



RURAL AND REMOTE NURSING RECRUITMENT AND RETENTION IN NOVA SCOTIA

Report of the Rural and Remote Working Group

Submitted to the Provincial Nursing Network March 29, 2004

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Working Group

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1.0 INTRODUCTION

This document provides an overview of the work of the Rural and Remote Working Group. Based on close examination of the literature and consultations by the Working Group, it describes the issues and challenges that have been identified, and makes recommendations for responding to those issues.

1.1 Background

The Department of Health's mission is to ensure an appropriate, effective and sustainable health system that promotes, maintains and improves the health of Nova Scotians. Working with District Health Authorities and other health system organizations and providers, the Department of Health:

- sets strategic direction for health services
- sets standards
- ensures availability of quality health care
- monitors, evaluates and reports on performance and outcomes
- funds health services

Nova Scotia's Nursing Strategy was launched in April 2001 to set a direction for nursing recruitment and retention. It provides a comprehensive and coordinated approach to:

- enhancing the quality of work life of nurses
- retaining experienced nurses in the system
- creating an environment in which recruitment efforts will be successful

The Nova Scotia Department of Health has committed almost \$60 million to support Nursing Strategy initiatives and programs between 2001 and 2006. The Department of Health also funds nursing education in Nova Scotia. The four key elements of the strategy are:

- support to practicing nurses
- support to student nurses
- enhancing recruitment resources
- workforce development

Critical to the success of the Nursing Strategy is the advice received from the Provincial Nursing Network (PNN), a resource and advisory body for the Government of Nova Scotia comprised of employers, educators, unions, regulatory bodies and practicing nurses from areas throughout the province. In 2003 the PNN identified the top three priority areas for nursing policy development in Nova Scotia: leadership, scope of practice, and rural and remote nursing. In response to these concerns, the Rural and Remote Working Group was established in September 2003.

1.2 Mandate of the Rural and Remote Working Group

The Rural and Remote Working Group was established in September 2003 to develop and recommend strategies to support recruitment and retention of nurses in rural and remote areas of Nova Scotia. Central to the work of this committee was acknowledgment of existing provincial initiatives to enhance the quality of work life for nurses, retain experienced nurses in the system, and create an environment in which recruitment efforts will be successful.

The Terms of Reference of the Rural and Remote Working Group may be found in Appendix A. Working Group members included managers, an educator, and a nurse practitioner. In addition, advisors to the group included Evelyn Schaller, a vice president and nurse with the Cape Breton District Health Authority, and Donna Denney, Director of the Registered Nurses Professional Development Centre. Due to difficulties related to scheduling, an agreed-upon LPN

representative was unable to participate in meetings. To ensure that LPN concerns were reflected in the work of the Working Group, Ann Mann, the Executive Director of the College of Licenced Practical Nurses of Nova Scotia, was invited to participate in meetings and the development of the final report and recommendations. Collectively, the committee membership reflected the interests, expertise and sectors required to address the following objectives:

1. To define “rural” and “remote” areas in the Nova Scotia context.
2. To identify the nursing workforce, including demographics.
3. To define issues and challenges.
4. To consider approaches in other jurisdictions.
5. To develop, prioritize, and make recommendations to the Provincial Nursing Network.

Adopting the principles and goals identified and elaborated on by the Nursing Strategy and the current strategic directions of the Department of Health, the Working Group viewed its mandate as developing recommendations that would result in the sustainability of the nursing workforce in rural and remote areas of Nova Scotia. The recommendations focus on the recruitment, retention and renewal of the nursing workforce in rural and remote areas throughout the province.

The Working Group held its initial meeting in September 2003, and continued to meet until March 2004. The final report has been developed through the input and contributions of the committee members, expert informants, and consultations with registered and licenced practical nurses in the field. The committee also reviewed the published and grey literature, current projects in Nova Scotia, reports from other jurisdictions (provincial, national and international), and the recommendations of the Canadian Nursing Advisory Committee.

1.3 The Project’s Approach

While this project has been initiated by the Nova Scotia Department of Health, the involvement of critical stakeholders has been of utmost importance in ensuring the project’s success in meeting its agreed-upon objectives.

The Working Group agreed to the following planning assumptions:

- Rural nursing in Nova Scotia is facing serious challenges related to insufficient nursing personnel, and the situation is getting worse. The status quo is not sustainable. All possible options for recruiting and retaining nurses will be examined.
- This is a province-wide initiative; identified issues and challenges and the implementation of recommendations may vary to reflect differences in the designated roles of facilities.
- This is an inclusive process. The Working Group will examine issues of concern to registered nurses, licenced practical nurses, nurse practitioners, managers, educators and student nurses. Consultation will be required to identify and validate issues and challenges within the province.
- This will be an evidence-based process.
- Recognizing that financial constraints are a reality, the Working Group’s recommendations need to be sustainable.
- This project will complement other initiatives within the Nursing Strategy.

The group used an evidence-based approach to examine the issues and challenges of rural nursing and develop recommendations. Members developed a list of literature pertinent to rural and remote recruitment and retention relating to nurses and other professions. These documents were synthesized, reviewed and critiqued by each of the Working Group members. A table was compiled to synthesize the key reports and document the issues and recommendations they identified. Synthesis documents were prepared for the Working Group on nursing demographics and on issues related to defining rural and remote areas, with specific emphasis on Nova Scotia.

The project involved broad representation from the long term care sector and District Health Authorities (including managers and point-of-care nurses). The Working Group identified the issues and challenges facing nurses in rural areas of Nova Scotia. Input from Working Group members was complemented by consultations with groups of nurses in the districts and long term care facilities. The members also met with groups of nurses in their districts or agencies to further discuss these issues and challenges. The purpose of the meetings was to gain a more in-depth understanding of the issues related to rural nursing across the province at management levels and at the point of care. The meetings were also used to validate or challenge the issues that were identified by the Working Group.

In addition, the group engaged in consultations with individuals with experience and expertise in relevant areas of interest. Expert consultants included Pam Jones who spoke to the group about issues related to defining rural and remote areas, Charlene Murphy who spoke about Rural and Remote Health Care, Gail Tomblin Murphy who spoke about Health Human Resource Planning, Judy Pal from the NSAHO who spoke about retirement planning, and Michelle Brennan who spoke about entry-level competencies for Registered Nurses.

After reviewing the information gathered during these processes, the Working Group finalized the list of issues and challenges, and identified and prioritized recommendations with a list of possible actions to address the issues and substantiating rationale.

2.0 RURAL AND REMOTE NURSING RECRUITMENT AND RETENTION: SIGNIFICANCE OF THE PROBLEM

2.1 The Changing Context: Trends and Issues in Health Care and Nursing

The Canadian health care system, based on the five principles stated in the Canada Health Act, continues to be seen as a source of pride by most Canadians. However, the state of the health system is often described as a source of concern. The system is often seen as deteriorating with rising health care costs, waiting lists, access to primary care physicians, crowded waiting rooms, and shortages of staff all being cited as challenges (CASN, 2003).

The Romanow and Kirby Reports (2002) identified a number of significant factors facing the health system:

- health human resources (including changes in roles and responsibilities, and issues of supply, demand and distribution)
- growing concerns about workload, stress and aging of health care providers
- primary health care (including a focus on prevention and wellness and efforts to accelerate the reform of primary care service delivery)
- improving access while ensuring quality (addressing wait times, quality and access)
- increased support for home care and prescription drugs
- addressing disparities in the health of Aboriginal people
- the population of employment age will decrease while the population over age 65 will increase placing increased demand on the system if present and past utilization patterns continue
- advances in health technology affect the organization, provision and cost of health care
- the appearance of new diseases and resurgence of old ones may require costly treatment
- disparities in key health indicators, morbidity and mortality rates among minority populations will continue
- the need for sufficient and comparable health information to support decision-making regarding resource allocation and care delivery

It is worth noting that health care in rural and remote areas has been identified as a priority by both the Romanow and Kirby Reports. These trends have been identified not only at the

national level, but also at the provincial and territorial levels, as well as by provincial, national and international nursing groups and organizations (Pong and Russell, 2003).

Nova Scotia's Nursing Strategy (2001) identified the following trends in nursing in Nova Scotia:

- nurse staffing shortages in all sectors and roles will get worse if unchecked as a generalized nurse shortage increases
- an aging workforce that will retire in large numbers over the next few years
- an aging population predicted to require increased nursing and other health care
- the availability of alternative career choices for women and the public perception that nursing is no longer an attractive career choice
- new technologies and treatments requiring increased skills, autonomy and the ability to work in multidisciplinary teams
- need for ever-increasing levels of education (credential creep)
- lack of permanent full time positions for new graduates
- reported deteriorating quality of work life

In 2002, the Canadian Nursing Advisory Committee released a report that was reviewed by Nova Scotia's Provincial Nursing Network (PNN). In 2003, the PNN identified rural and remote nursing recruitment and retention as one of the top three priority areas for nursing policy development in Nova Scotia.

Nova Scotia is a primarily rural province with a relatively small population. Rural areas are facing serious challenges related to the recruitment and retention of qualified nurses. Key strategies for averting a provincial crisis must include coordinated, province-wide measures to improve the sustainability of the nursing workforce while maintaining quality care delivery for all Nova Scotians.

