Nursing Potential

Optimizing Nursing and Primary Healthcare in Nova Scotia

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Message from the President of the Nova Scotia Nurses' Union

Janet Hazelton, BScN, RN, MPA

Since the Romanow Report (2002) and long before, experts and policymakers have told us that the future of healthcare depends upon building a robust primary healthcare system. Nurses on the front lines of care have said the same thing – patients need a system that addresses the social determinants of health while providing preventative care, chronic disease management, and health education, reducing the need for emergency and hospital care. Unfortunately, primary healthcare reform has been stubbornly elusive.

'Nurses Know' reads a tagline from our sister union in Ontario. I would go so far as to say that nurses' collective wisdom has no parallel in healthcare. We possess a tremendous wealth of knowledge about how our health system works, and we have plenty of ideas about how it could work better. Our expertise lies in our experience. We are with patients as they overcome insurmountable odds, and as they deal with the terrible tragedies of life; as they welcome new life, and as they leave this life behind. This book is a tribute to nurses' knowledge, and an opportunity to share it with the broader public.

Nova Scotia, like the rest of Canada and the world, has its challenges. Many of us lack primary healthcare providers, with some communities much worse off than others; we struggle to access care outside of regular hours; we rely heavily on our emergency care system; we struggle with integration between our health sectors (hospital care, homecare, long-term care, primary healthcare, mental health); we have an ageing population with the highest rates of chronic disease in the country; and we do not make optimal use of all health professionals. Nurses are well-positioned to address these challenges.

This book is not about taking work from doctors, and nothing we say here detracts from the need to recruit and retain doctors in our province, a goal we whole-heartedly endorse. What we are saying is that this must be done in concert with registered nurses, licensed practical nurses and nurse practitioners practicing to their full potential, allowing Nova Scotians to benefit more from nurses' expertise and care.

I would like to thank the many people who contributed time, ideas and expertise to this report. We are very proud of the work of our staff at the Nurses' Union. Key informants from the Nova Scotia Health Authority, the Department of Health and Wellness, the Colleges of Nurses, Doctors Nova Scotia, academics and representatives from other nursing organizations were generous with their expertise and advice. Several directors from the

Health Authority and government helped ensure the accuracy of the information presented here, and we are very grateful for this.

Most of all, I would like to thank the many nurse members of the Nova Scotia Nurses' Union who contributed via surveys, focus groups, and ongoing feedback, and who believed in the power of our collective voice and our ability to drive reform in this province. Without you, none of this would be possible. This work is part testament to your contribution to the health and well-being of Nova Scotians, and part wake-up call to the unrealized potential you offer the future of our health system.

The Nurses' Union is ready to work with all partners to improve healthcare on the foundations of a stronger primary healthcare system. We are proud to advocate for nurses and the public. When we recognize nursing potential, we build better access to care.

I. Introduction

There is almost universal agreement that primary health care offers tremendous potential benefits to Canadians and to the health care system ... no other initiative holds as much potential for improving health and sustaining our health care system (Hon. Roy Romanow, 2002).

It doesn't make sense to invest in creating these highly-skilled professionals [nurses] without creating the opportunities for them to use that knowledge in the transformation agenda to generate better health, better care and better value (Michael Villeneuve, 2013).

Primary healthcare clinicians like family doctors and nurses are often an individual's initial point of contact with the healthcare system. Typically operating out of primary healthcare clinics and collaborative family practices, clinicians in primary healthcare provide on-going care and coordinate prescriptions, diagnostic tests, and appointments with specialists. They may also coordinate other supports for individuals and families, such as help with housing or access to social supports. Common primary care concerns include chronic disease management, high blood pressure, back pain, rashes, allergies, asthma, urinary tract infections and depression.

Access to quality primary healthcare is associated with a better overall healthcare system as well as lower overall system costs (CIHI, 2012). A high-functioning primary healthcare system contributes to the quadruple aim of health reform – better health, improved patient experience, more affordable costs, and improved work experience for care providers (Bodenheimer and Sinsky, 2014). When a primary healthcare system is functioning well, patients receive education and preventative care, and they receive timely primary care from the most appropriate provider in the most appropriate setting. Nova Scotia, like other jurisdictions across Canada, has seen an increased investment in primary healthcare over the past twenty years, as well as an increase in primary healthcare initiatives aimed at improving quality of care, access, and wait times. In Nova Scotia, this increased investment has been most marked over the past two to three years.

> When a primary healthcare system is functioning well, patients receive education and preventative care, and they receive timely primary care from the most appropriate provider in the most appropriate setting.

Researchers and practitioners in this field typically distinguish primary care from primary healthcare. The former refers to care needs in a particular instance, say the diagnosis and treatment of strep throat. The latter is holistic, with an eye to treating the whole, socially situated person, bearing in mind health history and the broader social determinants of health. It also includes disease prevention and health promotion (Muldoon, Hogg, & Levitt, 2006). Ideally, primary care is provided by one's primary healthcare professional or team, although this is not always possible. The Nova Scotia Health Authority describes primary healthcare as "an approach to health that acknowledges the determinants of health and the importance of healthy individuals and communities. It focuses on factors such as where people live, the state of the environment, education and income levels, genetics, and relationships with friends and family" (Nova Scotia Health Authority [NSHA], 2017a). In this

document, we will generally refer to the 'primary healthcare' system and will reserve the term 'primary care' when referring to discrete instances of treatment.

In Nova Scotia, nursing care provided in long-term care facilities and nursing care provided by homecare providers like the Victorian Order of Nurses (VON) are administered and funded by the Continuing Care sector rather than the primary healthcare sector. However, care provided in these settings typically fits within the definition of primary healthcare, particularly the emphasis on health promotion, prevention, chronic disease management and health maintenance (NSHA, 2017a). Similarly, while primary healthcare is distinguished from emergency care and care provided to admitted hospital patients, patients sometimes seek primary care in emergency departments, including Collaborative Emergency Centres[1]. Primary healthcare also encompasses chronic disease management, and indeed, effective access to primary healthcare is known to reduce the need for hospitalization for patients with chronic conditions like diabetes and hypertension (CIHI, 2016a).

Access to primary healthcare has been a leading concern in Nova Scotia over the past several years. Politicians of all stripes have promised to fix the family doctor shortage and improve primary care access, but the problem has proven intractable. Every week there are news stories concerning the loss of physicians, the difficulty recruiting to rural areas and the growth in the waitlist for a primary healthcare provider (see for example Fraser, 2018; Ritchie, 2018; Schneidereit, 2018). Although there have been investments in family practice nurses and nurse practitioners, the bulk of public discussion has centred on the role of physicians, with limited discussion of the role nurses play. This is broadly applicable outside of Nova Scotia as well (Ammi, Ambrose, Hogg, & Wong, 2017).

Recognizing this, the Nova Scotia Nurses' Union decided to investigate the role of nurses in our current primary healthcare system and consider future developments that could help maximize their potential. To this end, the NSNU research team undertook an environmental scan of primary healthcare and the role of nursing in it, both from the perspective of academic and grey literature. We also conducted 14 key informant interviews with stakeholders in the province, including senior executive health care employers, government department officials, academics, regulators, and union members.

[1] *Collaborative emergency centres operate as urgent care centres and also provide same-day and next-day appointments. For more information, see https://novascotia.ca/dhw/primaryhealthcare/CEC.asp.*

After the interviews, we hosted focus groups and conducted surveys (N=586) with four sets of nurses, each representing an important touch point between nurses and the primary healthcare system. The first group, nurses working in primary healthcare, were identified early on as an important group on the front lines of primary healthcare in the province. The second group, nurse practitioners, was chosen because their advanced practice and education allows them to play a lead role in the provision of primary healthcare, and because they are recognized in the literature to be well-suited to help manage many primary healthcare concerns due to their advanced assessment abilities, and their ability to prescribe and order tests. The third group, emergency department nurses, were chosen in part because the emergency department is recognized as a bellwether for the quality of the healthcare system, and the primary healthcare system in particular, and also because there is evidence that many people seek primary care in our emergency departments. The fourth and last group, homecare nurses, were chosen because they play an integral, and at times forgotten role in our primary healthcare system, possessing first-hand experience of clients who both have and do not have access to a regular primary healthcare provider. Homecare nurses also serve as a vital communication bridge between the emergency department, hospital care, the patient's home and the primary healthcare provider.

There are many other groups of nurses that provide primary healthcare that are not included in this study. For example, we were unable to identify a sufficient number of nurses working in ambulatory clinics in the hospital sector. Long-term care nurses were not included in this study because nursing home residents present a different set of challenges with respect to access to primary healthcare. The Nurses' Union continues to advocate for an improved staffing ratio in long-term care facilities and increased use of nurse practitioners to improve care for residents (see Curry, 2015).

