute and not the next?

Dr. Dukeshire concluded by saying that although, as researchers, we may not agree upon a common definition of rural, we need to be knowledgeable of the impact and implications of choosing one definition over another in order to truly understand our research outcomes and how they apply to the Canadian population.

## **Questions and Discussion - Discussant Presentations**

During the 15-minute question period after the discussants’ presentations, the discussion focused on issues related to self-perception of being rural and examples of how community residents view themselves were shared. Community members use terms such as “town”, “non-urban” and “rural city” to describe where they live. Dr. Pitblado stated that he is involved in a research project examining nursing practice issues, and most nurses throughout PEI consider themselves to be urban. Dr. Pitblado also shared the results of a project in which Whitehorse physicians identified themselves as urban core, suburban, urban, rural and remote, when asked about the type of community in which they lived. There was a discussion about the fact that a person’s locality might be ‘urban’ or ‘rural’, and each may be in a region that is either a ‘predominantly rural region’ or a ‘metropolitan region’ (e.g. residents may live in rural towns and consider themselves residents of towns or as urban people; however, these individuals would likely agree that they live in ‘predominantly rural regions’). It was also noted that self-perceptions about being rural may be influenced by variables such as age, economic and political factors.

## **International Perspectives – Lessons Learned**

Following the discussant presentations, Dr. John Humphreys from Australia and Dr. James Merchant from the USA shared their perspectives on issues related to defining ‘rural’ and ‘rurality’ for health and health service research. Syntheses of their presentations are presented below with text and power point slides available on the RDI website at <http://www.brandonu.ca/organizations/RDI/>

### **Dr. John Humphreys, School of Rural Health, Monash University, Bendigo, Australia**

Dr. Humphreys used his experiences in Australia, a landscape that parallels Canada in many ways, to discuss the implications of an agreed upon “rurality index” for health and health care research. Dr. Humphreys’ presentation, *Differential Designations of ‘Rural’: Implications for Health Research, Policy and Programs*, highlighted the

*“My starting point is to accept that ‘rural’ is a bit like the hippopotamus – difficult to describe but you recognize it when you see it.”*

need for a rural-urban dichotomy; outlined the current rural classification debate in Australia; and highlighted the significance of developing appropriate taxonomies for monitoring rural health outcomes, allocating health related resources and program evaluation.

Dr. Humphreys' presentation initially reviewed why rural matters. Key points are summarized below:

- A significant number of Australians reside outside of metropolitan centers.
- The way in which mainstream government policies and programs operate, and the way in which resources are allocated, does not necessarily reflect the needs or contexts of rural environments.
- We need to demonstrate how the definition and delimitation of rural impacts on life-chances. Without a defensible and rigorous methodology, the task of generating a fair and equitable distribution of society's scarce resources is unlikely to succeed.
- Despite convergence of characteristics and attitudes of urban and rural populations in Australia, the rural-urban dichotomy is sufficiently significant to warrant a separate rural-urban classification.
- Without specific rural programs, which take account of distinct rural issues, many outback communities will face a bleak future characterized by continued poor health status of rural dwellers.

Dr. Humphreys then discussed how the delimitation of rural is being dealt with in Australia. Currently, three rural classifications exist (Rural, Remote and Metropolitan Area [RRMA] Classification; the Griffith Services Access Frame [GSAF]; and the Accessibility Remoteness Index of Australia (ARIA), and Dr. Humphreys illustrated that the apportionment of the population to different categories of rurality and remoteness varies considerably. The RRMA and ARIA classification systems were reviewed and their impact in terms of rural health issues discussed. Dr. Humphreys reviewed the limitations of these classification systems and noted that although both measure remoteness, the two indexes are not comparable. Dr. Humphreys noted the differences in the categorization of the non-metropolitan population based on each classification system, a factor that has significant implications for the implementation of government policies and programs (particularly funding allocation). In examining the two contrasting rural taxonomies, Dr. Humphreys identified two key issues:

What is the object of measurement – rurality, remoteness or accessibility? Rural health research needs to distinguish between the importance of geographical location and the tyranny of distance per se on rural health status and behaviour, and the wide range of other determinants that also impact on health status. Moreover, the impact of 'rurality' needs to be distinguished from issues of access and accessibility.

The delimitation of rural areas has enormous significance for healthcare planning in terms of how the need for, access to and use of services is assessed, and for monitoring the effectiveness of specific programs designed to address rural health issues such as workforce support, education and training and eligibility of patients for support assistance.

Variations in how the use of different rural-urban taxonomies currently influence the eligibility for and distribution of specific rural health programs was illustrated using the practice incentives program, retention payment program, and measuring utilization and costs of service provision.