2.2 Defining "Rural" and "Remote" Areas in the Nova Scotia Context

2.2.1. Introduction

Since this project is about the nursing workforce in rural Nova Scotia, it was necessary to determine what constitutes "rural". Overall, there has been limited discussion in the literature of the theoretical and practical meaning of the terms "rural" and "remote" and the implications for nursing practice in Canada (Kulig et al, 2003; Pong and Russell, 2003). The lack of attention to the meaning of "rural" and "remote", and the diversity of such settings, oversimplifies the complexity of nursing practice in such locales (Kulig et al, 2003). There is no standard definition for the terms "rural" or "remote." A review of the literature on rural and remote areas shows that, with very few exceptions, the term "rural" is not explicitly defined (Pong and Russell, 2003). Documents either give the impression that the meaning and significance of "rural" may be taken for granted (Kulig et al, 2003) or that "rural" means "non-urban" (Pong and Russell, 2003). In the literature, definitions have been created to serve particular purposes, each using different criteria and methodologies and each providing a different focus. As a result, in different documents, various definitions give different areas of inclusion, different total numbers of inhabitants, and different population characteristics. The most common definitions of "rural" and "remote" are based on geography - population sizes and densities in, for instance, census divisions. Alternatively, there are conceptual definitions that are constructed from selected indicators. These "indices of rurality" are based less on geographic location and more on the inherent characteristics of the locale, and tend to be topical depending on the indicators chosen.

The health profile of any community, including the level of health services and human resources found in the community, is dependent upon how the group is delineated. In the interests of equitable, needs-based resource allocation, any "rural" or "remote" classification system must

ensure that people experiencing similar problems of location and environment are identified as being of the same group (Humphreys, 1998). This report summarizes several different methods of defining "rural" and "remote" and it points out some of the difficulties mentioned by researchers in agreeing on a definition.

2.2.2. Difficulties in defining "rural": Changes in definition and heterogeneity

It is necessary for the purposes of policy formation and administration to distinguish which areas lack healthcare services and/or personnel due to their distance from more urban areas. The two main difficulties in defining the terms "rural" and "remote" are:

- areas that qualify as being "rural" or "remote" change depending on the definitions used
- areas captured by any definition of "rural" or "remote" are not homogenous

The first difficulty (changing "rural" areas) becomes evident as various definitions of "rural" and "remote" are explored. Appendix B compares six definitions and illustrates how much the size of "rural" populations changes with each definition. With regards to the second difficulty, the area captured by the "rural" label often include heterogeneous communities with needs that differ regardless of how the term is defined. The problems of remote areas differ from those of urban fringe areas, even though, strictly speaking, both might be labeled as "rural." On the other hand, to refine the definition of "rural" to such a degree as to include specific areas and exclude all others would defeat the necessity of a definition in the first place! Heterogeneity can lead to other complications. The connotations conjured by the terms "rural" and "remote" can interfere with attempts at defining them absolutely. Dukeshire (2002) states that definitions of rural that classify individuals as rural when they do not see themselves as rural and vice versa (that is, classify individuals as non-rural who see themselves as rural), creates a situation where misclassified citizens may not relate to, or even feel excluded by, government policies, programs or research that are meant to apply to rural areas.

2.2.3. Analysis of the Literature

The Rural and Remote Working Group examined the literature and reviewed various definitions of "rural" areas (see Appendix B). Two broad types of definitions were reviewed (i) geographic or statistical definitions and (ii) conceptual definitions. The group noted some considerations and recommendations for deciding upon a useful definition of "rural" and "remote" areas for the Nursing Strategy. The term "rural" refers to more than an objective, geographic designation based on locality; it holds subjective connotations of self-definition. It refers not only to geographic areas or administrative demarcations, but to historical, cultural, social, economic and political relationships in which people strive to build and preserve communities, civic responsibility, and family well-being (Ramp, 1999). By this reasoning, the definition of "rural" may be interpreted subjectively in terms of community opinion and lifestyle. However, a definition based on objective, measurable criteria is required for the purposes of policy, planning, and resource allocation. A balance needs to be struck between respect for communities' sense of self and the need for standard, static and objective benchmarks. In addition, the term "rural" is not very predictive. The heterogeneity of rural Nova Scotia includes a diverse collection of communities with varying health needs and levels of access to health services. Because of these limitations it may be better to identify communities of interest by designations other than "rural" or "remote".

Replacing the term "rural" with another (such as "underserved") does not automatically make it useful. The Canadian Medical Association's Report of the Advisory Panel on the Provision of Medical Services in Underserved Regions (1992) defines as "underserved" a community of fewer than 10,000 residents (Pitblado and Pong, 1999). The Ontario Ministry of Health and Long-Term Care has published guidelines for "underserved area designation" (Ontario Ministry of Health and Long-Term Care, 2002). Upon designation of an area as "underserved," the community is added to a list and practitioners are then eligible for certain incentives. Qualification is determined by many factors, including: health human resources (including professional-to-population ratio); catchment population; availability of health care services;

socioeconomic status of the area; previous recruitment experiences; and financial impact assessment.

An alternative, that avoids the use of the designations "rural" or "remote", is the use of a system of "relative ranking" (as opposed to an absolute, dichotomous "in-or-out" system of "rural" or "not rural" or "underserved" or "not underserved"). This method ranks and compares each community to every other. Once every community's relative "rurality" is determined, a cut-off point may be made depending on available resources or some similar gauge.

2.2.4 Conclusion

After careful deliberation, consultations, and examination of the literature, the Working Group agreed that there was insufficient information to clearly define the terms "rural" or "remote". The Working Group identified the use of functional criteria as most useful for identifying areas that need to be targeted for recruitment and retention policies and/or programs. Criteria suggested by the Rural and Remote Working Group for comparing communities and identifying those that might be targeted include:

- vacancy rates
- projected retirements (using nurses' ages as a proxy)
- casual, part-time or full time designation
- distance to hospitals or health centers
- distance to urban centers
- access to public transportation
- distance to education facilities (including telehealth sites)
- access to high-speed Internet

The Working Group recommends that the Department of Health use these functional criteria to identify those areas that need to be targeted for recruitment and retention policies and/or programs.

2.3 Profile of Nova Scotia's "Rural" and "Remote" Nursing Workforce

Canada is facing a severe nursing shortage¹. The supply of nurses in Canada is not expected to meet future demands. Registered nurses (RNs) account for approximately 35% of the entire workforce in the health care sector (Pong and Russell, 2003). It has been stated that recruiting and retaining rural nurses will become more challenging in the future because of projected nursing shortages, aging of the population and the nursing workforce, and the reduced number of individuals entering and graduating from nursing programs (Kulig et al. 2002). In addition, according to some studies, many nurses are "under-employed", working mostly on a part-time or casual basis (CNAC 2002). "Casualization" of nursing work also means fewer stable career opportunities for nurses (Pong and Russell, 2003). As a result, fewer high school graduates are choosing nursing as a career and many nurses leave the profession in pursuit of more favorable working conditions (Standing Senate Committee on Social Affairs, Science, and Technology 2001). Finally, there is some evidence of aggressive interprovincial competition for scarce human resources (Kulig et al. 2002). At the same time, a growing and aging population continues to place upward pressure on demands for health services. Although these conditions describe the nursing workforce as a whole, it appears that they are also an accurate description of the rural nursing workforce (Pong and Russell, 2003).

¹Fooks et al. (2002) suggest that, in the absence of a common standard for defining adequate staffing levels, the definition of "shortage" needs to be carefully considered. Grumbach et al. (2001) propose a means of shortage identification that integrates a combination of objective (vacancy rates, turnover rates, agency nurse employment, overtime hours, and nurse unemployment rates) and subjective (administrators' perceptions of staffing or recruitment and retention difficulties at their institution) measures.

Currently, the problem of geographic maldistribution does not appear to be as severe in the nursing workforce as in the medical workforce (Pong and Russell, 2003). Between 1991 and 2000, Canada experienced an 8% decrease in the number of RNs per 100,000 people and a 21% decline in the number of licenced practical nurses (LPNs) (Commission on the Future of Health Care in Canada 2002). The Canadian Nursing Association (CNA) predicted a shortage of 78,000 RNs in 2011 and 113,000 RNs by 2016 (CNA 2002). If the projected nursing shortage becomes a reality, it is expected that rural areas of Nova Scotia will find it much more difficult to compete with urban centers and other provinces for scarce human resources (Pong and Russell, 2003).

The Canadian Institute for Health Information published a report entitled "Supply and Distribution of Registered Nurses in Rural and Small Town Canada" (2000)². With data drawn from the Registered Nurses Database (RNDB), the report provides a numerical assessment of registered nurses in rural Canada. Presented here are some data from the CIHI report "Supply and Distribution of Registered Nurses in Rural and Small Town Canada" (2000). These statistics are summarized below:

Nationally:

- In 2000, there were 41,502 registered nurses (17.9% of the total RN population) in rural and small town Canada. Canadians located in rural and small towns, on the other hand, represented 21.7% of the total population, indicating a proportional shortage of rural RNs.
- The ratio of RNs to population was 62.3 RNs per 10,000 population for rural regions and 78.0 per 10,000 for urban regions. The rural ratio follows a general east to west trend, with ratios being slightly higher in eastern Canada.
- The average age for rural RNs was slightly younger than their urban counterparts (42.9 years versus 43.4 years, respectively). The average age for rural RNs in 1994 was 40.6 years, indicating a slight aging of the workforce. Over one hundred rural communities in Canada were served by one sole RN aged 50 or older.
- In Canada, 4.4% of rural RNs were male.
- As their highest level of education, 18.6% of rural RNs had attained at least a bachelor degree in nursing (up from 12.5% in 1994). This is compared to 24.5% for urban RNs.
- In Canada, 56.4% of rural RNs worked in hospitals.
- Between 1994 and 2000, the number of rural RNs in Canada decreased by 1.89%, while the number of urban RNs decreased by 1.64%. The overall total number of RNs in Canada during the same period decreased by 0.85%.