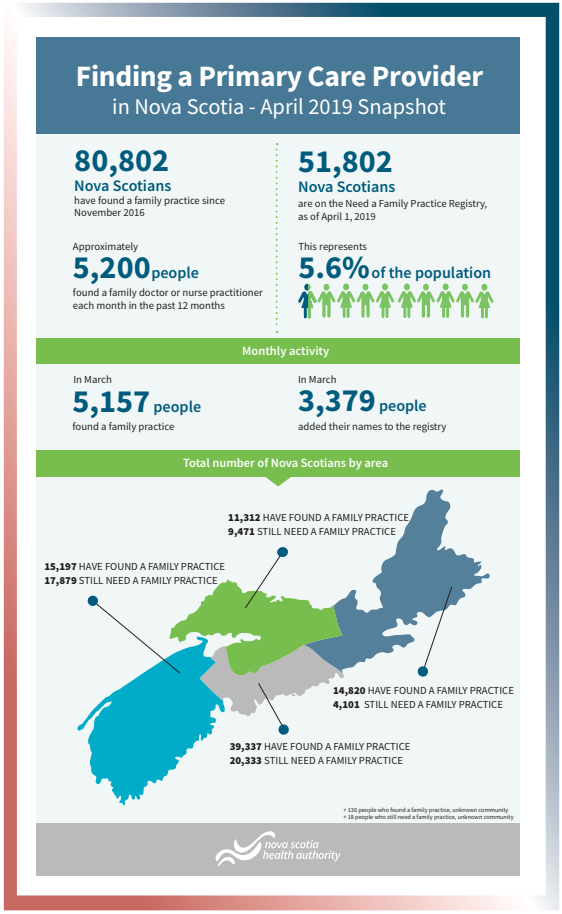
II. Primary Healthcare Situation in Nova Scotia

Primary Healthcare Providers

In Nova Scotia, primary care practices are set up according to one of three funding models (NSHA, 2019a; Callaghan et al, 2017). On the contracted services model, the Nova Scotia Health Authority contracts with a business entity (a pharmacy group, a First National Health Centre, a community group, or others) that owns or leases the space and pays other staff directly. On the co-leadership model, the Nova Scotia Health Authority provides some funding to the practice (overhead for team members) and employs some staff who work there (e.g. NPs, RNs) and supports the daily operations of the team while the business entity owns or leases the space. With the turn-key model, the Health Authority leases the space and employs all staff who work there, except for the physicians. Practices may be solo practices with family physicians only, dyad practices with a physician and a nurse or nurse practitioner practicing together, or a collaborative practice with several different health professionals such as physicians, nurse practitioners, registered nurses, licensed practical nurses, dietitians, social workers and others.

As of April 1st 2019, the Nova Scotia Health Authority reported that 51,802 Nova Scotians were waiting to be connected with a regular care provider according to the "Need a Family Practice" registry, a database for residents seeking a provider (NSHA, 2019b). According to a 2017 quarterly public opinion survey conducted by Corporate Research Associates (CRA), 87% of the population in Nova Scotia reported having a family doctor. This is similar to rates reported by the Commonwealth Fund for 2016 where 84.7% of Nova Scotians reported having access to a regular doctor (CIHI, 2016a) [2].

Figure 1. Primary care provider map

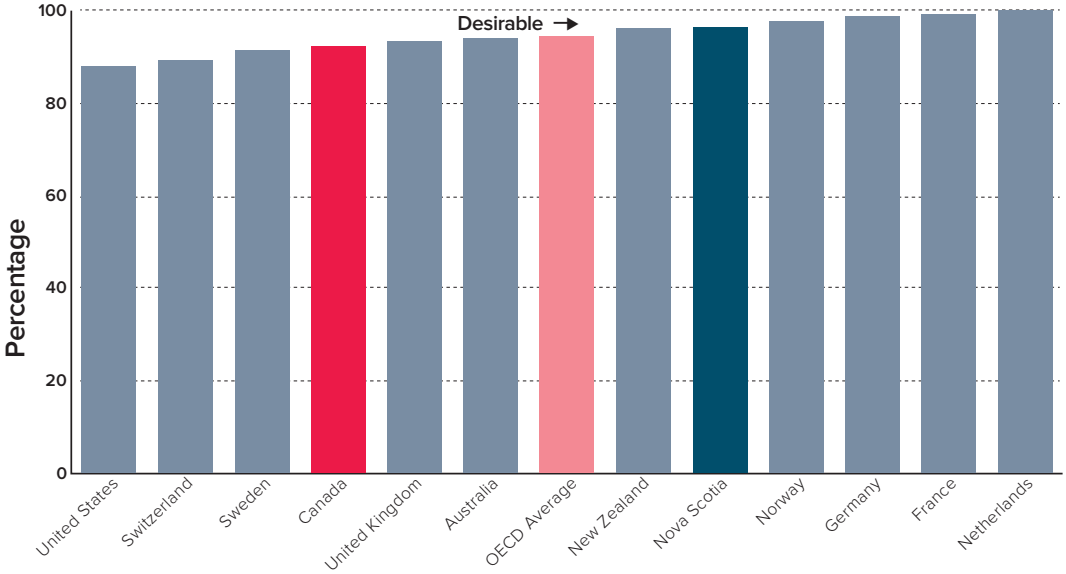


Nova Scotia Health Authority, 2019b.

[2] It is worth noting that some people that do not have a provider are also not actively looking for one, especially when they have no immediate concerns they would like to see addressed. The Commonwealth Fund is a US-based private foundation that uses research to promote high performing health systems (www.commonwealthfund.org).

Canada is not far below the Organisation for Economic Co-operation and Development (OECD) average when it comes to access to a family doctor, or regular place of care, and looking at Nova Scotia alone, we are actually above the OECD average.

Figure 2. Family doctor access: Canada compared to other OECD countries

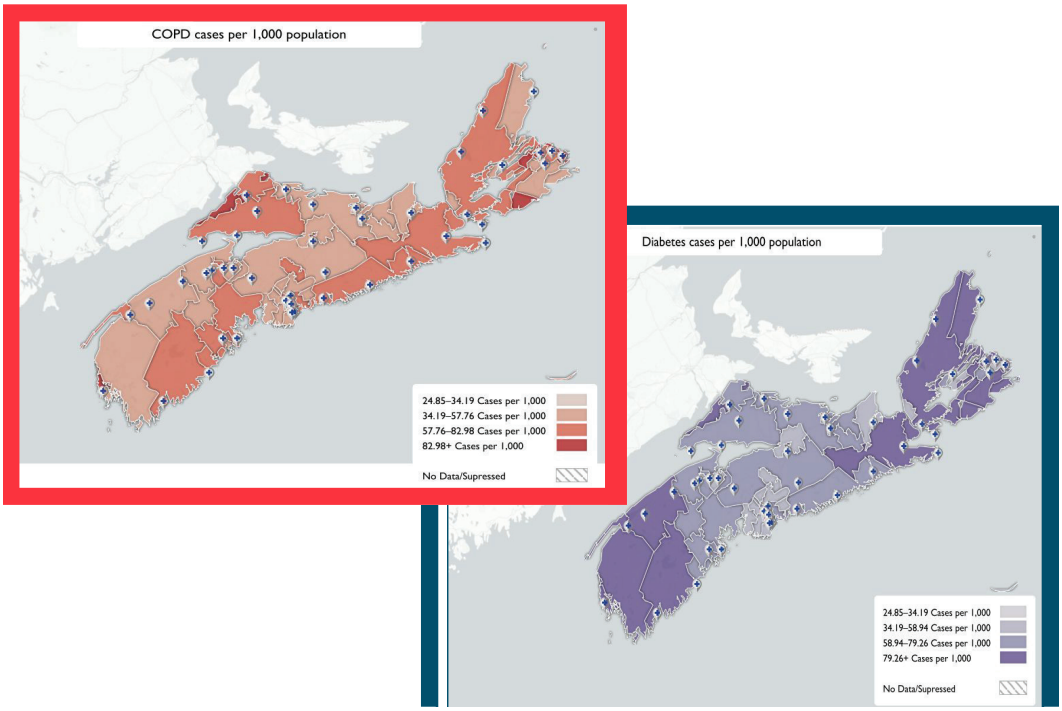


Created online using the OECD Interactive Tool available at: https://www.cihi.ca/en/oecd-interactive-tool-international-comparisons-access-to-care

It is likely, however, that these numbers mask disparities within the system. Access is uneven across the province, and the chronic disease burden is much higher in some areas compared to others. Consider, for example, the distribution of cases of Chronic Obstructive Pulmonary Disease (COPD) or diabetes across Nova Scotia (see figure 3).

> Access is uneven across the province, and the chronic disease burden is much higher in some areas compared to others.

Figure 3. Examples of chronic disease distribution



Created using the Maritime Health Atlas available at: http://healthatlas.ca/

Doctors Nova Scotia (2017, 2018), moreover, warns that the current family physician supply is likely to worsen in coming years if interventions are not made. We also must take care to not equate having a family practice with timely access to care, as the former does not tell us about a practice's panel size (i.e. the number of patients it services), or the ease of obtaining an appointment.

Apart from doctors, nurse practitioners, registered nurses and licensed practical nurses are the key providers of primary healthcare in the province. Their numbers are small but growing. As of March 2019, there were 200 nurse practitioners licensed to practice in Nova Scotia (CRNNS, 2019a), up from only two in 2002. Of the nurse practitioners, 122 report the practice category "Family/All Ages", suggesting they work in primary healthcare.

Figure 4. New hires 2017-2018 including Nurse Practitioners and Family Practice Nurses

Nova Scotia Health Authority, 2019a

Similarly, Nova Scotia has seen a growth in the number of registered nurses and licensed practical nurses working in primary healthcare, as government has invested in bringing more nurses into the sector. The Nova Scotia Registered Nurse Professional Development Centre (RNPDC) was one of the first institutions in the country to provide Family Practice Nurse education for registered nurses. The 10-month part-time distance program runs two programs per year, with roughly 20 nurses per program (RNPDC, 2016). This represents a significant increase in uptake as roughly 60-70 graduated from the program over the previous five years (RNPDC personal communication, March 4, 2019).

Access and Wait Times

Accessing timely care is one of the most pressing problems in healthcare today. Canadians have some of the longest wait times for primary healthcare services compared to other OECD countries (CIHI, 2016a). In Nova Scotia, 16.2% of adults waited longer than eight days to get an appointment with their care provider (CIHI, 2016b) and 40.5% found it very difficult

to get an appointment on weekends, evenings, or holidays according to a national survey done by the Commonwealth Fund. By contrast, 9% of people in comparator countries waited longer than eight days and 18.5% struggled to get an appointment on weekends, evenings or holidays.