In his concluding remarks, Dr. Humphreys stated that rural health has emerged as an identifiable field of activity in Australia. Recently there has been a strong political impetus to respond to specific rural health issues. Dr. Humphreys emphasized that the purpose of a geographical taxonomy should be clear and explicit and cautioned that few generic classifications work well in meeting diverse requirements, and in the absence of specific purpose, spatial delimitation are likely to fall foul of misinterpretation, misuse or even abuse.

Dr. Humphreys noted the importance of defining non-metropolitan areas (whether in terms of ‘rural’ or ‘remote’ areas) for rural health research, planning and program implementation, and the significance in terms of resource allocation and monitoring health outcomes. Dr. Humphreys indicated that there would be considerable benefits from maximizing the extent to which consensus can be reached on a definition of key terminology such as rural, and from the identification of the criteria that should underpin the delimitation of non-metropolitan areas.

*“The challenge is to probe the extent to which we can seek agreement without losing the essence of what makes rural significant and worthy of study in its own right.”*

### **Dr. James Merchant, College of Public Health, University of Iowa, USA**

Three approaches to studying the public health implications of rurality were discussed. The texts for this discussion included the 2001 NCHS/CDC Urban and Rural Health Chartbook (<http://www.cdc.gov/nchs/data/hus/hus01.pdf>) which illustrates a national approach, the 2001 Iowa Health Fact Book (<http://www.public-health.uiowa.edu/Factbook/>) which illustrates a state approach, and the Keokuk County Rural Healthy Study (<http://www.public-health.uiowa.edu/GPCAH/kcrhs/>) which illustrates a local approach to the assessment of rurality.

The CDC Urban and Rural Health Chartbook defines urbanization in five categories: the three metropolitan county categories are large central (counties 1 million or more in population), large fringe remaining counties in large metropolitan areas (counties 1 million or more in population), and small counties in metropolitan areas with less than 1 million population. The non-metropolitan counties are divided into two categories: those with a city of 10,000 or more in population and those without a city of 10,000 or more in population. Figure 1 illustrates the distribution of US counties by these geographic definitions.

Utilization of these definitions is useful for exploring demographic factors and health outcomes. Figure 2 illustrates that, as counties become more rural, a greater proportion of the population is found to be 65 years of age or older. Figure 3 illustrates that the proportion of the population in poverty is bimodal, with the large central urban areas and the most rural areas having the highest proportions of persons in poverty. Figure 4 illustrates a trend toward a greater proportion of cigarette smokers among men and women for all regions, but that there is clear variability for men and women by region. Similarly, Figure 5 illustrates a trend towards obesity among men and women for all regions. Again, some variabilities are observed by region. Figure 6 illustrates physical inactivity during leisure time among adults. A bimodal distribution is observed among men and women, with the highest rates for all regions occurring in the most rural areas. Again, significant variability within region is observed. Figure 7 illustrates death rates for chronic obstructive pulmonary diseases among adults. Among men, there is a trend toward higher mortality in more rural regions, whereas this trend is not observed among women.

Again, variability in these trends is observed, especially among women, whereas men tend to have higher death rates from COPD in all regions. Figure 8 illustrates death rates for all unintentional injuries and motor vehicle traffic-related injuries. As has been documented many times, higher rates of death from unintentional and motor vehicle traffic injuries are observed in more rural areas for men and women. These trends are seen uniformly in all regions. Figure 9 illustrates higher death rates from suicide among men and women, but is seen much more clearly among men where this trend is observed in all regions. Among women, this trend is less clear being observed only in the western region.

The 2001 Iowa Health Fact Book is a collaborative effort between The University of Iowa College of Public Health and the Iowa Department of Public Health. The Fact Book is prepared bi-annually and distributed free of charge to local health professionals via CD Rom. All of these data are also available through both the College of Public Health and Iowa Department of Public Health web sites. The 2001 Iowa Health Fact Book is linked to Healthy People and Healthy Iowan Health indicators, and it provides a reasonably comprehensive assessment of health outcomes and health provider and utilization data (Table 1). The ten leading health indicators provided in Healthy People 2010 include: physical activity, overweight and obesity, tobacco use, substance abuse, responsible sexual behavior, mental health, injury and violence, environmental health, immunization, and access to health care (Table 2). Four categories, by degree of rurality, are utilized by the Iowa Health Fact Book (Table 3). Eighteen counties with average populations of less than 10,000 compose the most rural category; 48 counties with an average population of 10,000 to 20,000 comprise the next less rural category; 23 counties with an average population of 20,000 to 50,000 compose the next less rural category; and 10 metropolitan statistical area counties with populations of over 50,000 compose the single metropolitan or urban category. Content categories of the Iowa Health Fact Book include: demographics, health and social behaviors, prenatal and infant health, infectious diseases, cancer incidence and mortality, injury mortality, youth injury mortality, selected other mortality rates, health care providers, and health care facilities (Table 4). Examples of health outcomes reported by the Iowa Health Fact Book include tri-annual rates of domestic abuse cases (Figure 10), tri-annual rates of mothers who began prenatal care in the first trimester (Figure 11), tri-annual rates of cancer incidence (Figure 12), tri-annual rates of prostate cancer mortality (Figure 13), tri-annual rates of lung and bronchus cancer incidence (Figure 14), tri-annual rates of cervical cancer incidence (Figure 15), tri-annual rates transportation mortality (Figure 16), tri-annual rates of suicide mortality (Figure 17), and tri-annual rates of all causes of mortality (Figure 18). The distribution of primary care physicians by category of rurality is presented as a histogram as well as illustrated on a state map (Figure 19).

