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HEALTH ASSOCIATION NOVA SCOTIA

RURAL HEALTH AND SERVICE DELIVERY IN NOVA SCOTIA

A Profile and Recommendations for Discussion

Prepared by Health Association Nova Scotia

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2 Dartmouth Road

Bedford, Nova Scotia

B4A 2K7

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Executive Summary

Each year, Health Association Nova Scotia's Board of Directors identifies and selects a strategic policy focus that is of concern to the broad continuum of the Association's membership. Using this strategic focus, a project or leadership paper is developed, aspiring to facilitate positive system change by highlighting the extent of the identified concern and providing higher-level recommendations for action.

The current project was commissioned by the Board of Directors of Health Association Nova Scotia to profile and analyse the most prominent health-related challenges facing rural communities. This discussion paper is intended to be a conversation starter, meaning it is anticipated that all or many of its recommendations will resonate with Association membership and its partners, and that the resulting discussion will be an impetus for stakeholders to begin a journey towards improved health and health systems in the more rural and remote areas of Nova Scotia.

The first half of this document paints a picture of health and systems in the rural environment in Nova Scotia, as indicated by our consultation participants and backed by the literature. The second half offers ten high-level, ambitious, yet expectantly applicable, recommendations for government and service providers to undertake to address these regions' most prominent concerns.

Three main themes were identified as the most pervasive issues affecting rural health and service delivery in Nova Scotia. Broadly, these themes were ***poverty***, ***access to services***, and ***how service provision decisions are made***.

Poverty has been described as the foundational social determinant of illness. It is a by-product of other health determinants like employment, income, and education, and has a direct effect on the ability to obtain still other social determinants like healthy food and appropriate housing. Research consistently shows that rural regions have a greater proportion of low income individuals compared to urban environments, and socio-economic status is negatively correlated with measures of mortality, self-rated health, disability, mental health, and chronic conditions.

Another key concern highlighted in our consultation was ***access*** to health services, particularly related to primary, specialty, and continuing care services, mental health care, and health promotion programming. Potential explanations for these service delivery gaps include inadequate health human resource levels and transportation barriers.

Finally, system planning is typically done broadly and may not reflect the diversity of seemingly similar smaller regions. Programs and policies are usually developed in, and for, urban environments, and passed on to smaller communities where differing workforces, cultures, and resources can lead to their failure. A top-down approach to planning and ***decision-making*** fosters feelings of distrust, frustration, vulnerability, and of being misunderstood. A one-size-fits-all approach to health service planning may not be appropriate or effective.

Based on the findings through our consultations and the literature, the following recommendations are made:

Recommendation 1:

That a vision for rural Nova Scotia be created, communicated, and adopted.

The province must fundamentally ask itself if it is content to keep on with the current urbanization trend, or if it truly wishes to see rural communities thrive. Once a vision for rural communities is crystallized, the appropriate programs and decisions to see this realized can follow.

Recommendation 2:

That an all-of-government approach to reducing poverty in Nova Scotia become a top priority of government. Such an approach should take into account diversified and future-focused rural economies and a living wage.

Poverty is typically addressed through band-aid and charitable approaches rather than through pervasive policy action. Surface-level approaches may prove helpful in supporting the day-to-day finances of those with low income; however, a deeper-seeded approach is needed to truly help people overcome poverty. A key determinant is adequate employment. Several policy and program directions, including accessible training, diversified rural economies, and the implementation of a living wage should be considered.

Recommendation 3:

That the government adopt a population health approach to all of its decision-making.

Health is consistently the main priority of Nova Scotians and Canadians. Traditional approaches to health focus on the individual rather than the population, service utilization rather than outcomes, and the geographic distribution of delivery. The population health approach aims to improve wellness in the entire population by reducing health inequities, and it requires a broad-based recognition of the role of all people and processes in creating health. Adopting a population health lens at the government level would see all departments acknowledging their role in health, and would see multiple jurisdictions working together to address complicated and deep-seeded health-related issues.

Recommendation 4:

That a framework for service-level decision-making, emphasizing local solutions to local problems, be developed and implemented.

Every community can differ in terms of their most prominent issues and the resources at their disposal to address them. A framework supporting local solutions to local problems would provide guidance for the genuine involvement of community members and partners, would combine both qualitative feedback and quantitative evidence to determine the most prominent concerns of a region, and would support flexibility in terms of the delivery of services and the ability to tailor programs to the needs of the population at the local level.

Recommendation 5:

That equity become a prominent guiding principle of health system decision-making.

Particularly in times of economic uncertainty, decisions are made in the name of efficiency. Centralization is a key example. Efficiencies can certainly be made in the health system, but equity must be valued over cost-savings.

Recommendation 6:

That supports be in place to allow for the best use of current or more easily obtainable health human resources.

Recruitment and retention of health human resources (HHR) in smaller regions can be challenging. New ways of thinking about how HHR are used could lead to a more sustainable HHR strategy for the province. This would necessitate having the right policies, processes and attitudes in place to use health professionals to their full scope in every environment.

Recommendation 7:

That every municipality have a transportation or travel strategy developed that is suited to their needs.

The need for reliable transportation in rural communities cannot be understated. Community stakeholders should partner together to develop a travel or transport strategy based on its own needs and available resources.

Recommendation 8:

That where direct care is inaccessible, supports are in place to use technology to increase service access.

Telemedicine provides a key opportunity to balance resource availabilities between rural and urban environments. The right supports must be in place for this technology to be successful, including infrastructure, knowledge, supportive policy and legislation, and cultural "readiness".

Recommendation 9:

That government and service providers partner with local research institutions to address pertinent health system issues from an applied, evidence-based perspective. Consider implementing a model for the province that is similar to that of the University of Manitoba Centre for Health Policy.

Most health research is done in urban settings and its findings are assumed to be applicable to rural environments. To increase this research's relevance to rural regions, the work should use trans-disciplinary, participative, and utilization-focused approaches. To ensure that the province's most relevant health system questions are being answered, the government and service providers could formalize partnerships with local universities, perhaps by following a model similar to the Manitoba Centre for Health Policy.

Recommendation 10:

That a more applicable strategy for collecting health and service related data, particularly related to primary and chronic care, be developed. This strategy should support evidence-based decision-making from the perspective of health outcomes as opposed to service volumes.

Current data collection is more focused on how *much* health care is provided in the province, as opposed to how *effective* it is. A province-wide, consistent method of collecting and analysing outcome data, such as Patient Related Outcome Measures (PROMs), would be useful for regions and the province as a whole. The measurement of PROMs, or similar outcome data, could be the basis of future quality frameworks, indicator collection, and research.

Purpose

Since 2011, the Health Association Nova Scotia Board of Directors has commissioned thought leadership papers on some of the most pressing issues and challenges facing Nova Scotia's health system. The goal of these papers has been to study and consult on issues of expansive concern to the broad continuum of the Health Association's membership, and to use the findings as a platform for advancing positive system transformation. More specifically, these papers are created to provide high-level, evidence-informed recommendations for Health Association members, government, and other stakeholders, for discussion, consideration and, ultimately, change.