In Nova Scotia:

- There were 2,584 RNs (29.9% of all employed RNs) located in rural and small town Nova Scotia in 2000. This is 12% higher than the national rural average.
- Nova Scotians located in rural and small towns, on the other hand, represented 36.7% of the total population (Statistics Canada, 2001 Census) indicating a proportional shortage of rural RNs. The ratio of RNs to population was 72.0 RNs per 10,000 population for rural regions and 104.2 per 10,000 for urban regions. Both figures were higher than the national averages.
- The average age for rural RNs was 43.4, slightly older than their urban counterparts, who were aged 42.6 years on average. This trend is opposite to the national figures, where rural RNs were the younger group.

²The CIHI report uses the "Rural and Small Town" definition of "rural." According to this Statistics Canada definition, an area is classified as "Rural and Small Town" (RST) if it is not a Census Metropolitan Area (CMA) or a Census Agglomeration (CA). CMAs are urban cores with a population of at least 100,000, and include all neighboring municipalities if a) 50% or more living in the municipality commutes to work in the urban core or b) over 25% of people working in the municipality commutes from the urban core. CAs are identical to CMAs but have an urban core with a population between 10,000 and 99,999. An RST is anything lying outside the commuting zones of these larger "urban" centres (du Plessis et al., 2002).

- In Nova Scotia, 1.6% of rural RNs were male. This figure is almost three times smaller than the national rural average, where 4.4% of rural RNs were male.
- As their highest level of education, 20.4% of rural RNs had attained at least a bachelor degree in nursing. This is compared to 27.4% for urban RNs. Both figures were higher than the national averages.
- In Nova Scotia, 60.9% of rural RNs worked in hospitals.
- Between 1994 and 2000, the number of rural RNs in Nova Scotia actually increased by 0.27%, while the number of urban RNs decreased by 7.13%. The total number of RNs in Nova Scotia during the same period decreased by 5.00%.

There are 22 registered Primary Health Care Nurse Practitioners in Nova Scotia, 11 of whom work in rural areas (March 22, 2004). There are currently 10 filled positions and 3 unfilled vacancies in rural Nova Scotia. There are no Specialty Nurse Practitioners in rural Nova Scotia (personal communication, K. Lamarche, March 22, 2004).

Canadian and Nova Scotian data on rural and remote areas are lacking for Licenced Practical Nurses. What is known, is that there were 2,950 LPNs employed in nursing in Nova Scotia in 2002 (CIHI, 2003). This represents 31.2 LPNs per 10,000 population as compared to 19.1 per 10,000 population for all of Canada. The report "Workforce Trends Of Licenced Practical Nurses in Canada, 2002 (CIHI, 2003) states that of the LPNs eligible for retirement in 2003, 350 were aged 55 and over, 80 were 60 years of age and over, and 11 were over 65 years of age. In 2002, 1,426 LPNs were employed full time, 784 were employed part-time and 732 were casual; 8 were described as unknown. The vast majority of LPNs were employed in direct care (2,905), while 23 were employed in education, research and administration. Of these, 1,394 LPNs worked in hospitals, 1,092 worked in nursing homes, 307 worked in community health, and 157 were described as "other" or "not stated". It is unclear how many LPNs live and work in urban or rural and remote areas of Nova Scotia. Other limitations of the data for both registered and licenced practical nurses include information on vacancy rates and projected retirements.

2.4 Issues and Challenges

Very few documents focus on rural nursing workforce issues (CIHI, 2000; Fooks et al, 2002; Kulig et al., 2003; Pong and Russell, 2003). However, a number of more generic nursing workforce studies have been conducted in Canada and elsewhere that have important implications for rural and remote nursing in Nova Scotia. Following careful deliberation and extensive consultations and reviews of the literature, Rural and Remote Working Group members identified the following issues or challenges as priorities facing rural nursing in Nova Scotia:

1. Recruitment Issues:
 - 1.1 Attracting Nurses to Rural Communities
 - 1.2 Safe Practice for New Recruits
2. Retention Issues
 - 2.1 Quality of Work Life
 - 2.2 Limited Work Opportunities
 - 2.3 Continuing Education
 - 2.4 Scope of Practice
3. Renewal Issues
 - 3.1 Leadership and Succession Planning
 - 3.2 Interdisciplinary and Other Forms of Collaboration
 - 3.3 Planning and Policy Development

2.4.1. RECRUITMENT ISSUES

2.4.1.1 Attracting Nurses to Rural Communities. Working Group members identified that recruitment of nurses to rural areas is a challenge because rural areas may not be

perceived as attractive, especially by students and new graduates. For at least the initial period after graduation, younger nurses may prefer an urban lifestyle and the variety of work experiences that can be acquired in larger urban health centers. More experienced nurses may have concerns about family and community lifestyle in rural areas. These include employment opportunities for spouses, schools and child care for children, suitable housing, access to recreational facilities, and geography and weather-related issues such as winter road conditions and need for travel by road or ferry. Both new and more experienced nurses perceive a shortage of permanent, full-time positions in rural areas. For younger nurses, full-time work is often preferred over casual or part-time work as they try to manage student loan debt. Professional concerns for experienced nurses include the perception that rural areas offer few opportunities for flexible scheduling, continuing education, or role enhancement or specialty work. This points to the need: (1) for better information about rural vacancies, and (2) to communicate information to potential applicants.

2.4.1.2 Safe Practice: New graduates and nurses without rural nursing experience may also be concerned about the uniqueness of rural nursing and the need to work alone and/or as charge nurses. New graduates may avoid rural nursing in the belief that rural settings lack the resources and supports to help them practice safely and manage the independent nature of rural practice. Often, extensive orientation is required to support new graduates in their role transition. Typically, new graduates prefer the supportive infrastructure provided by tertiary care facilities.

2.4.2. RETENTION ISSUES

2.4.2.1 Quality of Work life and Job Satisfaction: It is important that the emphasis on rural nurse recruitment be balanced with an emphasis on retention to ensure that: existing rural nurses recognize that they are valued, that potential recruits see rural workplaces as robust, healthy work environments, and to ensure that new recruits are retained (Fooks et al, 2002; Kulig et al, 2003). Fooks and colleagues (2002) caution that both recruitment and retention efforts can be hampered by characteristics of nursing that make it a less attractive profession.

Job dissatisfiers typically include: workload, lack of remuneration for overtime, lack of job security, inadequate support and resources, role ambiguity, budget pressures and constraints, the rate and volume of organizational change, nonexistent or slow increases in salary, lack of recognition and feedback from immediate supervisors, and amount of paperwork (Fooks et al, 2002). A number of authors (Baumann et al, 2001; Fooks et al, 2002) have reported that negative work environments burn out experienced nurses and discourage new recruits. Negative work environments are associated with low levels of job satisfaction, higher staff turnover, higher patient morbidity and mortality rates, and lower patient satisfaction. Nurse stress and vulnerability to violence or injury is associated with high absenteeism and disability that disrupts care, makes planning difficult and raises health system costs (Baumann et al, 2001). Less well understood is how these concerns relate to the uniqueness of rural nursing. Work life concerns that were voiced by rural nurses during the course of this project included geographic distance and isolation, resource shortages related to accompanying patients during transfers from rural areas to tertiary care centers, being on call and difficulty refusing overtime in small communities, nurse-physician relationships and the need for collaboration in decision-making, poor workplace environments, safety, resource shortages, and after-hours support. Similar concerns have been reported by nurses in rural Australia (National Rural Health Alliance, 2003) and Canada (Kulig et al, 2003). Citing a study by Remus, Smith and Schissel (2000), Kulig and colleagues (2003) note that rural nurses in Saskatchewan expressed frustration with: nursing shortages leading to increased overtime and call-backs, decreases in support staff leading to more clerical duties being conducted by nurses,

feeling unable to provide safe, competent care because of heavy patient loads and inadequate resources, high levels of stress related to physical and psychological abuse from co-workers, patients, families, and employers. Nurses also reported being concerned about their safety because of the lack of security personnel during night shifts, having to leave community buildings alone late at night, and worries about domestic violence during home visits. These are compounded in rural areas where the settings are much more isolated.

The shift towards an older workforce, combined with the fact that nursing is a predominantly female work force, raises a number of work life issues (Buchan, 1999). As the number of nurses nearing retirement age increases, the requirements of many nurses are expected to change. In general, older age groups participate less in nursing because of challenges related to job satisfaction, and balancing work and domestic life (Buchan, 1999). There is also an association between an older work force, higher rates of injury (particularly lower back pain) and increased absenteeism (CIHI 2001). Some jurisdictions have considered raising retirement age or allowing phased retirement.

2.4.2.2 Limited Work Opportunities: A significant concern of nurses throughout Canada is a lack of permanent full-time work. Often it is necessary to combine part-time or casual positions to ensure full time work. It can be especially difficult for nurses in casual positions to get enough hours; often they must work at multiple facilities or communities. Administrators report that it is difficult to depend on casuals who work in multiple sites as they may not be available when needed. Also there are often too few casual nurses available for “call-ins”.