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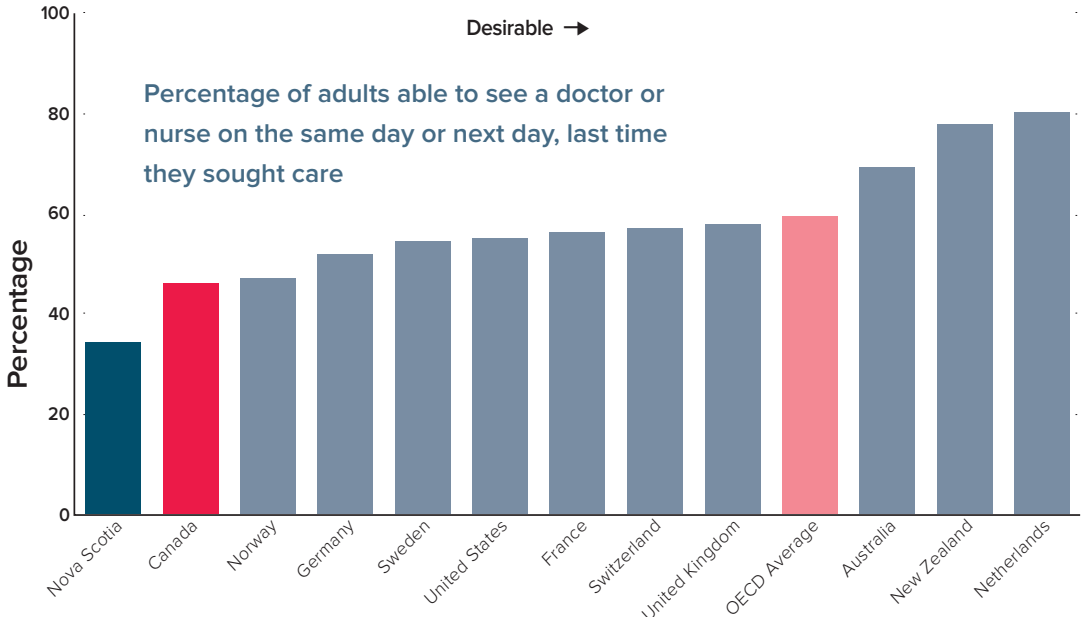
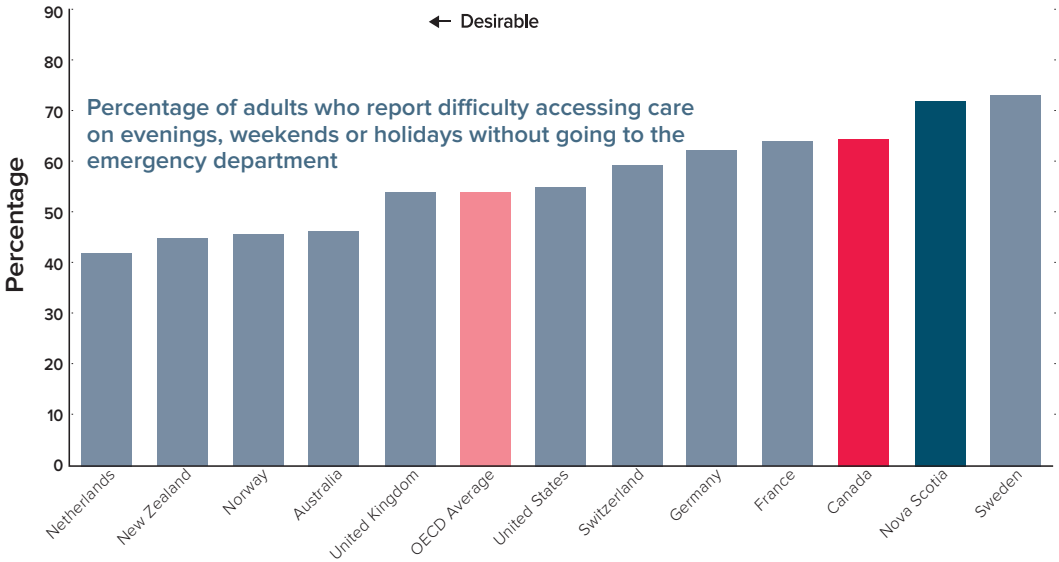
Figure 5. Waits for care: Comparing Canada to other OECD countries



Created online using the OECD Interactive Tool available at: https://www.cihi.ca/en/oecd-interactive-tool-international-comparisons-access-to-care

Figure 6. Waits for off hours care: Canada compared to other OECD countries



Created online using the OECD Interactive Tool available at: https://www.cihi.ca/en/oecd-interactive-tool-international-comparisons-access-to-care

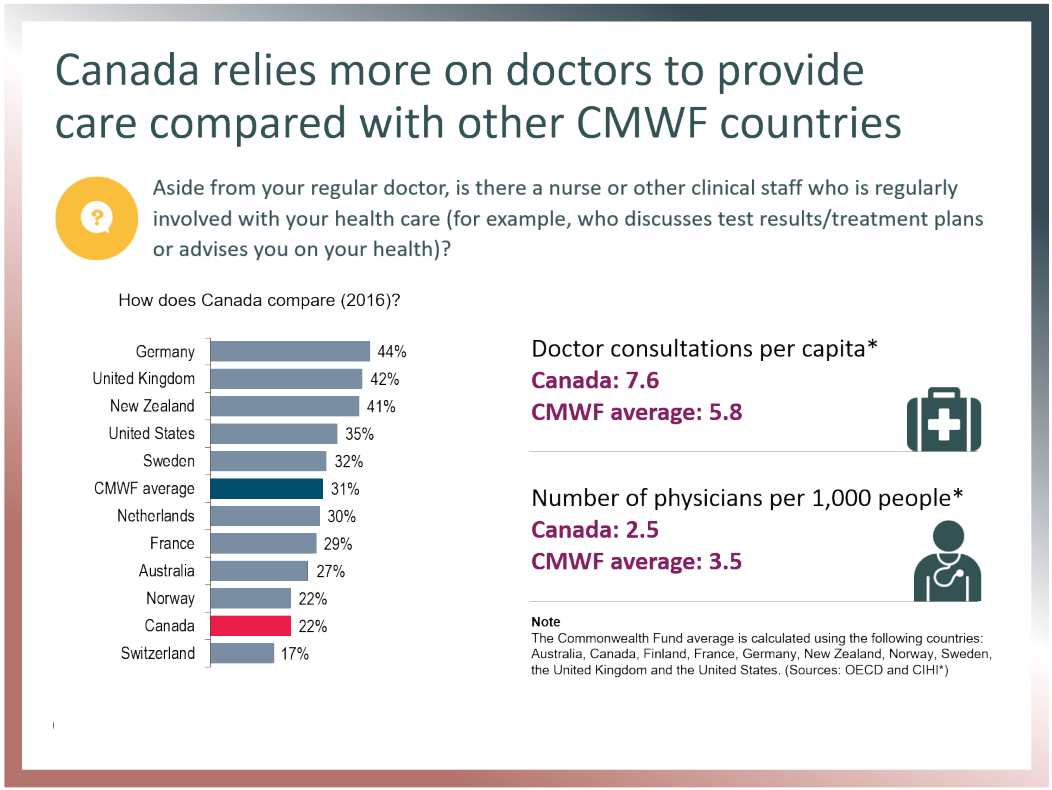
A recent national survey from McGill (2018) found that 34% of Atlantic Canadians view wait times (for all services, not only primary healthcare) as the most significant issue in healthcare. This was also the leading concern of all health providers in the survey, followed by the doctor shortage (15%) and availability/accessibility (11%). Moreover, the survey reported respondents expect access problems to worsen. Team-based care was the most strongly supported improvement for increasing access among survey respondents.

Nova Scotians' public concern around primary healthcare is partly explained by our long wait times and poor access outside of regular hours. Access issues extend beyond the primary healthcare system. Canada has some of the longest wait times to access specialists; more than half of Canadians waited longer than four weeks for an appointment, compared to less than a quarter of Swiss respondents and a third of patients across comparator nations (Vogel, 2017).

Compared with other Commonwealth Fund countries like Sweden, Australia, and France Canadians have a high rate of consultation with doctors combined with a lower than average

number of physicians by population (CIHI, 2016a). This suggests both a high level of demand on our general practitioners, and an underutilization of other primary healthcare professionals like nurse practitioners and family practice nurses. Access problems are exacerbated when we rely on one type of provider for care that can be appropriately provided by others as well. Experts suggest high-functioning health systems make optimal use of all members of the healthcare team to their full scopes of practice and work collaboratively to deliver care (Bodenheimer, Ghorob, Willard-Grace, & Grumbach, 2014; Sibbald, Clark, & Gilliland, 2018; Nelson et al., 2014 & Suter et al., 2017).

Figure 7. Reliance on physician delivered care in primary healthcare



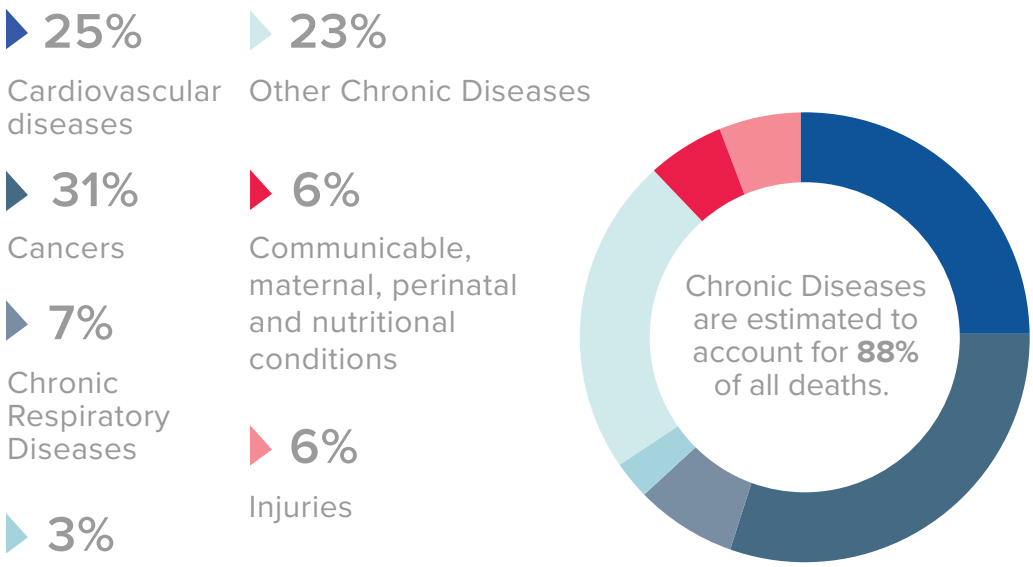
Source: Canadian Institute for Health Information, 2016b.