The current project was commissioned by the Board of Directors of Health Association Nova Scotia to profile and analyse the most prominent health-related challenges facing rural communities. This discussion paper is intended to be a conversation starter, meaning it is anticipated that all or many of its recommendations will resonate with Association membership and its partners, and that the resulting discussion will be an impetus for stakeholders to begin a journey towards improved health and health systems in the more rural and remote areas of Nova Scotia.

Methodology

The scope of this project was purposefully broad and high-level, encompassing a wide range of aspects, view points, and suggestions to discover the most pervasive concerns and to develop the most comprehensive solutions. The first half of this document paints a picture of health and systems in rural Nova Scotia, as told by our consultation participants and backed by the literature. The second half offers ten high-level, ambitious, yet expectantly applicable, recommendations for government and service providers to undertake to address these regions' most prominent concerns.

A broad range of academic and white literature was used to inform this report, as were statistics derived from Statistics Canada and the Canadian Institute for Health Information. Considerable consultation took place as well, including a wide range of health professionals, administrators, researchers, public servants, and community members from all parts of the province. A list of consultation participants can be found in Appendix A.

Background

What is "Health"?

The World Health Organization (2004) defines health as, "a state of complete physical, social and mental wellbeing, and not merely the absence of disease or infirmity. Health is a resource for everyday life, not the object of living. It is a positive concept emphasizing social and personal resources as well as physical capabilities". A "healthy community" has a clean, safe, sustainable environment, adequate access to life's necessities, a strong economy, is supportive and equitable, and has an engaged population (Ontario Healthy Communities Coalition, 2004).

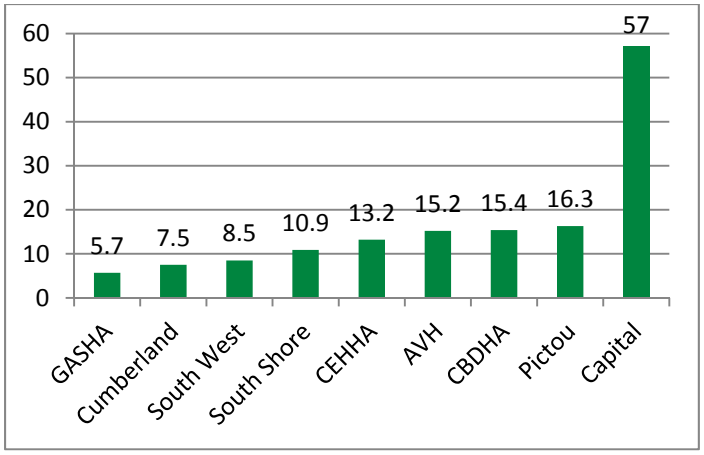
> *"Geography is a determinant of health"*
>
> *– Romanow, 2002*

What is "Rural"?

"Rural" has no standard definition (Kulig, Thomlinson, Curran, Nahachewsky, Macleod, Stewart and Pitblado, 2003). At its essence, it is a measure of distance and density. Kulig and Williams (2012) indicate that "the definition of rural should not take precedence over the important work of engaging with rural individuals, families, and communities to determine their health issues". As such, for the purpose of this paper, "rural" was not definitively defined so as to not exclude any particular region or concern. Generally, "rural" was taken to refer to areas of Nova Scotia outside of that which would commonly be considered an urban centre.

Estimates have indicated that between one quarter to one half of Nova Scotian residents live in rural areas (Pong et. al., 2012; Standing Senate Committee on Agriculture and Forestry, 2006; Prada, Lye, Astles and Foster, 2013). To indicate some of the differences in rurality across the province, Figure 1 depicts the population density per square kilometer for each provincial district health authority. This picture, however, does not accurately portray the experience of all communities within a health authority, as even the more densely populated districts have regions with low population concentrations.

Figure 1: Population per Square Kilometer by District Health Authority, 2006



Why Rural Matters

There is a clear relationship between place and health. The term "place" encompasses geography, distance, population, culture, economy, and lifestyle - all of which are factors that have health implications typically generally unfavorable to rural regions from a health perspective (Pong et. al., 2012; Williams and Kulig, 2012). For instance, rural populations tend to be older than their urban counterparts, which has a drastic effect on service delivery (Dandy and Bollman, 2008; Keating and Eales, 2012). Rural residents are usually of a lower socio-economic status, which can have a negative effect on an individual's mental and physical health (Ministerial Advisory Council on Rural Health, 2002). Due to declining economies, younger generations are out-migrating for work, resulting in fewer working age individuals to take care of aging dependants, and a lower tax base to support smaller communities (DesMeules and Pong, 2006; DesMeules et. al., 2011; Ramsey and Beesley, 2012; Ministerial Advisory Council on Rural Health, 2002; DesMeules et. al., 2012; Williams and Kulig, 2012). Rural regions also typically see higher rates of smoking, obesity, sedentary behavior, and unhealthy eating (Canadian Institute for Health Information, 2006; Dandy and Bollman, 2008; DesMeules and Pong, 2006). The combination of these factors cumulate into shorter life expectancies, higher all-cause mortality risks, and general health statuses that appear to worsen with increasing rurality (Canadian Institute for Health Information, 2006; DesMeules, Pong, Read Guernsey, Wang, Lou, and Dressler, 2012; Standing Council on Health, 2012).

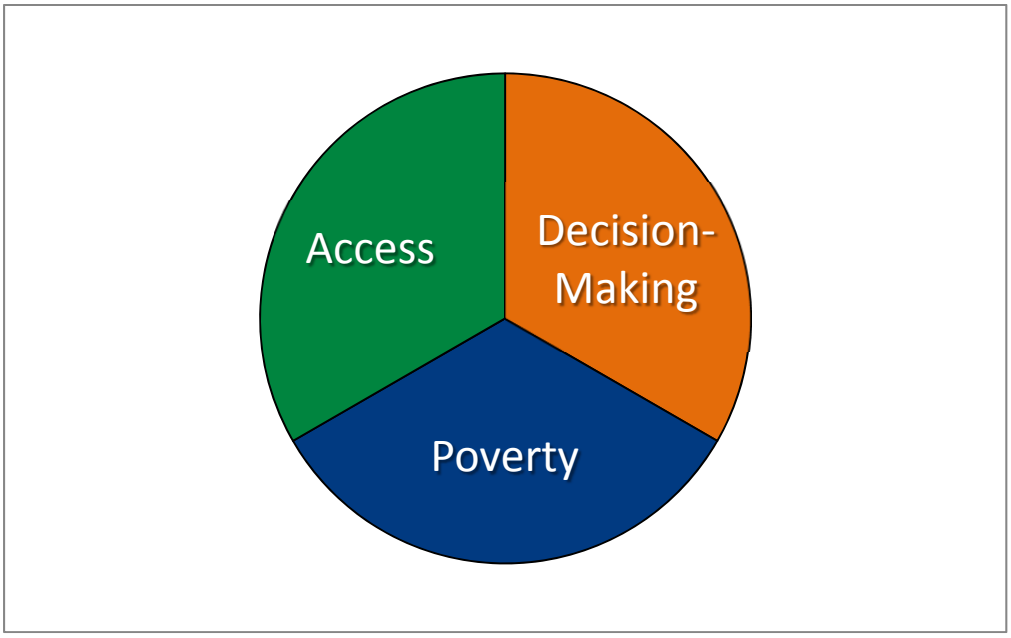
Positively, rural communities are strong in their sense of identity, pride, and cohesiveness. They feel adaptable, resilient, and independent (Bushy, 2002). Smaller sizes and increased levels of cohesiveness lead to health professionals in these areas feeling better able to provide continuity of care, and a stronger sense of connection and ownership of the health of their patients (Bilbey and Lalani, 2011; Burge, Lawson, and Johnston, 2005).