Rural nurses also report concerns about limited opportunities for career advancement. Stakeholders informed the Working Group that low turnover rates in rural settings help with organizational stability, but do not allow for advancement or career mobility, including lateral moves or work in specialty areas if desired. Those who have considered working in other facilities or districts expressed concern that they would be blocked or would suffer penalties related to their pensions or unions. Some nurses have multiple jobs or leave nursing because of the lack of employment stability and career progression (Pong and Russell, 2003).

2.4.2.3 Support for Continuing Education: Pong and Russell (2003) note that rural health care providers face many barriers to accessing continuing education, including: staff relief, long distances to travel, and high travel costs. Rural nurses who participated in this project reported continuing education challenges related to maintaining competencies especially when they may be infrequently used, limited access or barriers that prevent participation in continuing education opportunities, and limited recognition or rewards for continuing education.

2.4.2.4 Scope of Practice: The Rural and Remote Working Group agreed with the Ministerial Advisory Council on Rural Health (2002) that nurses in rural and remote communities need to be skilled generalists rather than specialists. Rural nurses, like other rural health providers, are required to develop multiple skills that enable them to respond to the unique and diverse challenges associated with work in rural communities. Rural health providers need to practice in ways that are community-centered, team-oriented, innovative and flexible. Rural nurses are required to work to full scope of practice, especially in community hospitals. Many nurses feel empowered by the opportunity for role enhancement and greater scope of practice. However, nurses also report having little opportunity to gain experience or expertise in complex skills and competencies. In addition, rural nurses have expressed concern about colleagues’ expecting them to practice beyond their professional scope. They highlight the need for clarity, communication and recognition among nurses and other team members regarding both RN and LPN scopes of practice. The Fyke Report (Fyke, 2001), which emphasized the needs of rural Saskatchewan, acknowledged that nurses’ skills are

not being fully utilized and that full utilization of nursing skills was important for helping to alleviate health care delivery concerns within the province.

2.4.3. RENEWAL ISSUES

- 2.4.3.1 Leadership and Succession Planning:** It has been suggested that 40% of rural nurses in Canada will retire in the next 5 years, and that 66% will retire in the next 10 years (Kulig et al, 2003). This compares with 35% of urban nurses who are expected to retire over the net 5 years and 50% who will retire over the next 10 years. At the same time, there are insufficient new nursing graduates in full-time positions to ensure an experienced nursing workforce (MOHLTC 1999). Poor leadership has been identified as a major reason for health care providers leaving rural communities (Coffman, Rosenoff and Grumbach, 2002). The Rural and Remote Working Group identified that the projected shortage highlights the need for succession planning, especially for nurse leaders and managers.
- 2.4.3.2 Interdisciplinary and Other Forms of Collaboration:** The demands of rural practice generate concerns about the availability of colleagues with whom to interact socially and professionally (Coffman et al, 2002). Many authors have stressed the need for interdisciplinary collaboration in the face of inadequate human resources across Canada (Pong and Russell, 2003). In Nova Scotia (as elsewhere), legislation requires that nurse practitioners practice collaboratively with physicians. Although this has advantages such as shared knowledge, mutual support, and expanded scope of health care services, collaborative practice has generally been undermined by traditional occupational hierarchies, turf protection, and rigidly defined scopes of practice (Pong and Russell, 2003). Pong and Russell (2003) suggest that genuine collaboration requires trust, acceptance and flexibility between health providers.
- 2.4.3.3 Planning and Policy Development:** To support ongoing planning and policy development in the area of rural nursing recruitment and retention, it is important to monitor and evaluate key indicators of progress. The information provided through this evaluation enables health system administrators and planners to refine their approaches to service delivery. Rural and remote nursing recruitment and retention requires a multi-pronged approach that includes further exploring the issue of rural and remote definitions, obtaining consensus about the utilization of selected criteria (RN and LPN vacancy rates; projected retirements ; casual, part-time or full time designation; distance to hospitals or health centers; distance to urban centers; access to public transportation; distance to education facilities, including telehealth sites; access to high-speed Internet) for identifying high-needs areas, monitoring these indicators to evaluate progress, and working with other stakeholders to plan approaches to recruitment and retention throughout the province.

3.0 RECOMMENDATIONS

It appears clear from stakeholder consultations and our review of the literature that rural nursing challenges are complex, and that solutions will require a multi-dimensional approach. Instead of quick fixes, effective strategies will require time and the coordinated effort of multiple stakeholders. The following seven recommendations with supporting actions and rationale are submitted for consideration. The recommendations are based on our review of the literature, external consultations, the experience and expertise of the Working Group members and advisors, and practices in other jurisdictions. The recommendations are presented under the broad headings of recruitment, retention, and renewal.

3.1 Recruitment

Recommendation 1:

Develop and implement marketing strategies through partnerships between health providers, educational institutions, and communities to support the recruitment of nurses to rural areas

Actions:

1. Encourage employers to engage community groups, foundations and auxiliaries in district-specific strategies to encourage experienced nurses and/or their spouses to return home. Support the promotion by employers of the relocation allowance provided by the Nursing Strategy.
2. The Department of Health will work with employers to develop and disseminate printed materials that market rural nursing province-wide (e.g., emphasizing the advantages of rural work life such as opportunities to practice to full scope).
3. Encourage employers to partner with local industries to advertise nursing vacancies at the same time and in the same places as vacancies in other occupations (e.g., teaching, natural resources, Department of National Defense).
4. Encourage employers to partner with rural communities to provide return-in-service bursaries for rural students. Engage in discussions with Aboriginal communities and Francophone communities and nursing schools to create bursary programs for Aboriginal and Francophone students in Nova Scotia.
5. Work with universities to develop rural areas as learning sites (e.g., during intercession of school year, through virtual campuses, or distance delivery sites).
6. Work with employers to develop strategies to attract coop students to rural areas (e.g., assist coop students in rural areas with finding suitable accommodation).
7. Work with employers to develop and market the availability of clinical leaders, preceptors and mentors to support new recruits.

Rationale:

The Working Group recommends that recruitment to rural communities be coordinated across the province by encouraging employers to engage with each community in recruiting and retaining nurses and their families. Marketing and promotion are critical for attracting nursing recruits since qualified candidates have many opportunities available to them. Studies of factors that influence physician practice-location decisions have shown that personal and community-related factors such as opportunities for spousal employment, community factors such as presence of schools, cultural activities, community lifestyle, and recreational factors are major determinants of practice location (Fooks et al., 2002; Kulig et al., 2003; Pong and Russell, 2003). Health providers tend also to choose practice locations in rural areas when they have trained there and had personal roots in a rural community. Although many of these concerns are personal and variable and cannot be adequately addressed by government programs or public policy, the evidence supports recruitment efforts that are targeted at health care providers or the spouses of health care providers with roots in rural areas (Fooks et al, 2002). Local authorities and residents can play a significant role in making their communities more attractive (Pong and Russell, 2003). Educational grants or bursaries, have been suggested by Kulig and others (2003). They recommend that corporate-sponsored or joint university-health organization bursaries and scholarships be developed for rural students and experienced nurses, with emphasis on the needs of minority groups such as aboriginal students. These and similar incentives have been used by other jurisdictions to try to recruit nurses into rural areas but they appear to have only short-term benefits and have been found to be inadequate for retaining staff over the longer term (CNA, 2002; O'Brien Pallas and Baumann, 2000). Successful recruitment programs require the coordinated effort of employers, professionals, and communities to develop systematic, coordinated, innovative and sustainable strategies for recruiting and retaining nurses and their families (Kulig et al, 2003).

Recommendation 2: Support new recruits in transition to rural settings

Actions:

1. Work with employers to provide environment and infrastructure to support new recruits. For example, promote nursing strategy orientation funding, and provide new graduates with a defined transition period (6 months to 1 year) with identified learning outcomes in a variety of clinical settings to help them adapt to clinical areas in rural sites.

Rationale:

Orientation programs are used extensively to welcome new staff to organizations and to introduce individuals to the organizational culture. Kulig and colleagues state that mentoring programs (such as that supported by the British Columbia Ministry of Health) allow newly-employed nurses to develop the breadth of skills required in rural settings. As part of this program, the ministry supports training and professional development for mentors and preceptors, and allows them to have reduced workloads in order to function effectively in these roles (Kulig et al, 2003). By providing an extended defined transition period under the guidance of an appropriately prepared preceptor or mentor, it is anticipated that the new graduate will more quickly increase their confidence and competence in working in the rural setting and feel supported in their role development.

3.2 Retention

Recommendation 3: Support employer initiatives that enhance quality of work life

Actions:

Work Environment

1. Work with employers to support accreditation standards that foster quality work life (i.e., open communication, role clarity, participation in decision-making, learning environment, and well-being).
2. Work with employers to support wellness initiatives for rural staff (e.g. fitness and stress management).
3. Encourage employers to enhance contact between rural staff nurses and senior management.
4. Encourage unions to work with employers to promote staff exchanges between employers or sectors without penalties.
5. Encourage employers to enhance support from other team members and staff to improve pace and intensity of nurses' work.

Continuing Education

1. Work with employers and educators to enhance supports (access to clinical leaders, telehealth sessions, computers, research tools, tuition support, staff relief/replacement costs, transportation, and accommodation) that encourage nurses to pursue continuing education opportunities. Promote awareness of continuing education funding available through the Nursing Strategy.
2. Work with employers, educators and professional regulatory bodies to identify, deliver and have supported continuing education that addresses the unique role experience and skill development required by nurses working in remote and rural nursing settings.
3. Work with employers and educators to develop solutions for perceived obstacles to continuing education (e.g., access to clinical leaders, mentors, and education opportunities).
4. Encourage employers to develop strategies for recognition of continuing education (e.g., during performance appraisals).