Chronic Disease Management

Timely access is related to another important aspect of primary healthcare, chronic disease management. The Public Health Agency of Canada defines chronic diseases as being non-communicable and persistent with a slow progression. Chronic diseases are treatable but not curable (PHAC, 2013a). Examples of chronic diseases include hypertension, diabetes, arthritis, and chronic obstructive pulmonary disease (COPD), to name a few. Many chronic diseases are highly preventable. For example, hypertension, a condition characterized by consistently high blood pressure, can often be prevented with healthy behavioural practices (WHO, 2013).

The Public Health Agency reports that 44% of Canadians have a chronic disease (PHAC, 2019b). Approximately 88% of all deaths in Canada are due to chronic diseases, including 25% due to cardiovascular diseases, 31% due to cancer, 7% due to chronic respiratory disease, and 3% due to diabetes (WHO, 2018).

Figure 8 Causes of Mortality in Canada



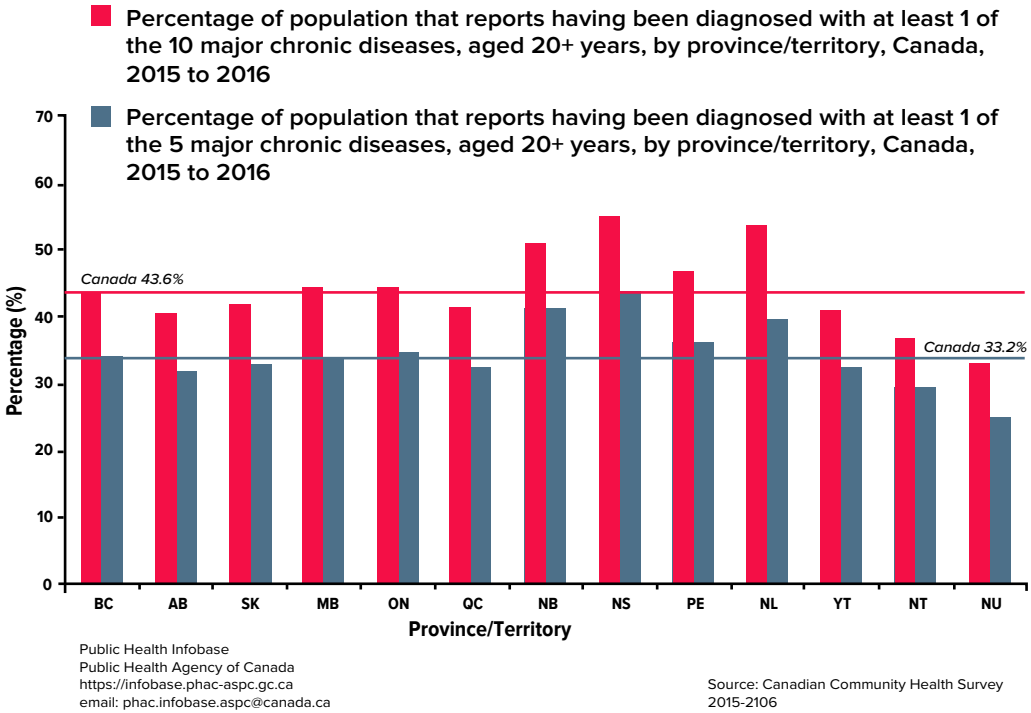
Source: World Health Organisation, 2018.

> Data from Statistics Canada used in the Nova Scotia Health Profile report shows that Nova Scotia fares poorly on many chronic disease measures, including the highest rate of diabetes, and the second highest rates of cardiovascular disease, COPD and cancer

In an ageing province like Nova Scotia, 33% of Canadian seniors have 3 or more chronic diseases, higher than all other OECD countries except the United States. Eighty-eight percent of Nova Scotian seniors surveyed as part of the Commonwealth Fund's 2017 International Health Policy Survey of Seniors had at least 1 chronic disease.

In Nova Scotia, chronic diseases make up 4 of the top 5 leading causes of death (Nova Scotia, 2015). Data from Statistics Canada used in the Nova Scotia Health Profile report shows that Nova Scotia fares poorly on many chronic disease measures, including the highest rate of diabetes, and the second highest rates of cardiovascular disease, COPD and cancer.

Figure 9. Population % diagnosed with chronic diseases by province/territory



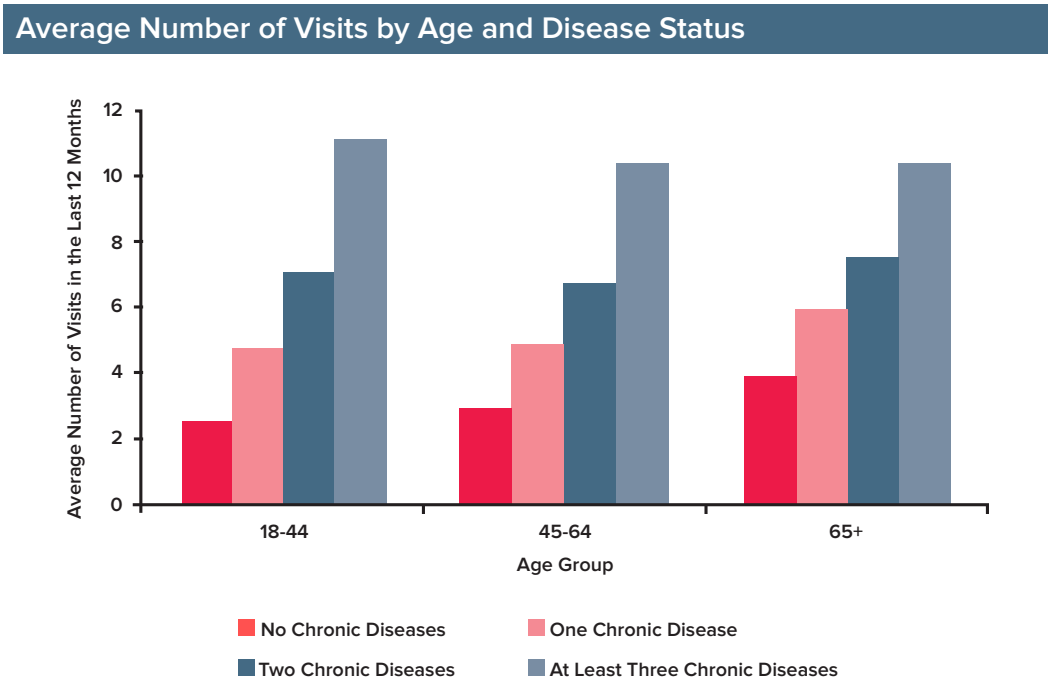
Source: Created using the Chronic Disease Indicator Tool (CCDI) available on the Government of Canada website: https://infobase.phac-aspc.gc.ca/ccdi-imcc/data-tool/?l=&Dom=1

Over 5,000 Nova Scotians die annually from cancer, cardiovascular diseases, chronic respiratory diseases, and diabetes, accounting for roughly two-thirds of annual deaths (NSHA, 2018b). According to the Nova Scotia Department of Health and Wellness' website (2013b), the province seeks to address our chronic disease challenges through its enhancements to primary healthcare, increased uptake of electronic medical records, and an emphasis on self-management and self-management support programs.

The prevalence of chronic disease is a leading cost driver in our healthcare system. In Nova Scotia, 5% of health system users represent 2/3 of spending costs (Kephart et al., 2016). These individuals tend to be clustered in certain areas, and the higher costs are at least partially explained by the prevalence of chronic disease. Interactive tools like the Maritime Health Atlas show us that the burden of chronic disease is not spread evenly across the province. For example, the prevalence of diabetes ranges from 24.86 cases per 1,000 to 110.97 cases per 1,000, depending on one's postal code, a more than 4-fold difference. The five areas with the highest prevalence are all in Cape Breton, while the five with the lowest are in the Halifax Regional Municipality (see Figure 3).

There is a high correlation between chronic disease and use of the primary healthcare system as seen in Figure 10 below.

Figure 10. Primary care visits by age group and chronic disease



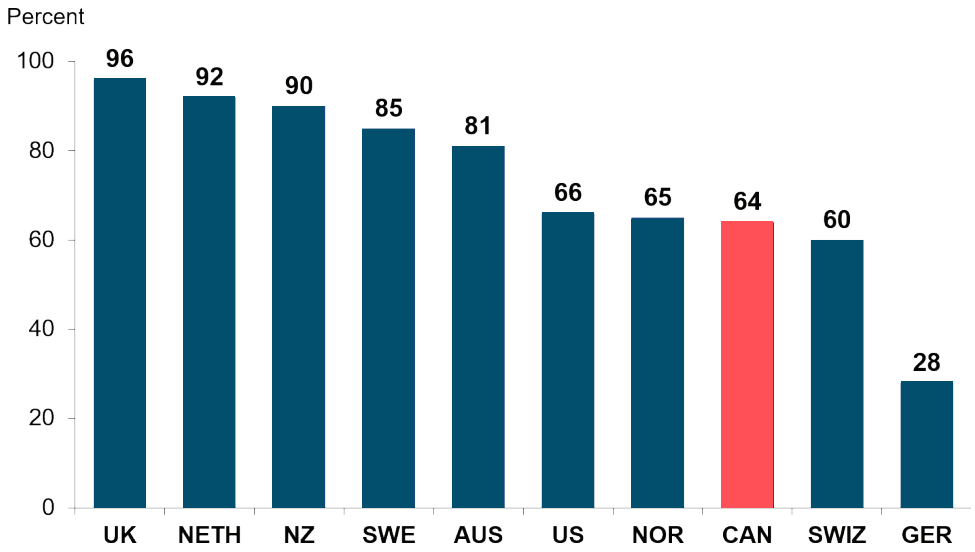
Notes
Chronic diseases include asthma, chronic obstructive disease, coronary artery disease, diabetes, depression, hypertension and osteoarthritis.
Only patients with a visit to the primary care clinic in the last two years were included in the analysis (N= 337,793)
Source
Primary Health Care Voluntary Reporting System, 2013, Canadian Institute for Health Information.