The Keokuk County Rural Health Study is a prospective cohort study of one highly agricultural county. 1,004 of 2,496 eligible households participated (Table 5). A county-based clinic was used to complete detailed questionnaires and several selected health screening tests. This was supplemented by farm and home occupational history questionnaire and on-site environmental assessments. The population was divided into farm households (34%), rural non-farm households (20%), and town households (46%). The methods and selected findings by household location were recently published in the *Journal of Rural Health* (Merchant, Stromquist, Kelly, Zwerling, Reynolds, Burmeister: Chronic Disease and Injury in an Agricultural County: The Keokuk County Rural Health Cohort Study. *The Journal of Rural Health*, 18(4):521-535, 2002). This paper stated the primary goals which were: 1) to measure

rural and agricultural health outcomes and risk factors, 2) to define determinants of health and injury outcomes, and 3) to provide basis for future design of community-based interventions.

General health outcomes observed for men and those who ever smoked were more likely to be binge drinkers; smokers were less likely to report good/excellent health and less likely to report good/excellent vision; that men were more likely to be overweight and obese; and that fewer men than women in all residential groups reported seeing a medical practitioner in the last year (Table 6). Respiratory symptoms were uniformly more common among smokers. Men in all residential groups were more likely to have respiratory symptoms, particularly symptoms of bronchitis. Men in all residential groups were less likely to report attacks and shortness of breath, a history of asthma, or a doctor diagnosis of asthma (Table 7). This finding raises the question as to whether there is significant migration of men with asthma and reactive airway disease out of the county.

Men were also more likely to report an injury in the last year. Farm household members were less likely to wear seat belts and this finding was accounted for entirely by farm men. Farm residents, rural non-farm residents and men were more likely to report having firearms in their homes or vehicles (Table 8).

Men were more likely than women to report good/excellent emotional health. Men and women who had ever smoked were less likely to report good/excellent emotional health. Women reported higher rates of depression symptoms while men reported fewer depression symptoms and had less often been treated for depression. Smokers were more likely to have been treated for depression and had more often reported thoughts of suicide (Table 9).

In conclusion, 1) rurality (measures of population density) are useful in assessing trends in rural health risk factors and health outcomes; 2) excellent United States population-based resources are now available via the internet; 3) the influence of farming, in regard to acute health outcomes and especially injuries, is well-documented by population-based studies such as the Keokuk County Rural Health Study; 4) the influence of farming on chronic health conditions, like asthma, is difficult to determine because of selection biases inherent in cross-sectional data. The influence of measures of rurality, such as living in a farm household, will require careful prospective evaluation.

### ***Questions and Discussions – International Presentations***

After the international speakers' presentations, the following issues were raised during the 15-minute question period:

- Given the importance of location and distance in helping to define rural, distance measures remain crude and often fail to account for variables such as weather conditions (i.e. seasonality), speed limits, and other factors.
- Dr. Humphreys indicated that the example he provided about remuneration of physician services based on various rural-urban taxonomies, has had limited application to other provider groups, although it has been used in terms of workforce supply (i.e. number of providers to the population).

- In examining rates of chronic disease (presented in Dr. Merchant's address), it was noted that there is a challenge in terms of capturing exposure over the life course, when rates of disease are presented at a point in time using cross-sectional surveys. For example, individuals may move to an urban center later in life, after having been exposed to certain variables while living on a farm in a rural setting at an earlier time. Incorporating this perspective of latency into the definition of rural health when examining chronic diseases poses challenges. Further, migration in and out of regions confounds the exploration of the causes of chronic disease.

## **The Canadian Perspective**

After the morning presentations, participants worked in small discussion groups to address some of the critical issues faced in defining rural. Specifically, workshop participants were asked to respond to the following questions:

- What are the benefits of a common definition?
- What are the benefits of varied definitions?
- What might a common definition look like?
- What are the planning and policy implications?

Invited colleagues worked in small groups (3 groups of approximately 8-9 participants) to answer the above questions, and then came together to share and discuss their responses to each question. The registrants engaged in a similar process where they worked in small groups, recorded their responses, and presented and discussed their ideas to their larger group. The day was extended to allow for a sharing of perspectives across the two larger groups as they came together to discuss the conclusions of the day. Being inclusive provided additional perspectives and contributions to the discussions which are reported below.