Scope of Practice

1. Encourage professional regulatory bodies to work with employers to support role clarity initiatives that harmonize variances between professional and employer scope of practice.

2. Encourage professional regulatory bodies to work with employers to communicate and clarify expectations about roles of nurses among non-nursing colleagues, managers, and public.
3. Encourage employers to work with educators to provide education and tools to support nurses in working to full scope of practice (e.g., assessment tools).

Rationale:

There is mounting evidence that nurse retention is positively associated with quality of work life and job satisfaction in nurses (Fooks et al, 2002; Pong and Russell, 2003; Kulig et al, 2003; Baumann et al, 2001). Further evidence provides empirical support for the belief that improving nurse quality of work life and job satisfaction has a direct impact on patient outcomes including lower mortality rates, decreased length of stay, and higher patient satisfaction (Aiken and others, 1998). A variety of descriptors and measures have been identified for improving quality of work life. The Canadian Nursing Advisory Committee (2002) has identified measures to improve nursing work life and job satisfaction including improved working conditions, scope of practice, and continuing education. The Canadian Council on Health Service Accreditation (1998) describes quality work life in terms of open communication, role clarity (clearly-defined scope of practice), participation in decision-making, a supportive learning environment, and well-being. The CNA has identified eight Quality of Worklife Indicators: span of control, leadership, overtime hours, full-time, part-time/casual ratios, autonomy/scope of practice, professional development opportunities, absenteeism, and grievances. Other literature shows that positive nurse outcomes such as high nurse satisfaction, low turnover, and low vacancy rates are associated with a variety of factors, some of which include: opportunities for professional growth, support for education and professional development, role clarity and specificity, systems that allow workers varied tasks requiring a broad set of skills, administrative structures that support nurses' autonomy and involvement in decision-making, positive working relationships and good communication with medical and other staff, the existence of visible leaders, and good workplace safety (Fooks et al, 2002). Although the literature on quality of work life does not specifically address rural nurses, it provides useful direction for the development of policy and programs to improve nurses' work life and job satisfaction, and thereby, retention and recruitment in rural areas.

Recommendation 4:

Support creative contingency planning

Actions:

1. Encourage unions to work with employers to support testing and evaluation of innovative solutions for contingency planning.
2. Encourage unions to work with employers to explore barriers to contingency planning (locum renewals, vacation coverage, and 24-hour backup).
3. Work with professional regulatory bodies and unions to explore feasibility of locums for rural areas.
4. Work with employers, unions and professional regulatory bodies to create fora for the exchange of ideas regarding innovative solutions for contingency planning.

Rationale:

Four factors that can either enable or constrain the achievement of a high quality work place (Fooks et al, 2002) are:

- *the work environment (culture, human resource practices)*
 - *job design and organizational structure including technology*
 - *employment relationships (trust, communication, leadership)*
 - *industrial relations (relationships between employers, unions, professional regulatory bodies).*
- Understanding the interaction of these factors is vital to achieving a high quality work place able to attract and retain nurses in any area. Together managers, unions and professional regulatory bodies can wield significant influence in discussions about creating high quality health care work places (Fooks et al, 2002; Pong and Russell, 2003). As key decision-makers, they can advocate for change that requires a shift in thinking to create a collaborative approach to*

staffing and planning future needs and to implement flexible work arrangements that recognize nurses' personal and professional needs and improve planning capacity (Fooks et al, 2002).

3.3 Renewal

Recommendation 5: Support interdisciplinary and other collaboration

Actions:

1. Work with employers to support structures that foster collaboration, shared decision-making, and respect for professional autonomy among rural nurses, other care providers, and community organizations.
2. Encourage employers to support provincial initiatives to improve interdisciplinary collaboration (e.g., through the Primary Health Care Transition Fund, initiatives to develop interdisciplinary education and placements).
3. Encourage nursing schools to work with employers to identify defined rural catchment areas in which clinical, education, and research partnerships would be implemented.
4. Encourage nursing faculty to work with employers to develop their knowledge of rural settings by engaging in clinical practice in rural areas.

Rationale:

Many rural communities have limited resources and do not offer a comprehensive range of services. Rural nurses in Nova Scotia have expressed interest in opportunities for networking and the development of collaborative relationships with other nurses, health providers, programs, service agencies, communities, and sectors (e.g., education and community development) elsewhere in the province. These forms of collaboration offer benefits such as improved job satisfaction, shared resources and knowledge, stronger links with health care and educational institutions in which expertise may be more abundant, and the opportunity to work together towards shared goals (Pong and Russell, 2003). Some authors suggest that affiliations with academic and health facilities enhance recruitment and retention in their communities (Coffman et al, 2002).

Recommendation 6: Support leadership education for rural managers and nursing staff

Actions:

1. Encourage employers to identify existing and emerging leaders and provide opportunities for growth (e.g., board and committee involvement, involvement on project teams, and workshop attendance).
2. Encourage employers to provide opportunities for developing leaders to network.
3. Work with the Nursing Leadership Working Group to consider the unique needs and challenges faced by nurses working in rural settings.
4. Work with employers to develop electronic solutions that would promote professional networking in rural sites.
5. Work with professional regulatory bodies, and the NSAHO in supporting education in management skills (e.g., through workshops and conferences).
6. Encourage employers to formalize career planning that takes into account family priorities.
7. Encourage professional regulatory bodies to work with employers to support experienced nurses in mentoring those who are less experienced (e.g., promote the College of Registered Nurses of Nova Scotia Mentor Match Program in rural sites).
8. Work with employers to develop programs and initiatives to educate and support clinical leaders, preceptors and mentors in rural workplaces.

Rationale:

Successful recruitment and retention is associated with effective nursing leadership. Effective leaders are described as nurses who: are visionary, enthusiastic, supportive, knowledgeable, responsive, and highly visible to nursing staff; maintain open lines of communication, high

standards, high staff expectations, value education and professional development of all nurses within the organization, and are actively involved in professional organizations (Fooks et al, 2002). Promoting the development of nursing leadership is associated with positive nurse outcomes such as active participation of nurses in healthcare planning, enhanced skills and knowledge, and sense of responsibility and accountability in administrative areas (Fooks et al. 2002). Preceptorship and mentoring programs are also associated with effective nurse recruitment and retention. Kulig et al (2003) describe a British Columbia Ministry of Health mentoring and preceptorship program which aims to reduce the number of nurses who leave the profession soon after graduation. Mentors are defined as experienced nurses who provide ongoing support to newly-hired graduate nurses, and preceptors provide support to student nurses during their nursing education programs. The program allows for training and professional development for both mentors and preceptors, and allows them to have reduced patient loads in order to function effectively within these special roles. Health authorities and affiliates of aboriginal health organizations within the province were all eligible to apply for special funding to participate in this program. Although it was not specifically targeted at rural and remote areas, it offered benefits and assistance for nursing practice and nurses within these areas.

Recommendation 7:

Monitor and evaluate indicators to support planning for recruitment and retention of nurses in rural areas

Actions:

1. Encourage the Department of Health to monitor and evaluate the following functional criteria for identifying high-need areas: RN and LPN vacancy rates; projected retirements; casual, part-time or full time designation; distance to hospitals or health centers; distance to urban centers; access to public transportation; distance to education facilities, including telehealth sites; access to high-speed Internet.
2. Work with the Department of Health to collect and apply the data to demonstrate the usefulness of the functional criteria within 6 months.
3. Coordinate the release of reports to facilitate planning by employers (i.e., to ensure best timing in terms of business planning and education cycles).

Rationale:

After careful deliberation, consultations, and examination of the literature the Working Group agreed that there was insufficient information to clearly define the terms “rural” or “remote” (See appendix B). The Working Group identified the use of functional criteria as most useful for identifying priority areas. Criteria suggested by the Rural and Remote Working Group for comparing communities and identifying those that might be prioritized for recruitment and retention initiatives include:

- *vacancy rates*
- *projected retirements (using nurses’ ages as a proxy)*
- *casual, part-time or full time designation*
- *distance to hospitals or health centers*
- *distance to urban centers*
- *access to public transportation*
- *distance to education facilities (including telehealth sites)*
- *access to high-speed Internet*

The Working Group recommends that the Department of Health use these functional criteria to identify priority areas.

4.0 NEXT STEPS

This Report represents the work of the Rural and Remote Working Group. The Working Group submits this report as evidence of achieving the Terms of Reference for their work and requests that the Provincial Nursing Network support the report and the recommendations in principle.

The Working Group suggests the following next steps to support the recommendations and associated actions:

1. Approval of Working Group Report
2. Development of a communication plan
3. Development of an implementation plan
4. Identification of an implementation team(s) with lead people
5. First implementation team meeting

The Working Group recognizes that there needs to be more deliberation over the potential impact before implementing the recommendations and consideration of the resources required. The Working Group believes the impact analysis was beyond the scope of their mandate and suggests that an impact analysis be completed as part of implementation planning.

APPENDIX A

Rural and Remote Nursing Working Group

Terms of Reference

Purpose of Working Group

To develop and recommend strategies to support recruitment and retention of nurses in rural and remote areas of Nova Scotia.

Objectives

1. To define “rural” and “remote” in the Nova Scotia context.
2. To identify the nursing workforce, including demographics.
3. To define issues and challenges.
4. To consider approaches in other jurisdictions.
5. To develop and prioritize strategies and make recommendations to the Provincial Nursing Network.