Source: (CIHI, 2014a) Note that this data is primarily from clinics in Ontario, with some from Alberta and Nova Scotia.

Internationally, it is common in primary healthcare settings to use registered nurses or other qualified professionals as case managers for patients dealing with one or more chronic diseases. However, Canada's rate of doing this is low compared to other OECD countries. Canada uses nurses or case managers in only 64% of practices to manage care compared to 96% of practices in the United Kingdom (Osborn, Schneider, & The Commonwealth Fund, 2015). Nova Scotian's living with chronic diseases need timely access to primary health care to have better health outcomes and to mitigate expensive hospitalizations.

Figure 11.

Practice Uses Nurses or Case Managers to Monitor and Manage Care for Patients with Chronic Conditions



Source: 2015 Commonwealth Fund International Health Policy survey of Primary Care Physicians. https://www.commonwealthfund.org/publications/surveys/2015/dec/2015-commonwealth-fu nd-international-survey-primary-care-physicians

As the Health Authority adds more nurses to primary healthcare practices across the province, this rate will likely improve in the province.

III. Primary Healthcare Development and Delivery in Nova Scotia

Like other jurisdictions in Canada and elsewhere, Nova Scotia has been working to strengthen its primary healthcare system. In 2001, the province passed the revised *Registered Nurse Act* which allowed for the introduction of nurse practitioners into the province (Nova Scotia, 2001). Nurse practitioners are registered nurses who have additional education and training, allowing them to diagnose and treat illnesses, order and interpret tests, prescribe medications and perform medical procedures. They practice in a variety of settings, and treat individuals at all stages of life, providing care for physical and mental health (Canadian Nurses Association, 2016). This development was a key component of the province's 1998 strategy entitled Strengthening Primary Healthcare Initiative (SPCI) (Martin-Misener, McNab, & Edwards, 2004).

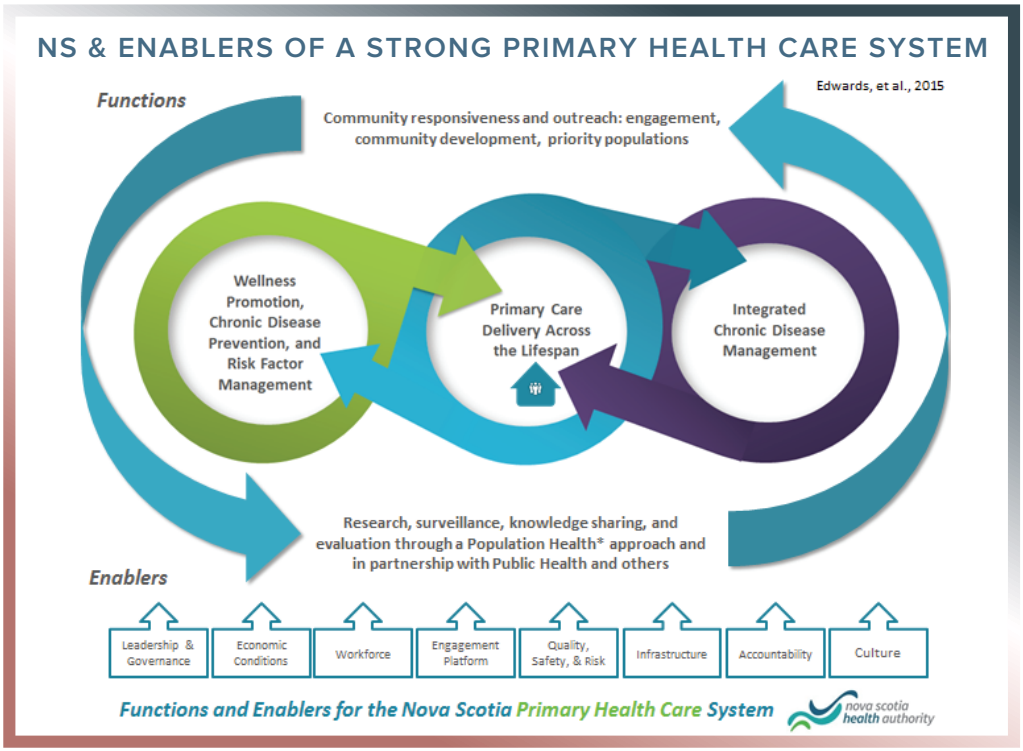
Around 2006, the province also started a Family Practice Nurse Initiative, an educational and practice support program aimed at helping add registered nurses to existing primary healthcare clinics. Family practice nurses are registered nurses with special training in primary healthcare (NSHA, 2017a). They are trained to provide a variety of interventions, including management of health issues such as diabetes, asthma, COPD, high blood pressure, smoking, cholesterol, and heart disease. They provide well-baby visits and prenatal care, review

medications, perform pap tests, provide teaching and support for healthy living, provide immunizations, injections, wound care, and more.

In 2012, Nova Scotia established its 811-telehealth service to provide health information and services for non-emergency situations. Callers can receive information and advice from registered nurses and information about services available in the community, such as where to seek treatment if necessary. According to the service's website (https://811.novascotia.ca/), 325 Nova Scotians receive care from an 811 nurse every day.

In 2017, the Nova Scotia Health Authority released its guiding document for primary healthcare reform in the province entitled Strengthening the Primary Health Care System in Nova Scotia (2017a). The document identifies key factors and eight key 'foundational enablers' required to build and sustain an effective primary healthcare system: leadership and governance; economic conditions; workforce; engagement platform; quality, safety, and risk; infrastructure; accountability; and culture. The visual model representing this system can be seen in figure 12.

Figure 12. Functions and enablers of Nova Scotia's primary health care system

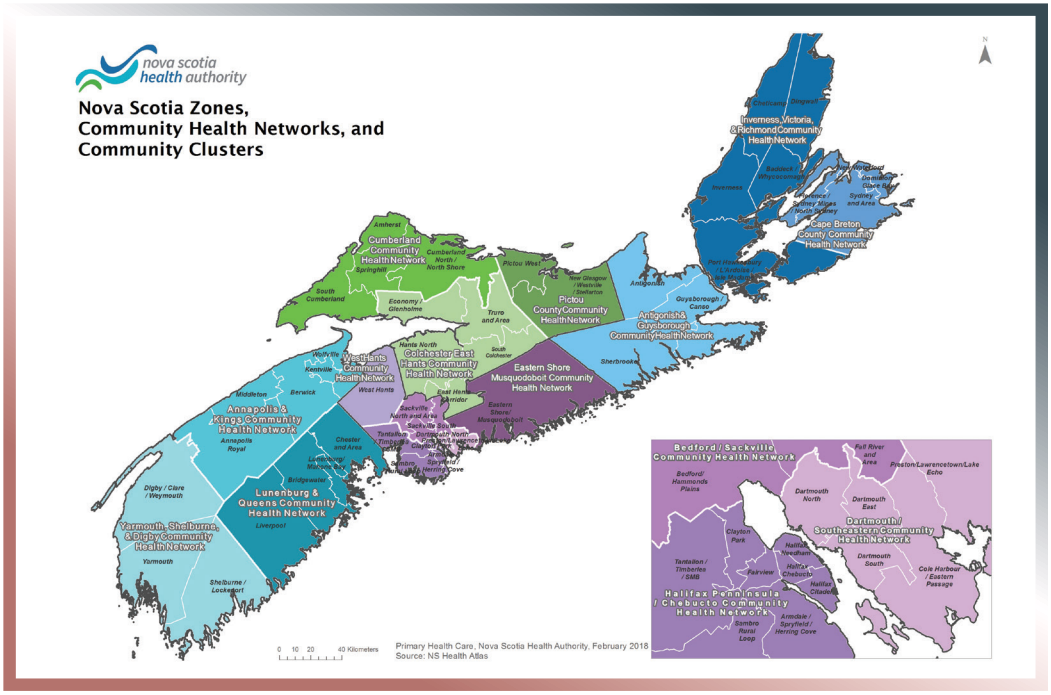


Source: Nova Scotia Health Authority, 2017a

The Nova Scotia Health Authority conceptually divides the province into 14 networks made up of clusters of communities, each with several collaborative family practices teams. At the center of the conceptual model for primary healthcare in Nova Scotia is the “Health Home” where primary care is provided and coordinated with other sectors of the healthcare system (NSHA, 2017a).

The number of collaborative family practice team members designated for a community cluster is determined and applied by population-based metrics, as appropriate. The configuration of the health homes in each cluster will vary depending on the geography of the community cluster and the needs of the population. Health homes are intended to provide collaborative care with a ratio of 4 to 5 family physicians, 1 to 2 nurse practitioners, 2 to 3 family practice nurses, and 1 to 2 other professionals (e.g., dietitians, social workers, OT, etc) per 10,000 Nova Scotians. Clerical and management support are critical, as well as linkages with community pharmacists and other resources. These figures are scaled up or down for community size and adjusted based on particular community needs (e.g. some populations benefit from the addition of social workers, others from a dietitian) (NSHA, 2017a).

Figure 13. Nova Scotia community health networks map



Source: NSHA Primary Health Care Presentation to Council of Unions, Jan 30, 2019

The Health Authority's collaborative practice models are explicitly designed to meet the aims of health reform, including improved population health outcomes, improved patient experience, and reduced per capita costs (NSHA, 2017a). Family practices serve as a hub, providing primary healthcare and coordinating other needs across the lifespan from birth to death. Patients have access to an interprofessional team of providers, and the remuneration model supports this model of care (NSHA, 2019a).

> Family practices serve as a hub, providing primary healthcare and coordinating other needs across the lifespan from birth to death.