Following is a summary of the feedback and discussion of the small group work of both the invitees and registrants.

### ***Benefits of a Common Definition of Rural***

Invited participants identified the following benefits of a common definition of rural:

- Provides standardization, and comparability across jurisdictions (such as regions and provinces) and time;
- Allows for the identification of similarities/commonalities within rural;
- If there isn't a definition, then rural tends to be defined as a residual of urban;
- Allows for the identification of whom we are speaking about or speaking to;
- Assists in identifying health determinants, health status, health behaviours, health practices, and health care utilization regarding rural populations;
- Assists in fair and equitable allocation of resources (based on some of the factors noted above – e.g. a better understanding of health disparities would drive resource allocation);
- Facilitates interdisciplinary work;
- Facilitates the identification of smaller units of analysis than are currently available from organizations such as Statistics Canada;



- Provides a common understanding of rural, and consistency for decision-making and policy development;
- Provides a common understanding among stakeholders including lay people;
- Influences the types of data that are being collected (e.g. more specific information could be requested from national surveys); and
- A common definition identifying the common ground across rural regions gives a stronger voice to program and policy development for rural Canadians.

Participants indicated that rather than a common definition, a common conceptual framework needs to be developed. Some participants also suggested that ‘rural’ may not be the most appropriate word, and ‘countryside’, ‘distance’, ‘remoteness’ may be easier to conceptualize. Finally, it was noted that gradations (e.g. categories of rural) are required within a common definition, which simply distinguishes rural from urban, and may be too broad to be useful and meaningful.

The Registrants noted the following benefits of a common definition of rural:

- Useful across disciplines, departments, agencies, funders and government;
- Provides a common understanding and reference point for policy-makers, researchers and the populace;
- Facilitates comparisons nationally and inter-provincially;
- Builds advancement of knowledge;
- Helps to ensure consistent data collection;
- Provides credibility and practicality;
- Can assist in the allocation of funding and the development of policy; and
- Facilitates the identification of issues and research.

*Does common mean simple? [we] are not sure, but within an agreed upon definition there is power.*

### **Benefits of Varied Definitions of Rural**

In discussing the benefits of varied definitions of rural, invited participants addressed the importance of capturing the unique characteristics of various rural populations, which is difficult to do with one common definition. Therefore, the definition of rural depends on the population being studied (e.g. it was noted that what is rural in Nova Scotia may be very different from rural in Nunavut). As noted above, participants felt that a common conceptual framework would better serve the needs of researchers, policy makers and planners rather than a common definition.

*One definition will not work because many needs will not be addressed and it may mask disparities within the group.*

*What is rural is very relative.*

Invited participants discussed the following benefits and issues related to varied definitions:

- Allows for different questions to be answered (e.g. a population density definition may suffice for a question related to geographic boundaries whereas a more complex definition may be required for a question related to functionality of an economic zone);
- Allows researchers to develop a better understanding of their research question and “unmask” the issue under study;

- The questions being asked and purpose of research studies require different definitions of rural (e.g. the rurality physician index is useful to physicians and payments for Continuing Medical Education);
- The data that are available will impact the definition that is used as existing databases make use of different definitions;
- A variety of definitions are required but each must be operationally defined;
- Rural is often politically defined versus operationally defined; and
- Why is a common definition of rural required when we don't have a common agreed upon definition of 'health' or 'well being'?

The Registrants identified the following benefits of varied definitions of rural:

- Captures diversity of the local context;
- Provides finer gradations (e.g. population characteristics) at a regional level;
- Allows greater detail to be captured, whereas a common definition may lose details; however, there must be a balance between simplicity and complexity;
- Allows for more categories which is beneficial as rural is more than a simple dichotomy;
- Enables specificity related to a program, department or research question;
- Ensures greater cultural and social relevance (i.e. more culturally and socially sensitive); and
- It is unlikely that one definition will work, particularly for different disciplines such as health, agriculture and business.

*“Because of diversity, a common definition is very elusive...a common definition doesn't capture the on the ground reality.”*

### ***Elements of a Common Definition***

Participants were asked to discuss elements of a common definition of rural for health and health services research.

Invited participants provided the following suggestions for a common definition:

*Inclusive and Simple* – A common definition or framework of rural should be inclusive and have the potential for broad application (e.g. more than two categories), while at the same time maintaining simplicity (not too many categories).

*Gradations of Rurality* – Identifying various gradations of rurality and a common taxonomy is important.

*Space (Density and Distance)* – Population density and distance are important criteria for a common definition, and characterize elements of “space”.

*Place* – Elements such as demographics, socioeconomic status, social cohesion, and other community traits were identified as possible characteristics of “place” and important dimensions of rurality. These “building blocks” would vary depending on the research study or question. These building blocks would allow for aggregation and dis-aggregation, facilitating comparisons

with other studies while also providing a common base. Peer group concepts may be useful to capture diversity beyond geographic criteria.