It is clear that place effects health. The following section will seek to further clarify the most prominent health-related concerns in rural areas of Nova Scotia, as identified through our consultations and a review of the literature.

Key Findings: The Principal Issues Affecting Rural Health and Service Delivery

Three main themes were identified that encompass the most prominent issues affecting rural health and service delivery in Nova Scotia. Broadly, these themes were *poverty*, *access to services*, and *how service provision decisions are made* (Figure 2).

Figure 2: Principal Issues Affecting Rural Health and Service Delivery in Nova Scotia



Principal Issue 1: Poverty

> *Poverty, unemployment, and reliance on social assistance represent "probably the biggest single health threat" in virtually every jurisdiction in Nova Scotia.*
>
> *– Martin-Misner, Reilly, Robinson Vollman, 2010*

One of the most pressing issues affecting the health of individuals in rural areas is a concern that the health system itself rarely has the tools or opportunity to address - poverty.

Poverty has been described as the foundational social determinant of illness (Kumanyika, 2004). It is a by-product of other health-related social determinants like employment, income, and education, and has a direct effect on the ability to obtain still other health determinants like healthy food and appropriate housing (Mikkonen and Raphael, 2010; Health Canada, 2002; Nova Scotia Participatory Food Costing Project, 2011). Socio-economic status is negatively correlated with measures of mortality, self-rated health, disability, mental health, and other chronic conditions. (Standing Council on Health, 2012; Pletsch, Amaratunga, Corneil, Crowe, and Krewski, 2012; Menec, Shooshtari, Nowicki, and Fournier, 2010). The rural poor have been described as invisible, due to the fact that rural poverty is

rarely physically seen and is seldom politically acknowledged (Standing Senate Committee on Agriculture and Forestry, 2006). Such invisibility renders this population increasingly marginalized and difficult to target.

"We fail the disenfranchised because they are not part of the conversation"

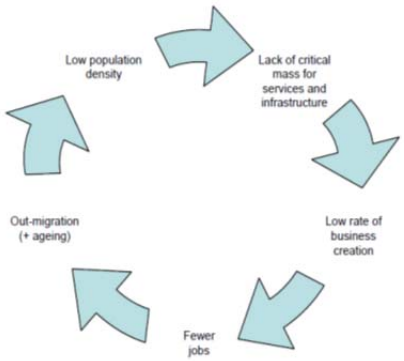
– Consultation Participant

While poverty is an issue everywhere, it is of particular concern in rural regions because research consistently shows that these areas have a greater proportion of low income individuals and households compared to urban counterparts (Canadian Institute for Health Information, 2006; National Rural Health Association, 2007; DesMeules et. al., 2012; Kirby and LeBreton, 2002). The poverty rate in rural areas of Nova Scotia is two percent higher than in urban centres (Singh, 2004). Two-thirds of income assistance clients in the province live in rural regions (Department of Community Services, 2007). Between 1996 and 2001, Nova Scotia had one of the largest urban/rural income gaps in the country (Singh, 2004). Nova Scotia also has a high percentage of "working poor" (Province of Nova Scotia, 2009), meaning people who are employed but whose incomes leave them ineligible for government support and struggling to make ends meet.

Trends in employment and subsequent resulting migration patterns are shaping these communities. Traditional rural labour markets such as fishing, farming, and forestry are on the decline and are subject to boom and bust economies (Standing Senate Committee on Agriculture and Forestry, 2006). Rural areas are often heavily dependent on a single employer, which, if lost, can wipe out an entire community. The bleak job market is forcing younger residents to move to urban centres for employment, exacerbating the concentration of vulnerable populations, like the elderly, in smaller communities (DesMeules and Pong, 2006).

Complicating matters further, declining populations lead to smaller tax bases, making it increasingly difficult to fund public services in these areas, further leading to the closure of community centres, churches, small businesses, and other necessities. Schools, hospitals, and other health centres, too, are seeing closures, which has demonstrable effects from both social and employment points of view (Standing Senate Committee on Agriculture and Forestry, 2006; Doesksen, St. Clair, and Eilrich, 2012). Of course, all of these impacts make it increasingly difficult to recruit newcomers and new businesses to a community. This cycle of exacerbating effects on rural regions is depicted in Figure five.

Figure 5: Circle of Declining Rural Regions



Source: Organization for Economic Cooperation and Development, *The New Rural Paradigm: Policies and Governance*, 2006, p.32

Principal Issue 2: Access to Services

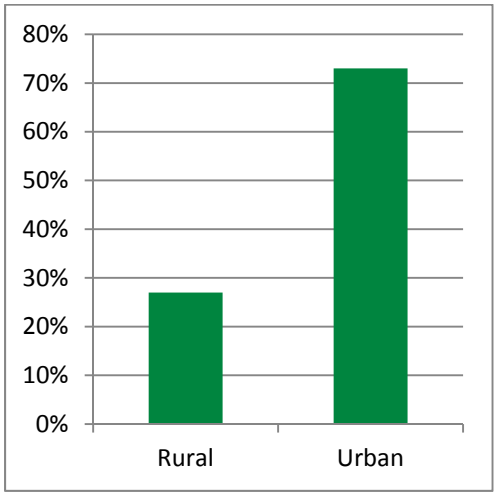
Another key concern highlighted through our consultations was access to health services, particularly related to primary, specialty, and continuing care services, mental health care, and health promotion programming.

Primary Care

Primary care provision was the single greatest service access gap identified through our consultations. This is extremely problematic, as primary care is foundational to the health system. Its failure can lead to such undesirable effects as avoidable illness, mismanaged chronic conditions, and the inappropriate use of more acute resources (Ross, 2010; Standing Council on Health, 2012). Given the importance of primary care, its services should be reasonably accessible in terms of location and timing.

General practitioner physicians are typically the conduits of primary care provision in the province. Interestingly, Nova Scotia has the highest number of family physicians per 100,000 population in the country, however the distribution of these health professionals may account for the service gap in rural areas (Statistics Canada, 2012). Figure 6 shows that only one quarter of family practitioners practise in rural regions, and Table 1 depicts how access to primary care practitioners differs from district to district (Statistics Canada, 2012). Even within districts, access can differ significantly. The primary care gap is very real in pockets of the province, and the gravity of the situation in these areas cannot be ignored.