Functions

The Working Group will:

1. Prepare a work plan to reflect the objectives.
2. Develop and prioritize strategies (including assessment of impact or feasibility).
3. Recommend provincial strategies/approaches to the Provincial Nursing Network.
4. Ensure all relevant information is compiled.

Membership

- Clare MacQuarrie (Chair), Facility Manager, Inverness Consolidated Memorial Hospital
- Fern Brydon, Nurse Manager, Annapolis Valley Branch VON
- Barbara Caulfield, Patient Care Manager, Cumberland Regional Health Care Centre
- Kimberly Lamarche, Nurse Practitioner, Brier Island
- Elaine MacMaster, Facility Manager, Guysborough Memorial Hospital
- Betty Matheson, Director of Resident Care, Willow Lodge, Tatamagouche
- Judy Mosher, LPN, South Shore Regional Hospital
- Debra Barrath (Secretariat Support), Senior Policy Analyst, Nursing Advisory Services, Department of Health

Resource Support

- Donna Denney, Director, Registered Nurses Professional Development Centre, Halifax
- Evelyn Schaller, Vice President, Patient Care Services, DHA 8, CBRH Site

Mode of Operation

1. A representative from Nursing Advisory Services will act as secretariate.
2. The Working Group will complete its mandate within 6 months of its inception.
3. The budget for the Working Group will be covered by the Nursing Strategy.

Reporting Relationship

The Working Group will make regular reports to the Provincial Nursing Network.

Meeting Frequency

As determined by the Working Group. The Working Group will meet face-to-face and conduct additional business via conference calls, fax, mail, and e-mail.

APPENDIX B

Defining “Rural” and “Remote”

1. Introduction

There is no standard definition for “rural” or “remote.” Definitions are created to serve particular purposes, each using different criteria and methodologies and each providing a different focus. As such, different definitions will give different areas of inclusion, different total numbers of inhabitants, and different population characteristics.

The most common definitions of “rural” and/or “remote” are based on geography—population sizes and densities in, for instance, census divisions. Alternatively, there are conceptual definitions that are constructed from selected indicators. These “indices of rurality” are based less on geographic location and more on the inherent characteristics of the locale, and tend to be topical depending on the indicators chosen.

The health profile of any community, including the level of health services and human resources found in the community, is dependent upon how the group is delineated. In the interests of equitable, needs-based resource allocation, any “rural” or “remote” classification system must ensure that people experiencing similar problems of location and environment are identified as being of the same group (Humphreys, 1998).

This report summarizes several different methods of defining “rural” and “remote” and it points out some of the difficulties mentioned by researchers in settling on a definition.

2. Difficulties in defining “rural”

2.1. Changes in definition; heterogeneity

It is necessary for the purposes of policy formation and administration to distinguish which areas lack healthcare services and/or personnel due to their remoteness. The two main difficulties, however, in defining “rural” and “remote” are:

- The areas that qualify as being “rural” or “remote” will change depending on the definition used; and
- The area captured by any definition for “rural” or “remote” are not going to be homogenous.

The first difficulty (changing “rural” areas) will become evident as the various definitions of “rural” and “remote” are explored. Section 3.3, below, compares six of these definitions and illustrates by how much the size of the “rural” population changes with each definition.

With regards to the second difficulty, the area captured by the “rural” label will probably end up being a heterogeneous collection of communities whose needs are going to differ, no matter how it is defined. The problems of a remote region are going to be different from those of an urban fringe area, even though, strictly speaking, both might be labeled as “rural.” On the other hand, to refine the definition to such a degree as to include specific regions and exclude all others would defeat the necessity of a definition in the first place.

Heterogeneity can lead to other complications. The connotations conjured up by the terms “rural” and “remote” can interfere with attempts at defining them absolutely. “Definitions of rural that classify individuals as rural who do not see themselves as rural and vice versa, that is, classify individuals as non-rural who see themselves as rural creates a situation where misclassified citizens may not relate to or feel left out of government programs and research that is meant to apply to ‘rural Canada’” (Dukeshire, 2002: 2).

2.2. Discrepancies in geographical boundaries

One additional difficulty surfaces when combining Nova Scotian data from different sources. Particularly when census data is being used, it must be remembered that occasionally the boundaries of the health authorities in Nova Scotia do not correspond exactly with the census divisions. The following areas represent discrepancies between the two boundary divisions:

- Hants County is divided roughly in two, with the western portion joining Colchester to form DHA 4 (Central) and the eastern half joining Halifax County to form DHA 9 (Capital).
- The southern third of Inverness County joins Richmond, Guysborough and Antigonish Counties to form DHA 7 (Straight). The remainder of Inverness County forms part of DHA 8 (Northeast Cape Breton).

Statistics Canada divides Nova Scotia into 6 health “zones” whose borders mostly correspond to those of the district health authorities. Occasionally two DHAs are placed together to form a health zone (e.g., DHAs 1 (South) and 2 (Southwest) form Zone 1). The sole ‘problem’ area is a small region in Hants County that is typically part of DHA 9 (Capital) but joins DHAs 4 (Central) and 5 (North) to form part of Zone 3.

Finally, one must recall that in 1998, Nova Scotia redefined its health boundaries and moved from four health districts to nine district health authorities. Therefore, data prior to 1998 will be based on different geography.

3. Geographic or statistical definitions

3.1. Introduction

Of the several systems with which areas can be separated into either “urban” or “rural,” six are reviewed by du Plessis et al. (2001; 2002). Five of these systems rely on the geographic boundaries used by Statistics Canada for census purposes; the remaining system uses the Canadian postal code system.

The six systems are summarized here, with special attention given to how they represent the Nova Scotian population. They are:

- Census “Rural Areas”
- “Rural and Small Town” (RST) and “Metropolitan Area and Census Agglomeration Influenced Zones” (MIZ)
- OECD “Rural Communities”
- OECD “Predominantly Rural Regions”
- “Non-Metropolitan Regions” (modified Beale codes)
- “Rural” Postal Codes

In many of these systems, “rural” is essentially defined as “not urban”: urban areas are first delineated, and then the remainder is labeled “rural.” As such, in the explanations that follow, the definition for “urban” will be given first and “rural” afterwards.

(Note: The explanations that follow are made as brief as possible. For a more detailed description, please refer to du Plessis et al. (2001; 2002).)

3.2. Six geographic systems

3.2.1. Census “Rural Areas”

According to the Statistics Canada census dictionary, “Rural Areas” (RAs) are, simply, “all territory lying outside urban areas” (Statistics Canada, 2003a). An area’s status is based solely on its population size and density. “Urban” areas have a population of over 1,000 inhabitants

and a density of more than 400 people per square kilometer. Conversely, if an area has a population under 1,000 people or a density of fewer than 400 people per square kilometer, it is deemed “rural.”

This system uses the smallest unit of census data, the enumeration area (EA). Data are also compiled at the level of designated place (DPL) and census subdivision (CSD). Please refer to Appendix 1 for an explanation of these geographical census terms.

3.2.2. “Rural and Small Town” (RST) and “Metropolitan Area and Census Agglomeration Influenced Zones” (MIZ)

This system looks at the degree of social and economic integration of an area with neighboring large urban cores. Integration is measured mostly by commuter flow using ‘place of work’ census data. Data are reported at the level of the municipality, or the Census Subdivision (CSD) as it is called by Statistics Canada.

An area is classified as “Rural and Small Town” (RST) if it is not a Census Metropolitan Area (CMA) or a Census Agglomeration (CA). CMAs are urban cores with a population of at least 100,000, and include all neighboring municipalities if a) 50% or more living in the municipality commutes to work in the urban core or b) over 25% of people working in the municipality commutes from the urban core. CAs are identical to CMAs but have an urban core with a population between 10,000 and 99,999. An RST is anything lying outside the commuting zones of these larger “urban” centres (du Plessis et al., 2002).

“Metropolitan Area and Census Agglomeration Influenced Zones” (MIZ) further divide the RST population into four sub-groups based on the degree of influence of nearby CMAs and CAs (i.e., the volume of commuter flow to any urban centre of 10,000 or more):

- Strong influence: Over 30% work in any urban core
- Moderate influence: Between 5% and 30% work in any urban core
- Weak influence: Less than 5% work in any urban core
- No influence: Municipalities with a Labour force of fewer than 40 persons, as well as municipalities with no commuters to any urban core

3.2.3. OECD “Rural Communities”

This system was developed by the Organization of Economic Co-operation and Development (OECD) in order to be able to compare “rural” data internationally. The OECD has two systems, one that operates at the smaller, community level and the other at the larger, regional level.

For defining “rural” at the community level in Canada using this system, the Census Consolidated Subdivision (CCS) is used. The CCSs are generally formed by combining smaller, more urban municipalities (or CSDs) with the surrounding, more rural municipalities. In the 2001 census, there were 43 CCSs in Nova Scotia.

A CCS is deemed “urban” if it has a population density of more than 150 people per square kilometer. Otherwise, it is classified as “rural.”

3.2.4. OECD “Predominantly Rural Regions”

In Canada, this OECD system is reported at the level of the Census Division (CD). In Nova Scotia, CDs are equivalent to counties and are eighteen in number.

Regions are described only as “predominantly rural,” “predominantly urban,” or “intermediate.” They are defined as follows:

- “Predominantly rural regions”: more than 50% of its inhabitants live in “rural communities” (as defined in the previous OECD system described above)
- “Intermediate regions”: 15% to 50% live in “rural communities”
- “Predominantly urban regions”: Less than 15% live in “rural communities”

Statistics Canada has further broken down the “predominantly rural” category into three sub-categories:

- adjacent to metropolitan centres;
- not adjacent to metropolitan centres; and
- northern regions

Under this system, all regions outside of Halifax County would be deemed as “predominantly rural regions.” Halifax County itself would only register as an “intermediate region.” There are no “northern hinterland” regions in Nova Scotia.