*RST and MIZ* – Following on the argument that rural is ‘distance’ and ‘density’ (while other factors such as the degree of reliance on primary sectors would be a cross-classification within each degree of distance and density), it was noted that RST makes the cut at a density of 10,000 in the urban core and distance is proxied by MIZ (metropolitan influenced zones).

*Level of study* – Criteria/elements or boundaries of indicators may vary depending on whether national or regional areas are being targeted.

*Set of Definitions* – An agreed upon set of definitions should be developed, each with clearly defined elements and rules. The definition sets would prevent over simplifying ‘rural’ and still allow for various types of comparisons. Researchers could then choose a definition for their research study and clearly articulate why they chose the given definition. Perhaps researchers could use a “common definition” to allow national comparison and also additional definitions more specific to the research question.

*Face Validity* – The definition and/or criteria should be easy to understand and make sense to the general public.

*Small Data Units* – Data at the smallest unit possible (e.g. postal codes) could be used by researchers to create their own definition. However, it was recognized that postal codes are problematic in certain areas where mail is not directly delivered to homes and as noted in the presentation by Dr. Pitblado, postal codes are not reliable in some provinces.

*Community level* – Indicators from the community level are important in a discussion about rural, however identifying and defining these indicators, and determining how best to measure them remains elusive, let alone in the rural context. It is important to use indicators that are at the community level to measure community and community identities. It is important to realize that this is not the same as the aggregate of individuals within a given community. That is, having a sense of ‘my town’ is very different from the results of an opinion poll of those who live here.

Registrants provided the following suggestions for a common definition:

*Essential Factors* – Identify the essential factors/axes, which would include several categorical through to continuous variables (i.e. more than dichotomies, a continuum of environments from rural to urban). A given neighborhood may score as “rural” on one axis and “urban” on another. Rather than a “simple” definition a “complex” definition with multiple categories could be developed to be fixed in time and space and aggregated as needed.

*Density and Distance* – Population density and distance are important suggested core elements and have implications for data collection. While distance is important it is relative to the specific context and also influenced by perceptions (e.g. seasonal difference in perceptions of distance).

*Local Context* – Meaningful distinctions between ‘rural’, ‘remote’ and ‘degrees of northernness’ are needed. Diversity, uniqueness, and the fact that rural is not a negative concept should be recognized.

*Avoid Labels* – An ideal definition could avoid the use of the terms ‘rural’ and ‘urban’ in such a way that would otherwise lead to unnecessary labeling. Rather, one should discuss rural in terms of the characteristics instead of using labels. We need to be clear about who and what we are talking about. Is the conversation about rural people, or is it about marginalized or disadvantaged populations?

*Minimum Geographic Area* – Define a minimum geographic area which should be the smallest area possible (e.g. point data such as longitude and latitude) and aggregate as needed for policy purposes and research questions.

*Level of Study* – Criteria may vary depending on whether national or regional areas are being targeted. Variability exists between provinces in terms of what is rural and remote, and participants asked: “*Is a national definition and index appropriate?*” In addition, challenges were identified in addressing communities that are very small.

### ***Planning and Policy Implications***

The planning and policy implications of a common definition of rural were considered and discussed in the small group sessions. Following are key points discussed by invited participants:

- A common definition of ‘rural’ and ‘rurality’ would assist in providing clarity about the issue to various stakeholders including policy makers, planners, rural residents and organizations such as the Rural Secretariat. This would help to ensure that interventions that are developed and implemented are informed by and relevant to the needs and capacities of rural communities. A common definition would also help to ensure comparability and equitable allocation of resources, assist in gaining the attention of politicians, and facilitate advocacy efforts related to rural issues.
- If a common definition is too simplistic, such as population size alone, two areas may numerically look the same but have quite different contexts (i.e. the distinction between space versus place) and related health outcomes, and resources could be inappropriately allocated. The need for simplicity and ensuring that a definition is parsimonious must be balanced with the need for sufficient criteria/elements to capture rural context.
- The definition(s) that are chosen will have implications for research, data collection, dissemination of research results, and funding. New aggregations will require funding for data collection, preparation, maintenance, and analysis. There are therefore implications related to resources in terms of the definition chosen. Further, detail is required to effectively conduct research related to rural health issues, and therefore organizations such as Statistics Canada, Health Canada and the Canadian Institute for Health Information should strive to collect and disseminate information at the lowest possible denominator, while still maintaining confidentiality and anonymity. It was also noted that the unit of analysis varies depending on the geographic or regional level of analysis (e.g. national, provincial, community).

Registrants discussed the following planning and policy implications of a common definition:

- A common definition could facilitate a common purpose and understanding, and would support action for social justice and inclusion. However, skepticism was noted in terms of the driving forces behind social policy which some felt was driven by economics.
- It was noted that the basis for a definition should not be policy dependent.