Figure 6: Distribution of Family Physicians in Nova Scotia (%), 2011



Source: Statistics Canada, Supply, distribution and migration of Canadian physicians, 2011, 2012

Table 1: Distribution of Family Medicine Physicians per 100,000 Population, 2011

District	Physicians per 100,000 population
South Shore – South West Nova	102
Annapolis Valley	108
Colchester East Hants – Cumberland	101
Pictou County – Guysborough Antigonish Strait	104
Cape Breton	112
Capital	141
Nova Scotia	122
Canada	106

Specialty Services

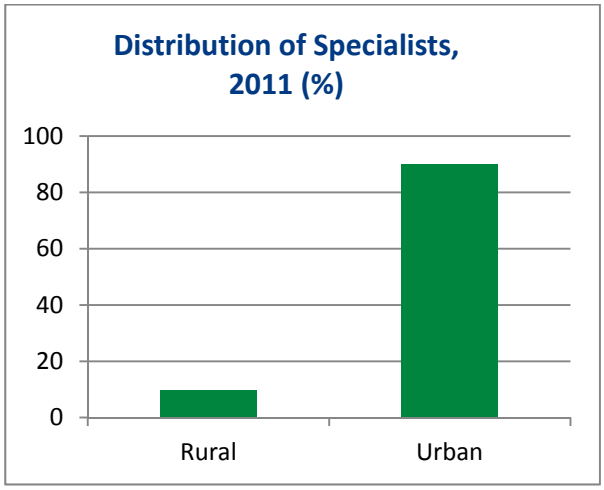
Our consultations also indicated that access to specialty physicians is a significant service gap. Nova Scotia does benefit from a relatively high specialist to population ratio, although, as can be seen in Table 2 and Figure 7, similar to what is seen in the general practitioner population, their distribution is markedly in favor of urban environments. Only approximately 10% of specialists practice in rural areas of Nova Scotia (Statistics Canada, 2012).

Table 2: Distribution of Speciality Physicians per 100,000 Population, 2011

District	Physicians per 100,000 population
South Shore – South West Nova	52
Annapolis Valley	82
Colchester East Hants – Cumberland	56
Pictou County – Guysborough Antigonish Strait	63
Cape Breton	85
Capital	181
Nova Scotia	**119**
Canada	**103**

Source: Statistics Canada, Supply, distribution and migration of Canadian physicians, 2011, 2012

Figure 7: Distribution of Specialists in Nova Scotia (%), 2011



Continuing Care

The aging of the population clearly affects both urban and rural health systems. As demonstrated through Figures 8 and 9, though, the province's most urban district, Capital Health, has a substantially lower proportion of seniors, as well as a lower dependency ratio than the more rural of districts[1]. Unique to rural areas is the combination of its aging population, outmigration of younger informal caregivers, and fewer resources for continuing care services (Canadian Institute for Health Information, 2006; DesMeules et. al., 2012; Skinner, Hanlon and Halseth, 2012; Dandy and Bollman, 2008). This gap in continuing care, particularly related to long-term care and enhanced home care options, was viewed as a definite issue.

[1] Dependency ratio - the ratio of the combined population of those aged 0 to 19 and those aged 65 and over, compared to the population of those aged 20 to 64.

Figure 8: Proportion of Seniors Aged 65+ (%), 2011

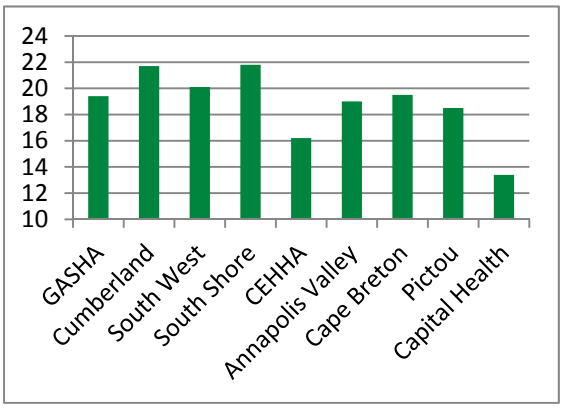
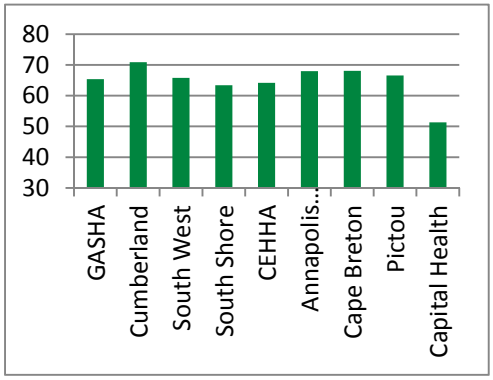


Figure 9: Dependency Ratio*, 2010



Source: Nova Scotia Community Counts web page - data modeled from Statistics Canada, Census of Population
Districts are listed in order from least to greatest population density

Mental Health

Services for individuals with mental health concerns were also identified as a deficiency through our consultations, as well as through the literature (e.g., Standing Senate Committee on Agriculture and Forestry, 2002; Public Health Agency of Canada Atlantic Region, 2007; Harma, Dong, Xu, Ewigman, and Fortney, 2010). Mental health is underresourced everywhere, but the void is more marked in rural regions (McGrath, 2011; National Rural Health Association, 2007). Stigma, coupled with low levels of anonymity and a strong sense of resilience and independence, can make care delivery complicated in smaller communities, and different approaches than those used in urban environments are often necessary (Pletsch, et. al, 2012; Williams and Kulig, 2012; Ricketts, 2000). Additionally, speciality or intensive mental health services are rarely seen outside of the more urban areas.

Health Promotion Programming and Resources

Health promotion, while seemingly well recognized for its importance, is funded at only a fraction of health system budgets (DesMeules and Pong, 2006). Generally speaking, approximately 2% of provincial health finances are typically dedicated to promotion initiatives (Coleman, 2000). For example, the Nova Scotia Department of Health Promotion and Protection acquired 2.7% of provincial health spending during its final year of existence (Nova Scotia Department of Finance, 2008).

> *We need recreation and health education to help people the other 340 days of the year that the don't interact with the health system*
>
> *– Consultation Participant*

At the outset of this document, we described how rural regions are generally less likely to engage in healthy behaviors. Rural populations usually have higher body mass indexes, smoke more, have poorer eating habits, and are less active (Dandy and Bollman, 2008; Mitura and Bollman, 2003; Canadian Institute for Health Information, 2006; DesMeules and Pong, 2006; DesMeules et. al., 2012). Figures 11 and 12 depict some of the health measures and behaviors throughout the

various health districts. Health promotion programs, which target these and other indicators, are typically developed and delivered in more urban environments, potentially rendering them inaccessible to those who need it the most (DesMeules and Pong, 2006; Ministerial Advisory Council on Rural Health, 2002; Ricketts, 2000; Canadian Institute for Health Information, 2006). Usual barriers to health promotion activities in rural areas include transportation, cost, and a lack of infrastructure (Queens and Lunenburg County Community Health Boards, 2012).