3.2.5. “Non-Metropolitan Regions” (modified Beale codes)

The Beale system of classification is an American classification system developed 1975, which was then adapted for Canadian use. The “revised” Beale system collapses eleven classification categories into only six (du Plessis, 2002).

This system takes into account population size and density, as well as proximity to metropolitan areas. The definition of “rural” in this system is a Census Division with a population less than 50,000. The “rural” areas are further subdivided into “adjacent” or “non-adjacent” according to whether or not they border a Census Metropolitan Area or Census Agglomeration.

3.2.6. “Rural” Postal Codes

Originally, a numeral zero (0) in the second position of the postal code was considered to be a “rural” postal code. For Canada Post, it referred to a “rural” forwarding sortation area where there were no letter carriers and residents had to collect their own mail. It was considered a good approximation of accessibility to government services.

Recent changes to the postal code system have rendered this system less applicable. For instance, zero in the second position is no longer used in the provinces of New Brunswick and Québec.

3.2.7. Non-standard or User-defined Geographic Areas

Statistics Canada will also tabulate census data to fit the specifications and needs of users (Statistics Canada, 2003b). Standard geographic areas can be aggregated in a user-defined way, or else census data can be compiled for non-standard areas. Examples of data tabulation that would require non-standard geographic areas are school districts, health districts, and transportation corridors, among others.

3.2.8 Accessibility/Remoteness Index of Australia (ARIA)

A seventh system not encountered in Canada is the Accessibility/Remoteness Index of Australia (ARIA). Although described as an “index,” it is “designed to be an unambiguously geographical approach to defining remoteness” (Commonwealth Department of Health and Aged Care, 2001: 3) and socioeconomic factors are not considered.

ARIA was created in an attempt to develop a standard classification of remoteness that would serve the whole of Australia. “Accessibility” and “remoteness” are considered synonymous, and therefore index scores are based solely on road distance to service centres.

(This one-dimensional system is described here to illustrate the very simplest of geographic definitions. It is not included in the summary tables that follow.)

3.3. Summary tables

3.3.1. Comparison of the six systems

For ease of comparison, Table 1 summarizes the six different systems listed above, including each system's definition of "rural," the geographic level at which data are reported, and recommended uses for each.

Table 1: Summary of six definitions of "rural"

Alternative system of definition	Definition of "rural"	Building block ¹	Useful for ²
Census "rural areas"	Area with a population of less than 1,000 or with a density under 400/km ²	EA	Very localized issues
"Rural small town" and MIZ	Population living outside commuting zones of larger urban centres (CMAs and CAs); as well, urban areas with less than 10,000 if also located outside commuting zones	CSD	Community-level issues (school location, municipal services, etc.)
OECD "rural communities"	Communities with population less than 150 per km ²	CCS	Issues that require broader definitions of community
OECD "predominantly rural regions"	Population in regions where over 50% live in OECD "rural community"	CD	Understanding regional level issues (economic development, Labour market issues, etc.)
"Non-metropolitan regions" (modified "Beale codes")	Urban settlements with population less than 50,000 or areas with population over 50,000 but no urban settlements (i.e., no places with population over 2,500)	CD	Understanding regional level issues (economic development, Labour market issues, etc.)
"Rural" postal codes	Areas where second position in postal code is "0" (zero)	Postal code – Canada Post geography	Comparing with other information tabulated by postal codes

1 Refer to Appendix 1 for definitions of the building blocks.

2 Adapted from du Plessis et al., 2001.

3.3.2. Effects of the six systems on Nova Scotia

Table 2 compares the total population of Canada and Nova Scotia that would fall under each definition of “rural.” It is quickly evident that the number can vary widely, depending on the choice of criteria, from 38.7% of Nova Scotians using the RST/MIZ system to 74.5% using the OECD rural communities system.

Even two systems yielding similar results, such as the census “rural areas” and the modified Beale codes, will be describing for the most part two different populations: there is reportedly only 53% overlap between these two systems (du Plessis et al., 2002).

With the proper geographic mapping software, it would be possible to create visual maps that would more clearly show the distribution of “rural” areas in Nova Scotia, and the geographic differences that arise by using different systems of definition.

Table 2. Distribution of the "rural" private household population under alternative definitions, 1996

	Total private household population	Private household population using alternative definitions of "rural"					
		Census rural	Rural and small town	OECD rural communities	OECD predominantly rural regions	Beale non-metro regions	Rural postal codes
	28,390,68			10,845,43			
Canada		5 6,298,350	6,274,320		5 8,911,415	7,581,970	6,444,475
Percentage	100.0%	22.2%	22.1%	38.2%	31.4%	26.7%	22.7%
Nova Scotia	896,595	408,155	346,540	667,650	558,295	442,030	378,250
Percentage	100.0%	45.5%	38.7%	74.5%	62.3%	49.3%	42.2%

Source: Statistics Canada, 1996 Census of Population, as summarized in du Plessis et al., 2002, Appendix D.

4. Conceptual definitions

4.1. Introduction

Rather than defining a region as “rural” or “remote” based on geographical location and population size, one can look at the characteristics of the region itself to decide its remoteness. To quote a quipping example, “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” (Pitblado, 2002a).

Using a conceptual definition allows researchers, administrators and policy makers to investigate only the relevant aspects by selecting indicators specific to the question being asked. The down side is that a conceptual definition requires a preconceived notion of the characteristics one would expect to find in a rural area; in other words, “rural” is defined ahead of time and areas are then judged on how well they fit this ideal.

“Conceptual” does not necessarily mean “non-quantitative.” While the geographical definitions employ measurements that are easily quantifiable (numbers, distance, etc.), conceptual definitions can include quantitative data and can also assign numeric values and weights to

normally qualitative measurements.

4.2. Indices of Rurality

It is possible to assign “degrees of rurality” to a territorial unit by devising a set of indicators and assigning weighted scores for each. An index can be tailored to specifically reflect the question that needs answering.

An advantage of using or constructing an index over using a geographical definition is that the latter more often separates communities into dichotomous “yes/no” groups. An index, on the other hand, can provide a continuum of “rurality.” Communities can then be ranked by score and the relative results quickly compared.

Kralj (2002) suggests that any useful measure of rurality should try to include indicators that capture information in three areas: community and lifestyle; the nature of rural medical practice; and professional isolation and support.

Five indices are summarized below.

4.2.1. Multistakeholder Framework/Index of Rurality

The Canadian Medical Association (CMA), Canadian Nurses Association (CNA), the Society of Rural Physicians of Canada (SRPC), and the Canadian Pharmacists Association (CPhA) jointly developed a framework/index of rurality (Steering Committee on the Development of a Multistakeholder Framework/Index of Rurality, 2003). It expands on a similar, previous study conducted by the CMA alone for Health Canada, but it was decided to broaden the exercise to include other stakeholders and professional groups.

The study attempted to determine which factors were most important in defining a community as rural/remote from a healthcare perspective. Physicians, RNs, LPNs and pharmacists from each province living in rural areas were sampled. The top three factors mentioned—in Atlantic Canada and in Canada as a whole—were:

- Long distance to a secondary referral centre;
- Barriers (geography/weather/roads) to timely access to healthcare services; and
- Insufficient healthcare providers.

Other factors included: difficulty in providing specialists such as obstetricians, surgeons, anaesthetists, etc.; distance to a tertiary referral centre; high level of on-call responsibilities; difficulty in obtaining locums; a lack of diagnostic equipment; and limited or non-existent public transportation. A sparsely populated catchment area, incidentally, was not among the top ten.

Based on the results, a weighted scoring system was devised to measure a community’s “rurality.” Although the tool is useful when determining whether a community is “rural” or not, it is limited in determining which communities are “rural.”

4.2.2. General Practice Rurality Index

This proposed index consists of six variables selected from the literature, which are assigned points according to their relative importance (Leduc, 1997). The six variables are:

- remoteness from a basic referral centre
- remoteness from an advanced referral centre
- population
- number of general practitioners
- number of specialists
- presence of an acute care hospital.

This index is obviously geared towards defining the “rurality” of a general practitioner’s location (hence the name “General Practice Rurality Index”), and does not address either the health needs of the area itself or the availability of other health professionals.

4.2.3. A procedural skills rurality index

Another index devised for physicians’ use, this proposed index measures the shortage of specific additional, “advanced” skills, such as anaesthesia, surgery and obstetrics (Magee, 2000). Points are awarded for the level of training of each physician in the area, as well as for the amount of time each spends in a particular community.

Again, this index is oriented towards defining “rural” based exclusively on physicians. Other professions and the health needs of the area itself are not considered.

4.2.4. MSU Rurality Index

The Montana State University (MSU) devised an index requiring only two variables: population and distance to emergency care (Weinert and Boik, 1995). The MSU Rurality Index is very similar to the Accessibility/Remoteness Index of Australia (ARIA) described above; it is described here to show how a conceptual definition can approach a strictly geographical definition when it is stripped of socioeconomic factors and reduced to a few simple, objective components.

The advantage of this index is that it establishes a statistically “normal” score for a community, and measures each community relative to all communities. A positive score indicates more “rural” and a negative score indicates more “urban.” In this manner, a province’s definition of “rural” will be different from another’s and relevant within its own borders—i.e., communities are not being classified by an outside standard.