# Participant Feedback

At the conclusion of the workshop, participants completed feedback forms, depicting their satisfaction with the presentations and workshop format, and provided comments on what was done well and what could be done to improve the workshop. A total of 28 evaluations were received, 11 from the invited colleagues and 17 from the registrants. Following is a summary of the feedback obtained from the invited participants and workshop registrants.

## Satisfaction with the Workshop

The invited guests were generally satisfied with all aspects of the workshop, and feedback indicated that they were particularly satisfied with the presentations by Dr. Roger Pitblado and Dr. John Humphreys. The small group sessions were also well received. The registrants indicated that they were generally satisfied with all aspects of the workshop. However, more registrants than invited guests indicated “3” [satisfied] compared to “4” or “5” [very satisfied], and more invited guests indicated greater satisfaction (“4” or “5”). Similar to the invited guests, registrants indicated particular satisfaction with the presentations by Dr. Roger Pitblado and Dr. John Humphreys, and the small group sessions.

## What Worked Well

When asked what they liked best about the workshop both the invited participants and registrants provided similar feedback, which is summarized below:

- Participants indicated that they liked the fact that the workshop provided the opportunity to bring together individuals with experience and varying perspectives to discuss the issue of defining ‘rural’ and ‘rurality’ for health research. Participants indicated that the sharing, networking and discussions were a valuable part of the day. Respondents also indicated that participants provided “*thoughtful*” and “*generous*” contributions, and pre-circulating the workshop material helped to prepare participants.

*[I liked] having all these people, who have thought about rural a lot, together in the same place to discuss the issue*

*Very stimulating, thought-provoking*

*[I liked] meeting others with a rural interest but different perspective/purpose, keeps one open-minded, broadens one’s approach*
- Participants also commented that the workshop was well organized, interesting and fun. They valued the small group sessions.

*Organization [was] excellent [and I liked] the collegial atmosphere characterizing discussions...*
- Participants praised the capable facilitation of the workshop and small group sessions.

*Very interesting and the facilitator did a good job*

*Excellent facilitation*

## Suggestions to Improve the Workshop

Both the invited participants and registrants offered some feedback to improve the workshop. Comments are summarized below.

### Invited Participants:

- Ensure relevance of presentations and reduce duplication in presentations;
- Balance ‘inclusiveness’ with logistics of managing large groups; and
- Add a speaker that can position rural and rurality within the broader determinants of health framework.

### Registrants:

- Provide clear directions and more focused questions for the small group discussions;
- Provide a broader perspective in the presentations such as socio-cultural and political dimensions, and qualitative research;
- Improve representation from rural communities; and
- Keep the invited participants and registrants together in the small groups discussions.

The evaluation findings indicate that the workshop was considered to be an interesting, worthwhile and valuable event, with a couple of invited guests noting that it would provide “*the basis and direction for a productive program of research and further investigation*” for defining rural and rurality.

# Next Steps

After the small group discussions, the invited colleagues gathered in a single group as did the registrants. These two larger groups discussed the next steps in terms of defining 'rural' and 'rurality' for health research. Both larger groups reconvened to present a synthesis of their discussions related to next steps. The following actions steps are based on a compilation of responses from both groups.

## **Suggested Action Steps**

### ***Develop a definition or index for rural and rurality***

Many agreed that there is a need to develop a definition or index with different gradations of rural. The next step is therefore to come to consensus on the criteria/variables/elements. Decide on distinguishing characteristics of rural beyond population density and distance, from a health perspective.

### ***Build on existing initiatives and synthesize existing evidence***

Explore the evidence to identify appropriate definitions of rural and possible gradations of rural indices. A variety of selected health-related variables should be analyzed using different definitions of rural similar to the process used in the du Plessis et al paper. This analysis would help to identify the differences in findings in relation to the different definitions used in examining specific selected health-related variables. In addition, continue to explore rural indices in other countries such as Australia.

Currently, such exploratory work is underway. For example, Ray Pong and Roger Pitblado of the Centre for Rural and Northern Health Research at Laurentian University & Marie des Meules at Health Canada are expanding databases for rural health research and part of this work involves using the Canadian Community Health Survey to examine variables based on various definitions of rural (input and suggestions are welcome). Researchers at the Rural Development Institute of Brandon University are working with the Manitoba Centre for Health Policy to take a variety of variables from the National Population Health Survey and examine them in relation to different definitions of rural. Ray Bollman at Statistics Canada is examining similar variables from the Canadian Community Health Survey using different definitions of rural.

### ***Foster national collaboration***

Conduct another workshop with researchers and policy makers working in the area of rural health to review the research findings and debate/discuss how to effectively define and use the concept of rural as applied to health (build the definition or index).