Figure 11: Self-Reported Overweight or Obese, 2009-2010

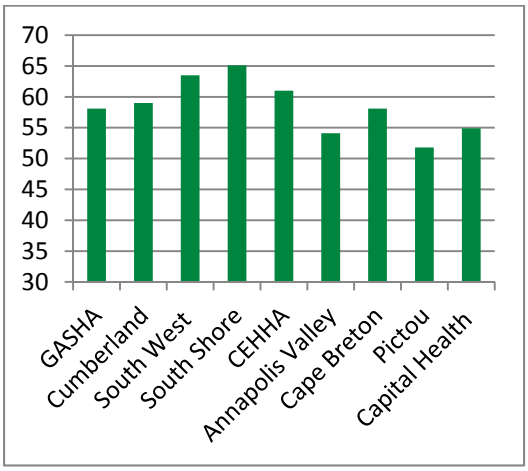
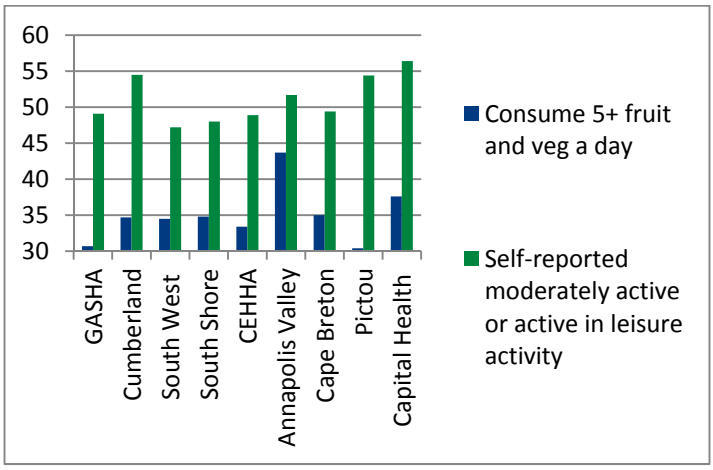


Figure 12: Measures of Self-reported fruit/veg consumption & physical activity, 2009-2010



Source: Nova Scotia Community Counts web page - data modeled from Statistics Canada, Census of Population

Contributing Factors to Access Issues

Two general factors were identified as contributors to the above-noted service delivery gaps: health human resources and transportation barriers.

Health Human Resources

There is a "fundamental mismatch between the health care needs of people living in rural Canada and the availability of health care providers and health services" (Ministerial Advisory Council on Rural Health, 2002). We have previously discussed physician/population ratios and distributions in Nova Scotia. Smaller communities also experience gaps in nursing and paraprofessional services (Pitblado, 2012; Canadian Institute for Health Information, 2012; Ministerial Advisory Council on Rural Health, 2002). Despite encouraging national figures that indicate a net gain of physicians and some other health practitioner fields in Canadian rural communities, these regions continue to struggle to attract and retain a sustainable clinical workforce (Canadian Institute for Health Information, 2012, Romanow, 2002; Standing Council on Health, 2012).

Several issues contribute to health human resource (HHR) deficits in rural regions. Firstly, rural communities are aging and so are their workforces (Martin-Misener, Reilly, Robinson Vollman, 2010; Williams and Kulig, 2012; Pitblado, 2012). Rural to urban migration patterns further negatively affect the distribution of health workers. Rural communities can also be at a disadvantage due to traditional funding mechanisms and education systems that favour urban practice, a higher likelihood of professional isolation for practitioners, demanding workloads,

and fewer work and social opportunities for spouses and families (Habjan, Kortes-Miller, Kelley, Sillivan, and Pisco, 2012; Skinner, Hanlon, Halseth, 2011; Standing Council on Health, 2012; Martel, 1998, Goodman, 2012, Pitblado, 2012; Standing Council on Health, 2012). All of these factors perpetuate the challenge of recruiting and retaining health professionals.

Transportation Barriers

Nova Scotia is, geographically speaking, a small province, which makes spread and isolation less of a challenge than that which is experienced in larger provinces like Ontario or the prairies. Depending on the area of the province, however, geography and location remains a barrier to accessible health care.

> *"…being poor in rural Canada means more than just not having enough. It also means having to travel long distances to get enough"*
>
> *– Standing Senate Committee on Agriculture and Forestry, 2006*

Many of Nova Scotia's health services are centralized in Halifax or an urban centre of the district health authorities. Some rural communities have reliable public transportation that helps their residents access health services, whether those services be near or far. Other communities' populations are completely reliant on self-transport, informal caregivers, or volunteers for transportation.

Frequent travel for health care can extract heavy mental, emotional, and financial tolls (Pong et. al., 2012). The possibility of poor weather or road conditions can make treatment even more difficult (Standing Council on Health, 2012). Perhaps most important to note, however, is the fact that if an individual is extremely sick, immobile, or socially isolated, it does not make a difference if a service, pharmacy, or grocery store is ten, or one hundred, kilometers away. The feasibility of getting from Point A to Point B can be virtually non-existent.

Principal Issue 3: How Decisions are Made

"Health", as we described at the outset of this document, is not something that can be managed or enhanced through the medical system alone. The most successful health-related programs engage community partners of all varieties – municipal governments, members of the legislature, health professionals, churches, schools, family resource centres, local businesses, and the like. The siloed nature of our system, though, can make effective and participative decision-making and planning difficult.

System planning is typically done broadly and may not reflect the diversity of seemingly similar regions. Programs and policies are usually developed in, and for, urban environments, then passed on to smaller communities where differing workforces, cultures, and resources can lead to their failure. A top-down approach to planning and decision-making fosters feelings of distrust, frustration, vulnerability, and of being misunderstood. A one-size-fits-all approach to health service planning may not be appropriate or effective. Rural stakeholders want genuine participation and ownership of their health system, and health system planning should reflect this.

Recommendations

Based on our findings through our consultations and the literature, we propose the following recommendations.

Recommendation 1:
That a vision for rural Nova Scotia be created, communicated, and adopted.

The province's vision for rural communities is relatively unclear. Of course, it is likely that any government would indicate that it wishes for rural communities to flourish. The current government does, in fact, have a department partially dedicated to rural development (the Department of Economic and Rural Development and Tourism), and it speaks of "vital rural communities built on plentiful natural resources and well-managed ecosystems" in its jobsHere economic growth plan (Province of Nova Scotia, 2010). Through the Department and the jobsHere plan, a variety of initiatives are in place supporting small community development, including a focus on innovation and high-value jobs, the Nova Scotia Jobs Fund (assisting communities in transition), and Regional Enterprise Networks (providing economic leadership in regions and support for small businesses). Unfortunately, due to the economic climate, the deep roots of traditionally based economies, and a sometimes tenacious rural culture, significant change remains challenging to implement. Related to health and public services in these areas, centralized models continue to be favored, which further contributes to the loss of jobs and amenities (Chirilos and Nostel, 1985; Lyne, 1988; Scott, Smith and Rungeling, 1997). As a result of these factors, small communities increasingly struggle to "sell" their region to potential newcomers. Ultimately, the province must fundamentally question whether it is content to keep on with the trend towards urbanization (Province of Nova Scotia, 2006), or if it truly wishes to see rural communities thrive. Once a vision for rural communities is crystallized, the appropriate programs and decisions to see this realized can follow.

Recommendation 2:
That an all-of-government approach to reducing poverty in Nova Scotia become a top priority of government. Such an approach should take into account diversified and future-focused rural economies and a living wage.