Each patient on this model is assigned a 'most responsible provider' who has overall responsibility for care, in partnership with the patient. This helps ensure continuity of care, meaning a patient's care, including conditions, medications, tests and interventions are well known and managed by the provider and team. The principal provider could be a doctor or a nurse practitioner, depending on a patient's care needs. Patients have access to all of the services offered by the interprofessional team and ideally have access to timely care from specialists outside of the practice. Practices are also meant to be connected to the broader health and social care system, recognizing the breadth of the social determinants of health [3].

As the Health Authority (2017a) points out in its review, similar patient-centered and team-based models have shown improvements along several indicators, including improved access, patient-provider communication (McCarthy et al., 2009; Ferrante et al., 2010), positive effects on patient experiences and provider experiences (Grumbach & Grundy, 2010; Jackson et al., 2013; Patel et al., 2015), positive effects on access to preventative services (Ferrante et al., 2010; Jackson et al., 2013), improved geriatric care (Patel et al., 2015), improved quality of care (Grumbach & Grundy, 2010; Hoff et al., 2012), decreased utilization of acute care services, in particular emergency department use (Friedberg et al., 2015; Grumbach & Grundy, 2010; Hoff et al., 2015; Jackson et al., 2013), decreased specialty services and decreased costs (Friedberg et al., 2015).

The Nova Scotia Health Authority strategy is commendable for being evidence-based and adaptive to the needs of communities which vary widely, even across a small province like Nova Scotia. As we have seen, some areas of the province have nearly four times the incidence of diabetes compared to other areas, to give one example. Factors such as this need to influence planning around primary healthcare needs and services.

Other elements of the overall strategic plan include an increase in alternative payment mechanisms for physicians and the implementation of electronic medical records (EMRs). In early 2018, Doctors Nova Scotia reported that approximately 77% of family physicians keep e-health records. At that time, the province introduced $39.6 million in funding to incentivize remaining doctors to move in that direction, and to also start providing paid telephone consultations for their patients (Laroche, 2018).

Several government investments have been made to increase the use of nurses in primary healthcare. In 2016, for example, the government announced funding for an additional 13 nurse practitioners and nine family practice nurses to work in primary healthcare settings across the

[3] *For the full list of core elements, consult the NSHA document.*

province (Nova Scotia, 2016a). Since March 2017, 115 nursing roles have been hired by the Nova Scotia Health Authority to support collaborative family practice teams as part of new government investment (NSHA personal communication, March 25, 2019). In 2018, the government announced the Nurse Practitioner Education Incentive, a program that would allow up to 10 registered nurses a year to maintain their salary while studying to become nurse practitioners, with a promise to practice in a designated underserved community for five years (Nova Scotia, 2018a). In the 2019-2020 Budget, Government announced an additional $10 million investment to develop collaborative care teams, with the programs overall budget going from a forecasted $38 million in 2018-2019 to about $50 million in 2019-2020 (Nova Scotia, 2019a).

Also in 2019, and in cooperation with the Colleges of Registered Nurses and Licensed Practical Nurses, Government introduced a new *Nursing Act* that will provide greater flexibility around expanding nurses' scope of practice (Nova Scotia, 2019b). The Health Authority and the IWK, for example, in consultation with regulators, academia, unions, and other stakeholders, have already begun work around introducing a registered nurse prescribing course for some practice settings (CRNNS, 2017b). Recognizing nurse practitioners' independent scope of practice, the new legislation also removed the requirement to establish a formal relationship with a physician. It is important to note that this language change does not reduce the emphasis on collaborative care as this is central to nurse practitioners' standards of practice (CRNNS, 2014; NSHA, 2017a).

Technology and Primary Healthcare

In the WHO's forward-looking vision for primary healthcare in the 21st century, they recommend leveraging information technology to provide for remote consultation services and to support two-way referrals between different clinicians (WHO/UNICEF, 2018). The Federal Government's 2015 report, Unleashing Innovation: Excellent Healthcare for Canada, conducted to identify opportunities for innovation in Canada's health care system, sees Canada as a potential leader in the virtual health space given its large geographical size and low-density population areas (rural/ remote) (Advisory Panel on Healthcare Innovation, 2015). The Nova Scotia Health Authority, for its part, sees infrastructure as a foundational enabler of effective primary healthcare, and central to our infrastructure needs is technological infrastructure, such as information management processes, electronic medical records, and, eventually, a One Person One Record system.

Throughout the healthcare system there is a large variety of information systems. Problems arise when it is necessary for information to be transferred between these systems.

According to the Health Authority, "...the Province's health information systems have been procured and implemented by functional need, which has created a complex environment of over hundreds of systems which collect information on patients but are unable to share it across the continuum due to excessive integration cost and effort." (Nova Scotia, 2018b) The One Person One Record solution is designed to address this issue by providing a common platform for all patient health information that other platforms can interact with. The stated goal is to support professionals who provide care in collaborative practices, hospitals, pharmacies, and in the home to effectively share information. As the Health Authority put it, "One Person One Record is a patient care initiative to have the right information available to the right person, at the right time and place." (Nova Scotia, 2016b)

> One Person One Record is a patient care initiative to have the right information available to the right person, at the right time and place.

The Department of Health and Wellness is currently evaluating proposals for the One Person One Record project, and the official timeline for the rollout is not yet established. The initial phase will focus on replacing the three information systems being used in hospitals and enabling it to be extended into the community. Organizations that are connected to the system will be able to share and see orders, results, and clinical documentation (NSHA personal communication, April 5, 2019).

Collaborative practices across the province make use of two different Electronic Medical Record (EMR) systems that support their practice. The collaborative practices not on these systems are being incentivized to join them. The EMRs receive information from the current hospital information systems and will eventually receive it from the new One Person One Record system. The EMRs also provide monthly updates of immunizations to the Public Health information system called Panorama (NSHA personal communication, April 6, 2019).

There is already a citizens' portal known as MyHealthNS that allows patients to access their own personal health information and communicate electronically with their primary healthcare provider. A little over one in four family physicians are currently using this system. Doctors Nova Scotia reports that the use of MyHealthNS, as well as telephone consultations, has been lower than expected, likely due to billing complications and

poor integration with existing patient record systems (Doctors Nova Scotia personal communication, April 24, 2019).

The World Health Organization defines telemedicine as being:

The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities. (WHO, 2010).

Telemedicine, including virtual medicine delivered via the internet, presents opportunities for primary healthcare development. Delivery platforms can include desktop computers, laptops, tablets, smartphones, and any device with an internet connection and voice or visual communication capabilities.

> Virtual clinics have the capacity to increase access to primary health care and boost equity in the health care system.

Virtual clinics have the capacity to increase access to primary health care and boost equity in the health care system. In the case of virtual clinics operating in British Columbia, billings for virtual care services to the province increased by 820% in 2013 compared to the previous year and they have been linked to increased access in remote communities (Bronca, 2015). Part of what makes this delivery system successful is that the primary healthcare provider is able to live outside the remote community as some care is delivered virtually in between visits. This could potentially help rural and underserviced communities in Nova Scotia that face provider recruitment challenges. Individuals with mobility or transportation challenges could likewise benefit from online access.

In Nova Scotia, it is common to access specialists via telemedicine, but there is very little primary healthcare provided in this manner. One notable example is the Digby and Area Health Services Centre, where the collaborative family practice team is using virtual

care as a strategy to improve access to primary healthcare. The community of Digby and surrounding areas has had challenges with recruitment and retention of primary healthcare providers, and as a result, the Centre has explored telemedicine as a strategy to address access to primary healthcare. A virtual care clinic pilot project was put in place and quickly became a staple at the health centre (Digby and Area Health Services Centre, personal communication, April 5, 2019).

Currently, virtual care is supported by a licenced practical nurse, a physician and a clerical staff member. The physician is able to see Digby patients remotely from an office in another community and is assisted by the licensed practical nurse, who is present in Digby with the patient. Both healthcare professionals share the same EMR, which facilitates information sharing. Clinics are held two mornings per week, with potential for expansion. Ongoing evaluation of patient satisfaction is showing favourable results. Feedback and comments from the healthcare professionals participating is also positive.

The key success factors of this model include trust and synergy between the healthcare professionals participating in the appointment, the ability to communicate in a timely manner, as well as making sure that patients feel comfortable and included in their care decisions. Additionally, it is crucial to ensure the proper functioning of the technology being used.

IV. Primary Care and Emergency Care

International comparisons show that Canadians appear to use the emergency department more frequently than other countries. According to a survey by the Commonwealth Fund, 41% of adult Canadians reported visiting the emergency department in the previous two years compared to the average of 29% for the 11 countries surveyed. Canadians also have some of the longest emergency department waits, with 29% waiting four or more hours compared to just 1% in France and 11% on average for comparator countries (Vogel, 2017).

The Commonwealth Fund survey revealed that many visits by Canadians to emergency departments were for care that could have been addressed in a primary care setting (CIHI, 2016a; see also Angus Reid, 2015). This phenomenon is more prevalent for rural Canadians (56%) compared to urban Canadians (37%) (CIHI, 2016a). Despite comparatively high levels of the population being attached to a provider, Nova Scotians report the highest rates of visits to the emergency department for care that they feel could have been addressed by their regular provider.