### ***Follow-up from this workshop***

After the workshop, it is important to meet with Statistics Canada and other national rural health research bodies to discuss the workshop findings. Participants discussed the fact that several organizations and stakeholders should be involved in the process including Statistics Canada, the Rural Secretariat, CIHI, CIHR, provincial organizations, and others. Many suggested that



although this should be a partnership at a national level, Statistics Canada needs to play a leadership role throughout the process given their knowledge and experience in data collection, analysis, and dissemination. In addition, Statistics Canada has credibility and existing infrastructure, and is in a position to act on the recommendations that are developed. Others suggested that Statistics Canada should not be expected to lead but should be invited to participate and formally requested to undertake more work in this area. Rural researchers also need to be responsible and take some lead in this process, particularly in building partnerships with Statistics Canada and others to undertake this work. Explore with Statistics Canada the idea of conducting a survey with Canadians to help define rural.

Post the report and material from this workshop on the Rural Development Institute's website, and disseminate the report and material through the CIHR – IPPH and other interested Institutes. Include more discussion and exploration of the socio-cultural perspective of rural and ensure the participation of residents of rural communities.

### ***Address confidentiality and privacy***

Address issues related to confidentiality and privacy such as how to release data at the lowest possible level while protecting confidentiality and anonymity. These issues need to be addressed both nationally and provincially and with a variety of organizations such as Statistics Canada, provincial governments, professional associations, and the Canadian Institute for Health Information. While there must be an appreciation of the need for confidentiality in terms of data collection and access, explore strategies to address these issues – e.g. more access to data in some regions such as Manitoba, or opportunity to go to Statistics Canada's office in Ottawa to access data that are not available regionally. Address data access and dissemination issues to ensure research findings and data are available to communities at no cost.

### ***Explore methodological issues***

Seek funding from organizations such as CIHR to explore methodological issues/methods development, and confirm the findings of these analyses with rural people (i.e. the real world). Determine the minimum level of measurement and data collection, and set boundaries and minimum standards to guide data collection.

### ***Share the rural perspective***

Bring the 'rural voice' to other forums and 'tables'. For example, CIHR is conducting a workshop related to privacy and confidentiality issues, and this could be a forum to bring a rural health perspective. Explore opportunities such as this to share the rural perspective.

### ***Support rural health researchers***

Support researchers (such as Renée Lyons) who have been advocating for rural health as a cross cutting theme within CIHR.

# Workshop Closing

## Thank You

Fran Racher and Judy Guernsey closed the workshop by thanking attendees for their thoughtful participation and valuable feedback on the workshop. They also thanked the workshop sponsors, and stated that proceedings will be compiled into a report that will be distributed to the participants. The proceedings will also be available on the Rural Development Institute website at Brandon University. Fran Racher reinforced her commitment to the issue of defining ‘rural’ and ‘rurality’ for health and health service research, and invited participants to work with her and join with other stakeholders to move the action steps forward.

## Additional Presentations on Rural Health

Two presentations from the Third National Conference of the Canadian Rural Health Research Society, *Health Research in Rural and Remote Canada: Meeting Challenges, Creating Opportunities*, are available on the RDI website at <http://www.brandonu.ca/organizations/RDI/>. These presentations on rural health (*Demonstrating the Difference to Rural Health – Lessons in Workforce Issues, Service Provision and Consumer Satisfaction* by John Humphreys and *View from the Frontline* by Doug Crossman) will help to inform the ongoing discussions on rural health and rural health service research. We thank the speakers for making their notes from these presentations available for inclusion in this report.

# References

## Preparatory Readings for the Workshop

du Plessis, V., Beshiri, R., Bollman, R.D., & Clemenson, H. (2002). Definitions of Rural. Agriculture and Rural Working Paper Series, No. 21-601-ME. Ottawa: Statistics Canada. This paper is available at <http://www.statcan.ca/english/research/21-601-MIE/21-601-MIE2002061.htm>

Humphreys, J. (1998). Delimiting 'rural': Implications of an agreed 'rurality' index for health care planning and resource allocation. Australian Journal of Rural Health, 6 212-216.

Pitblado, J., Pong, R., Irvine, A., Nagarajan, K., Sahai, V., Zelmer, J., Dunikowski, L., & Pearson, D. (1999). Assessing rural health: Toward developing health indicators for rural Canada. Sudbury, Ontario: Centre for Rural and Northern Health Research, Laurentian University.

## Additional References on Defining Rural

Australian Institute of Health and Welfare. (1998). Health in rural and remote Australia. AIHW Catalogue # PHE 6. Canberra: Author.

Bealer, R., Willits, F., & Kuvlesky, W. (1965). The meaning of 'rurality' in American society: Some implications of alternative definitions. Rural Sociology, 30(3), 255-266.

Bollman, R. (1994). A preliminary typology of rural Canada. In J. Bryden (Ed.), Towards sustainable rural communities (pp. 141-144). The Guelph Seminar Series. Guelph: University of Guelph.