Poverty, as we have discussed, is a foundational determinant of health, and was identified as the most pressing and chronic issue affecting health in rural communities. The province released a poverty reduction plan in 2009, which focused on employment training, disincentivizing unemployment, the income assistance program, and other financial supports for low income families. Poverty has increasingly become a notable focus of the current government, which has facilitated small changes to help those in need, such as making modifications to the personal income tax and income assistance programs, instating a poverty reduction tax credit, and raising minimum wage to just over ten dollars an hour. Unfortunately, while notable, such solutions usually generate relatively insignificant outcomes. Both in this province and elsewhere, poverty continues to be addressed through band-aid approaches, such as minor program adjustments and charitable aids (e.g., food banks). Pervasive policy action is required for significant improvement, and a deeper-seeded approach is needed to truly help people and families climb out of poverty.

The obvious key to avoiding poverty is adequate employment, which was touched on briefly under recommendation one (Province of Nova Scotia, 2009). While this paper is not meant to serve as a roadmap for specific economic change, a few suggestions for consideration can be made. Firstly, as we noted previously, labour in a rural community is often reliant on a single employer or market and is thus very vulnerable to economic downturns (Ostrt, 2012; Canadian Institute for Health Information, 2006). Building diversified local economies that mix traditional and emerging markets would help protect communities during times of

economic turmoil, and would help make them more sustainable in the future. The province should also consider implementing a living wage. A living wage is one that provides adequate income for a satisfactory standard of living, and minimum wages rarely meet this standard (Ankar, 2011; Standing Committee on Foreign Affairs and International Development, 2012). A living wage would help eliminate poverty, reduce the number of working poor, and would make vital elements of a healthy lifestyle, like adequate housing and healthy food, more finically accessible.

IN FOCUS: ***Annapolis Valley Health's Population Health / Healthy Communities Advocacy Framework***

At Annapolis Valley Health (AVH), health promotion is not just about education. The Health Authority sees itself as a participant and leader in building healthy communities.

As part of that philosophy, the District developed a Population Health / Healthy Communities Advocacy Framework. The framework was developed following the belief that the most effective way to influence health behaviours is by changing the environments in which decisions are made. This requires public policy development and strong advocacy skills. The framework outlines guiding values, including collaboration, continuous improvement, inclusion, challenging disparities, and a strengths-based planning approach. It also identifies roles and responsibilities for the AVH board, executive team, staff and management, physicians, community health boards, key volunteers, and other potential partners in developing healthy public policy. To date, the framework has been used to tackle issues such as tobacco consumption, food insecurity, and safe housing.

Recommendation 3:

That the government adopt a population health approach to all its decision-making.

Traditional approaches to health focus on the individual rather than the population, and service utilization as opposed to outcomes, which has rendered many health-related interventions unsuccessful in terms of a significant population-level impact (Hartley, 2004).

The population health approach is one that "aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health" (Public Health Agency of Canada, 2012). We have already discussed the importance of the social determinants of health in influencing wellness and quality of life. The population health approach hones in on these social determinants and emphasizes community, upstream investments, multi-pronged strategies, collaborative efforts, and public engagement (Public Health Branch Strategic Policy Directorate, 2001).

> *"Successful rural and remote service delivery models are based on the following assumptions…they are grounded in a "health" rather than a "medical" model, they are rooted in principles of social justice, and they are based on the needs of the community and its residents"*
>
> *– Jensen and Royeen, 2002*

Health is consistently the main priority of Nova Scotians and Canadians. This recommendation is based on the assertion that "health" is everyone's responsibility, and that it is the result of a myriad of contextual factors. The adoption of a population health lens by the government would see all provincial departments, including those related to health and wellness, community service, justice, education, economic development, the environment, labour, and transportation, acknowledging their role in the maintenance and enhancement of population health, broadly defined. It would see these jurisdictions working together, rather than in silos, to address complicated issues like poverty, and engaging a wide variety of stakeholders as full partners in decision-making and planning, including district health authorities, community health boards, regional development authorities, schools, churches, politicians, municipal governments, the volunteer sector, community development organizations,

recreation facilities, community groups, businesses, and of course, community members. A population health approach would enable the government to address the root causes of illness at a broad level, which will inevitably advance wellness.

Recommendation 4:

That a framework for service-level decision making, emphasizing local solutions to local problems, be developed and implemented.

Some of the more general rural service gaps were identified at the outset of this document. However, as we have tried to emphasize throughout this paper, every community can differ in terms of their most prominent issues, and the resources at their disposal to address them.

Health care "must be adapted to meet the widely differing health needs of rural communities" (Standing Council on Health, 2012). Whereas leadership and policy development should be the role of government, health service planning and delivery should be empowered to local jurisdictions, more knowledgeable in their own needs and circumstances (Standing Senate Committee on Agriculture and Forestry, 2006; Jensen and Royseen, 2002).

> *"We're tired of hearing 'you do great work but we have no money for you'."*
>
> *– Consultant participant*

A framework supporting local solutions to local problems would provide guidance for the genuine involvement of, not just consultation with, community members and partners. It would combine both qualitative feedback and quantitative evidence to determine prominent concerns. It would support flexibility in terms of the delivery of services and the ability to tailor programs to the needs of the local population. It would be supportive of grassroots problem solvers, like family resource and youth centres. It would also provide sustainable, as opposed to pilot or grant, funding for innovative initiatives, and would foster creative programming. A framework may also re-consider decision-making input from various authorities, for instance, though a more formalized and authoritative role for local bodies like Community Health Boards. Such a framework would be pivotal in capturing the different demographics, culture, geographies and resources in various communities, and would be the vehicle to developing relevant service strategies regardless of place.

> *"Cookie cutter health rarely works."*
>
> *– Government of Nova Scotia's Better Care Sooner Plan*

IN FOCUS: *Cumberland Health Authority's "Just Ask" Program – a local solution to a local problem*

After seeing extreme oral health cases in teens without dental coverage, the Public Health team of the Cumberland Health Authority decided to take action. Dental offices in the region were asked to record specific data over a period of weeks to identify gaps in service provision for children and youth. An analysis of the data revealed that many children aged 10 and under were not utilizing services accessible under Medical Services Insurance (MSI) coverage. Through an Oral Health Knowledge Exchange forum, it was further identified that the reasons for the underutilization included fear of asking about MSI coverage and a subsequent lack of awareness as to what final dental bills would cost.

Following these discoveries, three Community Health Boards in the area partnered with the Public Health team to produce awareness posters. These posters were placed in every dental office, school, and family resource centre in Cumberland County. "Just Ask" information cards were also sent home from school with every child up to age 10.

Since the start of the campaign, there has been an increase in oral health staff's awareness of, and sensitivity to, this issue, as well as an increase in the number of people asking about MSI dental coverage. The Cumberland Public Health team credits effective community collaboration, passionate stakeholders, and partnerships between Public Health and the Community Health Boards for this local solution to a local problem.

Recommendation 5:

That equity become a prominent guiding principle of health system decision-making.