> Nova Scotians report the highest rates of visits to the emergency department for care that they feel could have been addressed by their regular provider

Figure 14. Emergency department usage Canada compared to other surveyed countries

Country	2010	2013	2016
Canada	44%	40%	41%
Commonwealth Fund Average	30%	29%	27%

Source: (CIHI, 2016a)

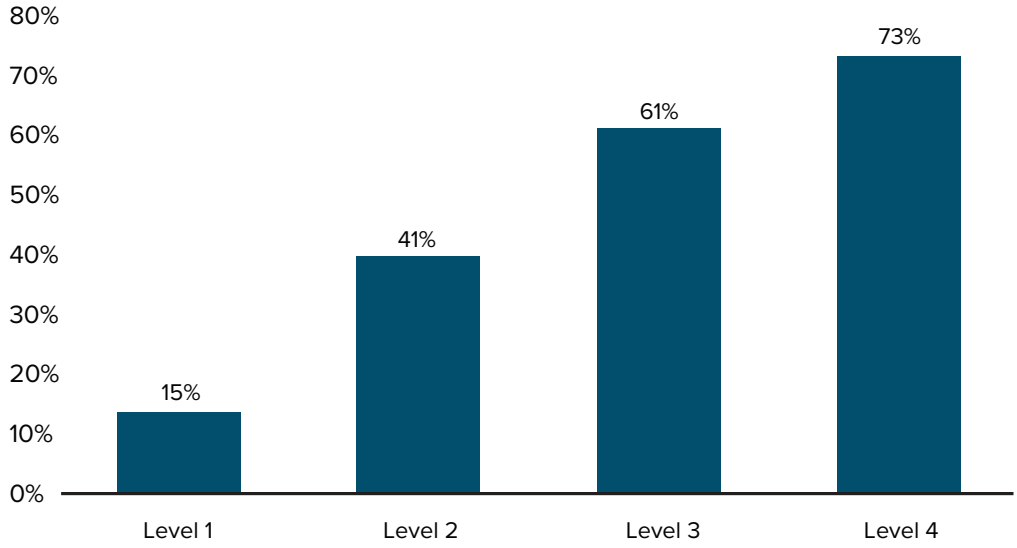
Emergency departments across Nova Scotia are under a tremendous amount of stress. The multi-faceted causes of this at the Queen Elizabeth II hospital were explored in detail by the Nova Scotia Government and General Employees Union in two recent reports (NSGEU 2017; NSGEU 2018). Other emergency departments are not faring any better as many face an increase in the number of patients presenting and an inability to recruit and retain qualified staff. Staffing pressures are reflected in emergency department closure hours; doctor and nurse shortages are the leading causes of unplanned closures. In 2017-2018, emergency departments across Nova Scotia had 17,926 hours of planned closures and 12,567.5 hours of temporary unplanned closures (Nova Scotia, 2018c). According to Emergency Health Services, at any given time 10-20% of ambulance crews may be tied up trying to offload patients at emergency departments (Laroche, 2019), providing further evidence of emergency department capacity issues.

The relationship between emergency care and primary healthcare has received a fair amount of attention in the literature. If patients are presenting for primary healthcare conditions at emergency departments, this raises several questions: Do these patients contribute to emergency department overcrowding, and if so, to what degree? Does increased access to primary healthcare in the community decrease their prevalence in the emergency department? Does a lack of access to primary healthcare lead to an increased use of the emergency department due to conditions not being treated in a timely and effective manner in the community? And from the patient-care perspective, is primary care provided in the emergency department timely and appropriate?

All patients presenting at an emergency department are scored and triaged according to the Canadian Triage Assessment Scale (CTAS), with scores of 1 and 2 representing the most urgent cases, 3 urgent, and scores of 4 and 5 less urgent and non-urgent respectively (Bullard et al., 2017). The charts in Appendix A show the proportion of emergency department visits by CTAS level and department..

An examination of Nova Scotia Health Authority data reveals that nearly 45% of patients presenting at emergency departments in Nova Scotia were assessed at CTAS 4 or 5 in 2018-2019. If we remove the tertiary and regional emergency departments from this list, that number rises to 65%.

Figure 15. The proportion of CTAS 4s and 5s during fiscal year 2018-2019 broken down by emergency department level



The levels reflect the equipment, personnel and services available in the emergency department and hospital. With more expensive resources, level 1 and 2 departments offer the fullest range of services and are more likely to see the most complicated cases.

Researchers have cautioned that not all CTAS scores of 4 and 5 represent people who should be seen in primary healthcare settings. Moreover, these patients are not believed to be the primary cause of hospital overcrowding, or emergency department capacity issues (Bullard et al., 2017; CIHI, 2014b). In a 2002 article on emergency department overcrowding, Schull et al. claim that the "types of ED patients leading to overcrowding are those who would be referred to the ED even if alternate sources of primary care are available (e.g. those with chest pain)" (2002). The main driver of overcrowding has to do with the inability to admit patients to the hospital when necessary. Departments struggle with capacity issues, in large part because many of the inpatient beds are occupied by patients waiting for care in another setting, such as long-term care (Laroche, 2019).

Ambulatory Care Sensitive Conditions

Researchers and policy-makers have developed other measures to distinguish patients. Ambulatory Care Sensitive Conditions (ACSC) are conditions for which hospitalizations are considered largely preventable when they are managed adequately in a community setting. The Canadian Institute for Health Information (CIHI) includes seven condition types for inclusion as an ambulatory care-sensitive condition, namely: grand mal status (i.e. the

most typical form of seizures) and other epileptic convulsions, chronic obstructive pulmonary disease, asthma, heart failure and pulmonary edema, hypertension, angina and diabetes (Statistics Canada, 2011). The International Classification of Diseases lists a total of 23 conditions (Carey et al., 2017). As an indicator, ACSCs are considered an indirect measure of access to community-based primary healthcare and the ability of the health care system to manage chronic conditions outside of acute hospital care (Statistics Canada, 2011). Statistics Canada estimates that 4.2 million Canadians have ACSCs, with 46% reporting high blood pressure, 43% heart disease, 36% diabetes, 30% asthma, and 16% COPD. According to Statistics Canada, people with an ACSC-related hospitalization make up 0.4% of the 12-74 year old population, but represent about 6% of hospitalized individuals and use 10.8% of all hospital days (2011).

Hospitalization for ACSCs has been widely adopted as an outcome measure in the assessment of accessibility and overall effectiveness of the primary healthcare system (Jorm, 2012). The Canadian Institute for Health Information reports on the ACSC hospitalization rate by jurisdiction and reports that Nova Scotia has 353 ACSC hospitalizations per 100,000 Nova Scotians, above the Canadian average of 325 (CIHI, 2018c).

> According to Statistics Canada, people with an ACSC-related hospitalization make up 0.4% of the 12-74 year old population, but represent about 6% of hospitalized individuals and use 10.8% of all hospital days (2011)

Given that ACSCs are by definition conditions that could be effectively treated in community settings, we would expect that increased access to primary healthcare would lead to a decline in ACSC hospitalizations. A 2017 study by Vuik et al. examined random patient data on 300,000 individuals in the United Kingdom and found a positive relationship between access to primary healthcare and hospitalization for ACSCs. In other words, the patients with the most access to primary healthcare were also the most likely to be hospitalized for ACSCs.

Other studies seem to point in the opposite direction, however. A large 2006 study by Ansari et al. in Australia examined ACSC rates for a population of 4.4 million and found a negative correlation between access to care and hospitalization for ACSCs. A meta-analysis of international literature including 51 papers (in English, French, Spanish, Portuguese and Italian) found that 72.5% revealed a significant, negative association between primary healthcare accessibility and ACSC hospitalization rates (Rosano, 2014). On this basis, Rosano claims “the findings allow us to be quite confident when using ACSC hospitalization as an indicator of primary care quality, with the precaution of considering appropriate adjustment factors”.

Family Practice Sensitive Conditions

The Canadian Institute for Health Information (CIHI) also tracks emergency department visits for “Family Practice Sensitive Conditions (FPSC). FPSC are conditions for which emergency department visits are considered to be largely preventable when they are managed adequately in a primary care setting (CIHI, 2014b). Some of the most common conditions included in this category include colds, sore throats, dressing changes, and suture removals. Between 2013-2014 FPSCs were the reason for 46% of visits to Canadian emergency departments.

Figure 16. Family practice sensitive conditions and emergency department visits

The 10 Most Common Family Practice Sensitive Conditions in Canadian EDs, 2013-2014		
Conditions	**Volume of ED Visits**	**Percentage of ED Visits**
Acute upper respiratory infection of multiple and unspecified sites (e.g., cold)	186,055	13
Other medical care: mainly antibiotic therapy such as intravenous cephalosporin or other anti-infective agents	183,271	13
Acute pharyngitis (inflammation of the throat)	107,198	8
Suppurative and unspecified otitis media (bacterial infection of the middle ear)	92,874	7
Other surgical follow-up care (mainly change of dressing and removal of sutures)	75,991	5
Migraine	45,118	3
Persons encountering health services in other circumstances (mainly for issue of repeat prescriptions)	41,326	3
Conjunctivitis (inflammation of the outermost layer of the eye and the inner surface of the eyelids)	36,641	3
Follow-up examination after treatment for conditions other than malignant neoplasms, such as medical follow-up after treatment	34,197	2
Diseases of pulp (centre of tooth) and periapical (apex of the root of tooth) tissues	33,105	2
All other FPSCs	567,329	40
Total	**1,403,105**	**100**

Notes
Percentages may not add up to 100 due to rounding.
FPSCs were identified using ICD-10-CA codes that were assigned as primary diagnoses. Included only patients discharged home. Excluded patients who died in the ED; were admitted to acute inpatient care; were transferred to another facility; or who left against medical advice or without being seen.
Source
National Ambulatory Care Reporting System, 2013–2014, Canadian Institute for Health Information.

Source: (CIHI, 2014d)

The likelihood of being admitted to an inpatient bed after presenting with a FPSC alone is less than 1% (CIHI, 2014b). Nationwide, FPSC visits represent an estimated 2.7 million potentially avoidable emergency department visits each year. The Canadian Institute for Health Information estimates the annual cost of FPSCs at $400 million nationally, which was 13% of the costs for all non-admitted patients included in their study.

FPSCs are associated with a lower acuity CTAS score 70% of the time (CIHI, 2014b). FPSCs are distinct from ACSCs in that the latter refer to chronic conditions like diabetes and COPD that should be effectively managed in the community without hospitalization whereas the former refer to minor medical conditions that should be effectively managed in primary care settings.

Importantly, as in the case with ACSCs, FPSCs do not appear to be significantly linked with emergency department overcrowding. The main benefit related to addressing them in the community is improved patient care, including continuity of care, and potentially lower system costs (CIHI 2014b).