Buske, L., Yager, S., Adams, O., Marcus, L., & Lefebvre, F. (1999). Rural community development tools from the medical perspective: A national framework of rurality and projections of physician workforce supply in rural and remote areas of Canada. Ottawa: Canadian Medical Association.

Centers for Disease Control and Prevention. (2001). Health, United States, 2001: Urban and rural health chartbook [On-line]. Available: <http://www.cdc.gov/nchs>.

Cloke, P. (1977). An index of rurality for England and Wales. Regional Studies, 11 31-46.

Cloke, P., & Edwards, G. (1986). Rurality in England and Wales 1981: A replication of the 1971 index. Regional Studies, 20(4), 289-306.

Deaville, J. (1998). A study to obtain a definition of rurality and to investigate the problems encountered by practitioners who work in rural settings. Institute of Rural Health and School of Nursing and Midwifery, University of Glamorgan.

Ehrensaft, P., & Beeman, J. (1992). Distance and diversity in non-metropolitan economies. In R. Bollman (Ed.), Rural and small town Canada. Toronto: Thompson Educational Publishing.

Halfacree, K. (1993). Locality and social representation: Space, discourse and alternative definitions of the rural. Journal of Rural Studies, 9(1), 23-37.

Humphreys, J. (1998). Rural health and the health of rural communities [On-line]. Worner Lecture Series. Bendigo: La Trobe University. Available online: <http://www.bendigo.latrobe.edu.au/rahdo/research/worner98.html>

- Humphreys, J. (1999). Rural health status: What do statistics show that we don't already know? Australian Journal of Rural Health, 7, 60-63.
- Leduc, E. (1997). Defining rurality: A general practice rurality index for Canada. Canadian Journal of Rural Medicine, 2(3), 125-131.
- Lyons, R. (2001a). Building a strong foundation for rural and health research in Canada: A discussion paper for the St. John's forum, Sept. 7-9, 2001. Unpublished discussion paper. Prepared for the Canadian Institutes of Health Research.
- Lyons, R. (2001b). Healthy rural communities: Building a strong foundation for rural and remote health research in Canada. Unpublished draft report. Prepared for the Canadian Institutes of Health Research.
- Martin Matthews, A. (1988). Variations in the conceptualization and measurement of rurality: Conflicting findings on the elderly widowed. Journal of Rural Studies, 4(2), 141-150.
- Mendelson, R., & Bollman, R. (1998). Rural and small town Canada is growing in the 1990s. Rural and Small Town Canada Analysis Bulletin, 1(1), 1-8.
- Pong, R., Atkinson, A., Irvine, A., MacLeod, M., Minore, B., Pegoraro, A., Pitblado, J.R., Stones, M., & Tesson, G. (1999). Rural health research in the Canadian Institutes of Health Research. Position paper prepared for CIHR and SSHRC. Sudbury, ON: Laurentian University.
- Racher, F., & Vollman, A. (2001). Conceptualizations of 'Rural': Challenges and Implications for Nursing Research. Working Paper. Brandon, Manitoba: Rural Development Institute, Brandon University.
- Rourke, J. (1997). In search of a definition of "rural". Canadian Journal of Rural Medicine, 2(3), 113-115.
- Rural Policy Research Institute. (2001). Defining rural: Definitions of rural areas in the U.S. [On-line.] Available: <http://www.rupri.org/policyres/context/rural.html>
- Shucksmith, M. (1994). Conceptualizing post-industrial rurality. In J. Bryden (Ed.), Towards sustainable rural communities (pp. 125-132). The Guelph Seminar Series. Guelph: University of Guelph.
- Statistics Canada. (1997). GeoRef users guide: 1996 census – Reference products. Catalogue no. 92F0085XCB. Ottawa: Author.
- Statistics Canada. (1998). Rural and Small Town Canada Analysis Bulletin, 1(1). Ottawa: Author.
- Statistics Canada. (2001). Rural and Small Town Canada Analysis Bulletin, 3(3). (See: [www.statcan.ca/english/freepub/21-006-XIE/free.htm](http://www.statcan.ca/english/freepub/21-006-XIE/free.htm))
- Troughton, M. (1999). Redefining 'rural' for the 21<sup>st</sup> Century. In W. Ramp, J. Kulig, I. Townsend, & V. McGowan (Eds.) Health in rural settings: Contexts for action (pp. 21-38.) Lethbridge, AB: University of Lethbridge Press.
- Watanabee, M., & Casebeer, A. (1999). Rural health research: The quest for equitable health status for all Canadians. A report of the Rural Health Research Summit, Prince George, British Columbia, October 23-25. Unpublished.
- Weinert, C., & Boik, R. (1995). MSU Rurality Index: Development and evaluation. Research in Nursing and Health, 18(5), 453-464
- Wootton, J. (1996). *What's in a definition?* Canadian Journal of Rural Medicine, 1(2), 55-56.

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