> *"To have access close to home, you sometimes have to sacrifice efficiency"*
>
> *-Consultation Participant*

Particularly in times of economic uncertainty, decisions are made in the name of efficiency and cost savings. Certainly, the health care system should be as efficient as possible; however efficiency should not be valued over equitable access to quality services.

The centralization of services could be considered a prime example of valuing efficiency over equity. Notably, the government and district health authorities are taking initiative in providing care closer to home in certain areas, particularly through the expanded use of home care options for seniors. Beyond that, however, our consultations indicated that centralization is occurring in other service areas, which can be distressing in small communities, particularly where transportation options are lacking. More equitable approaches to service provision may include further enhanced home care for the non-senior population, an increased use of mobile clinics, and/or a further expanded role for Emergency Health Services paramedics in the community.

Current funding models could also be viewed as inequitable. While per capita based funding is *equal*, it may not *equitable* in that it may not account for expensive characteristics in certain jurisdictions, like a higher proportion of seniors, a greater prevalence of chronic disease, and geographical spread (Minore, Hill, Pugliese, & Gauld, 2008; Standing Council on Health, 2012). Generally, while efficiencies can certainly be made in the health system, pertaining service delivery and location decisions, equity must be valued over money.

Recommendation 6:

That supports be in place to allow for the best use of current or more easily obtainable health human resources.

> *"Rather than care be based on what skills I have as a health care provider, it should be what do you (the patient) need. This is challenging the status quo."*
>
> *– Consultation participant*

If we continue to use today's conventional service delivery models, there may never be a sufficient number of health practitioners to address every health need in every corner of the province. Traditional primary and chronic care models are physician-focused and, particularly in small communities, doctors are expected to be all things to all people. While it is understood that physicians are a critical aspect of health care, we know that their recruitment and retention in smaller regions can be challenging. These issues are being addressed through a provincial physician resource plan that was released in 2012 (Province of Nova Scotia, 2012). In addition to doctor recruitment, though, new ways of thinking about how health human resources are used could supplement a more sustainable HHR strategy for the province (Williams and Kulig, 2012).

Non-physician practitioners are an excellent and increasingly popular solution to primary care gaps. It is becoming progressively acceptable to use more easily obtainable and completely qualified health human resources to fit community needs through locally based models. For example, in some communities, nurse practitioners are being used in primary and continuing care environments, pharmacists are assessing and prescribing for minor ailments, and paramedics are providing chronic disease management services (Martin-Misener, Reilly, Robinson Vollman, 2010; Pharmacy Association of Nova Scotia, 2013). A more detailed description of an innovative use of HHR based on local needs and resources can be found in the *In Focus: Long and Brier Islands Community Para-medicine* text box below.

A few factors must be in place in order to successfully adopt new planning and service models. Legislation and regulations must be supportive of allowing health professionals to practise to their full scope regardless of setting. Unions, professional bodies, and the public must be informed of how new models would better serve communities, and they should be in support of these concepts so that implementation is met without resistance. Evaluation data could be used to defend new models and prove their success. In essence, innovative service and planning models would require outside of the box thinking and a willingness to try new things. With supportive policies and partnerships in place, health human resources could be used in the most efficient and effective fashion.

IN FOCUS: ***Long and Brier Islands Community Para-medicine***

Long and Brier Islands are small islands located off the western-most coast of Nova Scotia. They measure approximately 15 x 5 and 8 x 3 km respectively and are home to a combined 1200 people.

In 2001, after facing several years without a physician, a new model of primary care was developed for the area. Paramedics, having been severely under-utilized in the area in the past, increased their skills and were taught to administer common injections, perform home assessments, and address ailments like minor wounds. Still seeing a need for further primary care provision, a nurse practitioner was added to the mix. The professionals all worked in collaboration with an off-site physician.

An evaluation of the model three years after induction indicated that health care costs had decreased, smoking levels had gone down, fitness levels had gone up, and access had indeed increased for the treatment for common illness, injuries, and chronic disease. In addition, there were high levels of satisfaction for both those served and the professionals involved. The model was highlighted as an innovative practise by the Council of the Federation.

(Martin-Misener, Downe-Wamboldt, and Girouard, 2009; Council of the Federation, 2012)

Recommendation 7:

That every municipality has a transportation or travel strategy suited to their needs.

The need for reliable transportation in rural communities cannot be understated. There are excellent examples of needs-based public transport systems that could serve as models elsewhere in the province (see *In Focus: Straight Area Transit* for an example). Where feasible, municipalities, businesses, service providers, and other stakeholders should partner together to develop a flexible, reasonably priced system for its residents. Depending on needs and resources, such a system could range from a comprehensive bus service to a van system. Any strategy should be developed in partnership with local health and social services so that appointments, programs, and routes are scheduled at appropriate, convenient times.

It is recognized that a comprehensive formal transportation system may simply be impractical in some regions. Where this is the case, other supports could be available like a travel assistance program or enhanced home and community services to reduce travel (Standing Council on Health, 2012; Pong et. al., 2012). Access is extremely affected by one's ability to access transportation, and all municipalities and health organizations must be prepared to address this necessity.

IN FOCUS: ***Strait Area Transit***

The Strait Area Transit system (SAT) is non-profit, charitable, "unique, community-driven transportation model" with a goal of providing "inclusive, accessible and affordable means of transportation to all residents of the Straight Area". SAT was developed following extensive consultation with the community that clearly identified its transportation needs. It is a member-driven cooperative that has been serving the Strait area since 2008 and includes dial-a-ride, courier, and charter services. SAT has been recognized and lauded for its responsiveness to its community, affordability to the client, and adaptability to identified needs. It has been acknowledged as a model for possible recommendation elsewhere in the province.

(Strait-Highlands Regional Development Agency)

Recommendation 8:

That where direct care is inaccessible, supports are in place to use technology to increase access.

Telemedicine, the use of information technology as a substitute for patient-provider contact, provides a key opportunity to balance resource availabilities between rural and urban environments (Bashshur, Reardon, and Shannon, 2000; Ricketts, 2000). Telemedicine can offer benefits to both patients and providers by reducing travel and providing professional support to practitioners who would otherwise operate in isolation (Laurent, 2002; Barranco-Mendoza and Persaud, 2012). Telemedicine has had successful results in several service areas including mental health, specialized medicine, and occupational therapy, and there is opportunity for it to expand in specialty care and chronic care monitoring (Bushy, 2002; Standing Senate Committee on Agriculture and Forestry, 2002; Canadian Association of Occupational Therapists, 2002**;** Jensen and Royseen, 2002; McGrath, 2011; Ricketts, 2000; Radford, Lampman, Richardson, & Rutledge, 2009). As comfort levels rise and newer, affordable, consumer-friendly mobile technologies become the norm, telemedicine may eventually virtually eliminate geographical barriers to service (Bashshur, Reardon, and Shannon, 2000).