This index does not give any indication of a community’s ability to serve its own non-emergency health needs.

4.2.5. Rurality Index for Ontario

The rurality index for Ontario (RIO) was constructed to provide “a continuous measure of the degree to which a community is rural (i.e., index of rurality), not just whether or not it is a rural community (i.e., binary or dichotomous distinction)” (Kralj, 2000: 33). The index is specifically intended as an aid for health policy design and evaluation.

The RIO consists of ten weighted components:

1. travel time to nearest basic referral centre
2. travel time to nearest advanced referral centre
3. population
4. ratio of population to General Practitioners
5. number of active General Practitioners/Family Practitioners
6. presence of a hospital
7. availability of ambulance service
8. a measure of selected services (specifically, General Practitioners, obstetricians and anaesthetists)
9. a measure of social indicators (specifically, unemployment rates and the presence of universities/colleges and/or airports)
10. a measure of weather conditions (rainfall, snowfall and temperature)

The ten components are split into two sub-groups to capture separately a) the geographic and physical aspects of a community and b) factors relating to medical service delivery and physician workload. All ten components together give an overall “rurality” score.

4.3. Other definitions of “rural”

Two or more definitions can be cross-tabulated to create a more refined definition that focuses on specific subgroups. In a smaller province like Nova Scotia, which is predominantly rural, cross-classifying regions can give more layers and subtler grading to the terms “rural” and “remote.” It is possible to combine a geographical definition with a conceptual definition to further delineate areas on which to focus attention.

For some issues facing “rural” regions, a geographical approach might be more appropriate (e.g., primary health care, equipment, telehealth, patient transportation). For other, more social issues, a conceptual approach might serve better (e.g., conditions of employment, personal issues, community relations). Combining geographical data with an index of rurality could help form a more focused picture of “rural” Nova Scotia.

From a non-healthcare perspective, subjective self-definition—the voice of “ordinary Canadians”—can define the areas of rurality. Because it is rather unsystematic, the administrative applicability of this system is somewhat limited. To those living such areas, though, “rural” is not just a geographical area or administrative demarcation, it is a way of life, a “living fabric of history, culture, social relations, economies and politics in which people strive to build and preserve communities, civic responsibility, and family well-being” (Ramp, 1999: 1). As alluded to before in Section 2.1, above, misclassification can lead to a situation where residents do not relate to or feel misrepresented by government programs (Dukeshire, 2002).

Summary and Conclusion: Analysis of “Rural” and “Remote” Definitions

The following offers an analysis of the different definitions of “rural” and “remote” for the purposes of forming health care policy. Two broad types of definitions were reviewed—geographic or statistical definitions and conceptual definitions—and the benefits and drawbacks of each are listed below. Following this are some additional considerations and recommendations for a useful definition for rural and remote nursing strategy.

Geographic or statistical definitions

The benefits of a geographic or statistical definition of “rural” or “remote” are:

- The designations and criteria do not often change. The geographic boundaries might shift, but geographic definitions of “urban” or “rural” tend to stay fixed over time.
- There is no universally accepted definition for “rural” in Canada, but some geographic definitions are more commonly used than others and therefore produce comparable data. If the same definition is widely used, results can be compared between regions (intra-provincially, inter-provincially, internationally) and trends can also be traced over time.
- The criteria included in geographic definitions are not topic-specific: the variables (e.g., population, population density) are objective and independent of the study question. Because topic-specific variables (e.g., based on determinants of health, income or other socioeconomic variables) are not included, data can be compared between studies or combined to provide a more complete picture.

The drawbacks of using a geographic or statistical definition of “rural” or “remote” are: The primary drawback is a fatal one: population and population density alone create a unidimensional measure and do not give any indication as to other characteristics of a

community. A geographic definition does not give any clue as to the level of health care services available in a community.

Two communities that share similar populations and population densities can differ in every other respect.

The geographical boundaries, as defined by Statistics Canada, might not necessarily be fine enough. A “remote” community can fall within the boundaries of a larger enumeration area and be drowned out.

Conceptual definitions

The benefits of a conceptual definition that incorporates topic-specific criteria are:

- Specific indicators that reflect the topic in question can be factored into the definition of “rural” and “remote”.
- A more refined, discriminating classification of communities is possible, reducing the heterogeneity within the “rural” designation—communities sharing similar populations or population densities can be distinguished based on other determinants such as socioeconomic status.

The drawbacks of using a conceptual definition include:

- If the system of definition is too refined, it can become too dissimilar to any other definition and the results incomparable to other studies.
- If an index is used or created, the weights attached to each variable are often arbitrary, particularly when non-quantitative variables are included. Arbitrary weights can be “tweaked” and the results could change a community’s overall “rurality” score.
- The creation of an index can be a lengthy process, particularly if each criterion has to be verified as statistically valid.
- Operationalization (i.e., actually carrying out measurements and giving communities a rating) can also be a lengthy and costly process.
- The choice of variables to be included in an index requires a preconceived notion of what one would expect to find in a “rural” or “remote” area, which could lead to bias.

Use of the term “rural”

“Rural” is more than an objective, geographic designation based on locality; the term “rural” holds subjective connotations of self-definition.

“The rural is not just a geographical area or an administrative demarcation, but is a living fabric of history, culture, social relations, economies and politics in which people strive to build and preserve communities, civic responsibility, and family well-being” (Ramp, 1999: 1). By this reasoning, the definition of “rural” could be interpreted as really a matter of a community’s opinion and lifestyle. On the other hand, a proper definition based on objective, measurable criteria is required for purposes of administration and resource allocation, if only to draw a line demarcating inclusion and exclusion. A balance needs to be struck between respect for communities’ sense of self and the need for a standard, static and objective benchmark.

The term “rural,” however, is not very predictive: the heterogeneity of rural Nova Scotia includes a diverse collection of communities with varying levels of health needs and access to health services. Because of the aforementioned social connotations of the term “rural,” it might therefore be better to identify target communities by a designation other than “rural” or “remote.”

For instance, the Ontario Ministry of Health and Long-Term Care has published guidelines for “underserved area designation” (Ontario Ministry of Health and Long-Term Care, 2002). Upon designation of the area as “underserved,” the community is added to a list and practitioners are then eligible for certain incentives. Qualification is determined by many factors, including:

- health human resources, including professional-to-population ratio
- catchment population
- availability of health care services
- socioeconomic status of the area
- previous recruitment experiences
- financial impact assessment

On the other hand, simply replacing the term “rural” with another (such as “underserved”) does not automatically make the term useful. The CMA’s Report of the Advisory Panel on the Provision of Medical Services in Underserved Regions (1992) defines as “underserved” a community of fewer than 10,000 residents—which is identical to the Statistics Canada “rural and small town” designation (Pitblado and Pong, 1999).

One other possibility to avoid the “rural” or “remote” designation is use a system of “relative ranking,” as opposed to an absolute, dichotomous “in-or-out” system of “rural” or “not rural” (or “underserved” or “not underserved”). This method ranks and compares each community to every other. Once every community’s relative “rurality” is determined, a cut-off point can be made depending on available resources or some similar gauge.

Seeking the “ideal” definition

By including all the positive aspects, a useful system for defining “rural” and “remote” communities would:

- be based on geographic boundaries that would allow connection to other studies and Statistics Canada databases;
- be coordinated with other groups (e.g., physicians, pharmacists, agriculture) that have already established a definition in order to ensure compatibility and minimise duplication
- use a term other than “rural” or “remote” to avoid ambiguous or socially-charged connotations;
- include topic-specific variables and indicators to reflect the question at hand.

Statistics Canada Geographic Census Terms

Census Agglomeration (CA)

See Census Metropolitan Area (CMA)

Census Consolidated Subdivision (CCS)

In general, a Census Consolidated Subdivision (CCS) is a grouping of smaller, more urban census subdivisions (CSDs) (towns, villages, etc.) combined with the surrounding, larger, more rural CSDs, in order to create a geographic level between the CSD and the census division (CD). There are 43 CCSs in Nova Scotia.

Census Division (CD)

A Census Division (CD) is a “group of neighbouring municipalities [or CSDs] joined together for the purposes of regional planning and managing common services (such as police or ambulance services)” (Statistics Canada, 2003a: 225). The groupings are established in cooperation with each province and territory. There are 18 CDs in Nova Scotia.

Census Metropolitan Area (CMA) and Census Agglomeration (CA)

An area “consisting of one or more adjacent municipalities [or CSDs] situated around a major urban core. To form a census metropolitan area, the urban core must have a population of at least 100,000. To form a census agglomeration, the urban core must have a population of at least 10,000” (Statistics Canada, 2003a: 229). There are 1 CMA and 4 CAs in Nova Scotia.

Census Subdivision (CSD)

A Census Subdivision (CSD) is “the general term for municipalities (as determined by provincial legislation) or areas treated as municipal equivalents for statistical purposes (for example, Indian reserves, Indian settlements and unorganized territories)” (Statistics Canada, 2003a: 239). There are 98 CSDs in Nova Scotia.

Designated Place (DPL)

A Designated Place (DPL) is a small community or settlement that does not meet the criteria to be a Census Subdivision (CSD) or an urban area. There are 59 DPLs in Nova Scotia.

Enumeration Area (EA)

The smallest of geographical units, the Enumeration Area (EA) is the area (composed of one or more adjacent blocks) canvassed by one census representative. Each contains a maximum of 650 dwellings. There are 1,337 EAs in Nova Scotia.

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