There are several elements needed for the successful adoption of telemedicine. Foremost is reliable infrastructure. The province does not have consistent broadband and cellphone coverage province-wide, and the necessary capital IT investments for telemedical systems can be prohibitive (Ashish, 2010; Canadian Broadcasting Corporation, 2012). The workforce must have the appropriate knowledge for these systems' use and administration (Swanson, 1999; Ashish, 2010). Supportive policy and legislation must also be in place, particularly related to compensation, privacy, security, intellectual property, care responsibility and product liability (Jennett, Scott, Affleck Hall, Hailey, Ohinmaa, Anderson, Thomas, Young, and Lorenzetti, 2004; Bashshur, Reardon, and Shannon, 2000; Barranco-Mendoza and Persaud, 2012). Finally, professionals and consumers require a certain level of "readiness", or degree to which they are prepared to participate and succeed with telemedical technologies, for their successful adoption (Jennett et. al., 2004; Ministerial Advisory Council on Rural Health, 2002; Laurent, 2002; Information Technologies Group, Center for International Development at Harvard University, 2005). With these factors in place, the province would be in a more powerful position to increase the adoption of telemedicine, and increase access in rural areas.

IN FOCUS: ***Community Use of Telemedicine at St. Anne Centre***

Arichat, a town on the southern-most point of Cape Breton Island, is home to the St. Anne Community and Nursing Care Centre. While the Centre's telehealth technology is primarily used for staff educational purposes, it has been extended beyond the centre and into the community. The capabilities have been used by the IWK Children's Hospital for genetic counselling with families in the region, for mental health consumers who need to speak to a psychiatrist, for dermatology appointments, and for patients preparing for upcoming surgeries in other parts of the province. Through the use of St. Anne's telemedical technology, time, travel, and cost to patients and families has been saved.

Recommendation 9:

That government and service providers partner with local research institutions to address the most pertinent health system issues from an applied, evidence-based perspective. Consider implementing a model similar to the University of Manitoba Centre for Health Policy.

Most health research is done in urban settings and its findings are assumed to be applicable to rural areas (Manson and Thornton, 2000; Pong, Atkinson, Irvine, MacLeod, Minore, Pegorano, Pitblado, Stones, Tesson, 1999). To increase relevance to rural regions, research and evaluation efforts should be based on trans-disciplinary, participative, and utilization-focused approaches (Canadian Institutes for Health Research and Social Sciences and Humanities Research Council, 2005; Israel, Eng, Schulz, & Parker, 2005; Bower and Martens, 2006).

To ensure that the province's most relevant health system questions are being answered, the government and service providers could formalize partnerships with local universities, perhaps by following a model similar to the Manitoba Centre for Health Policy (MCHP). The MCHP is a research unit of the University of Manitoba's Faculty of Medicine, contracted by the province's government to take on six health-related projects each year. The Centre involves policy makers, planners and clinicians in all of the research steps and generates knowledge fully applicable to the system (Manitoba Centre for Health Policy, 2013). The Centre's Need to Know program in particular collaborates with rural regional health authorities to develop research projects and advance statistical and research capacity in these areas (Bower and Martens, 2006).

Although there are instances where partnerships between provincial health and academic institutions have been developed in Nova Scotia, this work is mostly done on a project by project basis. With perhaps the exception of Emergency Health Services, no consistent formalized research structure has been developed between the province, providers, and universities from a policy and programming perspective. A unit like the MCHP could be of great benefit to Nova Scotia in order to advance, on a consistent basis, relevant and applicable health knowledge in this province.

Recommendation 10:

That a more applicable strategy for collecting health and service related data, particularly related to primary and chronic care, be developed. This strategy should support evidence-based decision-making from the perspective of health outcomes as opposed to service volumes.

Data collection, while abundant in the acute care system, is lacking in the primary and community care sectors. A patient's experience along the continuum cannot be tracked due to incompatible, disjointed databases. In any sector, the information that is collected typically relates to service volumes as opposed to health outcomes. More plainly, the focus is on how *much* health care is provided, not how *effective* care is. The exception to this rule is the measurement of more "crude" and "sharp" indicators like readmission and mortality rates (Lewis, 2013). A province-wide, consistent method of collecting and analysing health-related outcomes, such as Patient Related Outcome Measures (PROMs), would be useful for regions and the province as a whole. PROMs are validated measures of health and well-being based on an individual's own judgement of their health status and the success of an intervention. PROMs would be especially useful for tracking chronic care interventions, since they are aimed at condition management and improving quality of life over a longer period of time (University of Oxford, 2010; McGrail, Bryan and Davis, 2012). The measurement of PROMs could be the basis of future quality frameworks, indicator collection, and research in the province's health sectors.

> *"Data won't move the ship, but it gives you the tools to"*
>
> *– Consultation Participant*

> *"Our current focus on the relationship of inputs and outputs defines productivity in terms of volume and activity as opposed to impact"*
>
> *– Lewis, 2013*

Conclusion

It is hoped that this paper indicates the clear relationship between place and health, and that it is a catalyst for discussion and action between all relevant stakeholders. Poverty, a key social determinant of health, is prominent in rural regions. Access to services can be lacking in smaller communities. Top-down decision-making models are not always reflective of the needs, wants, values, and resources of the province's more remote areas. While the recommendations in this paper represent ambitious goals, a strong focus on addressing the root causes of illness through broad-based policy, support for communities' own strengths and resources, and an emphasis on evidence-based and outcomes-focused decision-making would help make Nova Scotia's rural communities not just enjoyable places to exist, but to places to truly thrive.

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Appendix A: List of Consultation Participants

Annapolis Valley Health Executive Team

Annapolis Valley Health Organizational Performance Department Annapolis Valley Health

Associate Dean, Regional and Rural Medical Education, Dalhousie University

Associate Deputy Minister of Economic and Rural Development and Tourism

Atlantic Health Promotion Research Centre – focus group with Dalhousie University Administration, researchers and community leaders

Cape Breton District Health Authority Director of Rural Health

Central and East Pictou Community Health Board

Community Health Board Coordinator Colchester East Hants Health Authority

Community Health Board Coordinator Cumberland Health Authority

Community Health Board Coordinator Pictou County Health Authority

Community Health Board Coordinator Western Kings Community Health Board

Community Health Coordinator Cape Breton District Health Authority

Coordinator Lunenburg County Community Health Board

Director, Center of Rural Health, University of Arizona

Director, Environmental Health, Department of Health and Wellness

Emergency Health Services

Former Director, Neural Transportation Laboratory and Chairman, Brain Repair Centre, Dalhousie University and Capital Health

Former Minister of Health and current Professor of Emergency Medicine and Anesthesia, Dalhousie University

Guysborough Community Health Board

Health administration from the Hants area

Health professionals and administration from South West Health

Health Canada – Atlantic Region

Health professionals and administration from the Musquodoboit Harbour area

Health professionals and administration from the Musquodoboit Valley area

Health Professionals from the Cumberland Health Authority

Lunenburg County Community Health Board

Manager of Community Health and Planning, Colchester East Hants Health Authority

Our Health Centre, Chester

Public Health Agency – Atlantic Region

Principal Investigator, Atlantic RURAL Centre

Professor, Nursing, Dalhousie University

Provincial Advisor on Emergency Care

Representative of the Continuing Care Council

The Provincial Medical Directors of Continuing Care

Vice-President of Community Health, Guysborough Antigonish Strait Health Authority

Vice-President Health Services, South Shore Health

West Pictou Community Health Board