Dr. John Ross' 2010 report "The Patient Journey Through Emergency Care in Nova Scotia," found that rural emergency departments in Nova Scotia were much more likely to see patients seeking help for conditions typically treated by primary healthcare practitioners. In his report, the former Provincial Advisor on Emergency Care attributes non-urgent emergency department visits to access problems in primary care; "Research consistently shows that the majority of patients seen in small rural Emergency Departments could be assessed and treated in an office setting." (Ross, 2010,). This rural/urban divide is reflected in CIHI data that shows that 32% of non-admitted emergency department visits by patients living in rural areas were FPSC-related, versus only 17% of urban patients (CIHI, 2014b).

The Health Authority collects another useful data point on the relationship between emergency care and primary healthcare. Recently released information shows a 112% increase over a five-year period in the number of emergency department visits from patients who are not attached to a primary healthcare provider. That number rose from 22,550 in 2013 to 47,948 in 2018 (NSHA, 2019c). Some facilities saw increases above 250%. During that 5-year period, there were a total of 184,867 emergency department visits by patients without a primary healthcare provider.

> The data presented here suggests that Nova Scotians have significant primary healtcare access problems. While the presence of primary healthcare patients is not necessarily driving emergency department overcrowding, it certainly represents a problem

The data presented here suggests that Nova Scotians have significant primary healthcare access problems. While the presence of primary healthcare patients is not necessarily driving emergency department overcrowding, it certainly represents a problem. Nova Scotians are not getting care when and where they need it. Many who present at emergency departments have conditions that would be better treated or managed in family practice settings, a problem that is particularly prevalent in rural areas. Moreover, it is likely not the case that people are simply seeking care in the wrong place. Research from the United States and the UK suggests that patients typically come to the emergency department because they see no viable alternative, or because another provider directed them there (Gonzalez Morganti et al., 2013; Bernstein, 2013).

Emergency departments are in effect playing an important role by supplementing access to care when it is otherwise and elsewhere unavailable. Because emergency departments are under stress (Doucette, 2019), and are not optimal for providing continuity of care, policy makers should continue to encourage other options to improve after-hours access at collaborative practices. At the same time, we cannot ignore the important and ongoing role emergency departments play. With this in mind, we should work towards enhancing their ability to provide timely primary care.

Emergency departments in many jurisdictions, including a couple in Nova Scotia, have developed 'fast-track' sections within or adjacent to the primary emergency department that provide medical care for triaged patients with minor illnesses and injuries. Stanford Healthcare in California lists many of the conditions that would typically be treated in the fast-track area, including ear complaints, coughing-related complaints, sore throats, back pain, minor lacerations, bites, stings, and allergic reactions, minor urinary tract infections, rashes, suture removal, wound checks and prescription refills (Stanford Healthcare, 2019). Importantly, fast-track areas are not designed to be the principal site for patients' primary healthcare, but instead provide timely care when otherwise unavailable for the types of interventions that would typically be treated in an office setting.

V. Homecare and Integrated care

According to the Canadian Home Care Association, we can conceive of homecare as "an array of health and support services provided in the home, retirement communities, group homes, and other community settings to people with acute, chronic, palliative, or rehabilitative health care needs. Services offered through publicly funded home care programs include assessments, education, therapeutic interventions (nursing and rehabilitation), personal assistance with daily living activities, help with instrumental activities of daily living, and carer respite and support" (Canadian Home Care Association et al., 2018).

Governments in Nova Scotia and across Canada have made significant investments in the homecare sector over the past ten years. In 2008, Nova Scotia's homecare budget was $141.6 million. By 2018/2019, the amount had risen to $266.0 million, a non-inflation-adjusted 87.9% increase (Nova Scotia). Investment in this sector is driven by two key factors. First, Canadians have consistently expressed a preference for care at home versus care in institutions. Second, homecare is typically more cost-effective than both long-term care and hospital care. Homecare Ontario estimates the average per diem cost of a hospital bed at $842, a long-term care bed at $126, and care at home at $42.

Investment in homecare can be seen as part of the broader effort to create more holistic, integrated healthcare systems where patients receive care in the ideal setting from the most appropriate provider. Health system leaders want to evolve away from the episodic, acute-centric system into one that focuses on prevention, health promotion, and chronic disease management (CHCA et al., 2018). This is again in line with the quadruple aim of health reform – better health, improved patient experience, more affordable costs and improved health provider experience. Future reform may even improve savings. A recent study out of Rhode Island found that nurse practitioner home visits correlated with a 61% hospitalization rate decrease, and a 64% emergency department visit decrease for recipients (University of Rhode Island, 2017). Homecare is central as both a vehicle of cost-reduction, and because of its role in chronic disease care and its ability to facilitate quicker hospital discharge.

> A recent study out of Rhode Island found that nurse practitioner home visits correlated with a 61% hospitalization rate decrease, and a 64% emergency department visit decrease for recipients

One of the greatest challenges facing homecare systems across the country is one of integration of health services with the acute and primary healthcare sectors. We can consider integration as "a coherent set of methods and models on the funding, administrative, organizational, service delivery and clinical levels designed to create connectivity, alignment and collaboration within and between the cure and care sectors"(Kodner and Spreeuwenberg 2002). There are often gaps in care between hospital discharge and the receipt of homecare, a lack of data sharing between the two sectors, and a lack of data sharing between homecare providers and primary healthcare providers (Canadian Nurses Association et al., 2013). As Kodner and Spreeuwenberg (2002) argue, "Without integration at various levels, all aspects of health care performance suffer. Patients get lost, needed services fail to be delivered, or are delayed, quality and patient satisfaction decline, and the potential for cost-effectiveness diminishes." Policies and funding models often discourage collaboration between sectors, and health providers in each sector have a limited understanding of the roles and values of those in the other (Canadian Home Care Association, 2012).

Many initiatives aimed at improving the integration of care between sectors revolve around the care coordination role. Case management involves health professionals working to maximize client's ability and autonomy through advocacy, communication, education, identifying and supplying resources and coordinating services (Canadian Homecare Association, 2012). By enhancing the role of case managers, and putting them in regular contact with primary healthcare professionals, providers can reduce fragmentation, increase coordination of complex care and perform case management tasks (Hollander and Prince, 2008). A 2011 study in the UK found that integrating care has resulted in lower hospital bed use and lower emergency bed day use (Thistlethwaite, 2011). The Integrated Client Care Project out of Ontario found reductions in wounds, and 72% of clients reported better ability to mange self-care using a provided program (Canadian Home Care Association, 2012).

In Nova Scotia, the majority of homecare that involves nursing is provided by the Victorian Order of Nurses (VON), with a small proportion (6%) provided by the Nova Scotia Health Authority (NSHA personal communication, April 10, 2019). The VON and twenty other agencies also provide 'home support' from non-nursing professionals like continuing care assistants (CCAs). Individuals receiving publicly-funded homecare services are admitted via the Health Authority's continuing care program. Potential clients (or their representatitves) contact continuing care for an intake assessment and Continuing Care then makes a referral to the VON based on assessed care needs, and where appropriate, the physician's orders to provide the service. Alternatively, a family doctor or nurse practitioner, or a care coordinator from a hospital, makes a referral to continuing care which then again makes a referral to the VON. The VON nurses receive client information and a service plan and a discharge summary for patients from hospital. With this information, or some time afterwards, the nurses receive orders from a doctor or nurse practitioner outlining the care to be provided. It is important to note that without orders the client cannot be treated.

As part of the provincial homecare program, the VON operates a clinic in Halifax and others in the Valley, for ambulatory clients. Clients are able to book appointments and receive timely care, rather than wait at home during large blocks of time (VON personal communication, Feb 7, 2019). The Halifax clinic has four beds and two chairs and is typically staffed with one registered nurse and one licensed practical nurse who provide a variety of services including medication administration, catherization and catheter changes, Port-A-Cath flushes, IVs, PICC lines, wound care and dressing changes, and more. The VON also operates several clinics in the province for specialized services via private contracts.

Many of the most significant challenges VON nurses face have to do with the integration of care between sectors of our healthcare system. Rarely, a client may have a service plan but no orders and so care cannot commence. Alternatively, a current VON client may have a status change. For example, they may have gone to the emergency room, a walk-in clinic or their family practice. VON nurses may have no knowledge of these interactions with the system except when the client advises them. Often the information received from clients is piecemeal, or not entirely accurate. Nurses, or Continuing Care coordinators, then must track down doctors, pharmacists or nurse practitioners to see if there are changes recommended for the care orders. They have no access to the electronic medical records that are available in hospitals and collaborative practices.

VON nurses may recognize deteriorations in a client's condition such as a developing infection. They can advise a specialist about this, but the specialist will not prescribe based on information from the VON nurse and so often clients are advised to go to the emergency department. Clients with mental health challenges often have no recourse to the specialized care they require, and VON nurses are in the difficult situation of providing some support without the time or funding for this (VON nurse personal communication, April 1, 2019).

Some homecare clients are so-called 'orphan patients' meaning they do not have a regular primary healthcare provider like a family doctor or nurse practitioner. This presents challenges when a medication or dressing change is required but there is no professional available to provide the order. VON nurses cannot make these changes on their own and so they, or Continuing Care coordinators, must take the time to find a health professional who is willing to provide the necessary orders.

These problems present challenges for two important aims of our healthcare system, continuity and coordination of care. When clients do not have consistent oversight for their care needs, they are more likely to need to use the emergency department, and less likely to have their chronic conditions managed appropriately (Barker et al., 2017; NSHA 2017). Without effective coordination of clients' care, care may be less effective and patient satisfaction and safety suffers (McMurchy, 2009; ref in NSHA 2017a).

VI. Literature

The discussion around primary healthcare and the current and future roles of nurses working within this area is shaped by several concerns, including access to a regular provider, ensuring the appropriate provider, wait times for accessing this provider, interprofessional collaboration, care coordination, and nurses' scope of practice.

Search Strategy

A broad exploratory literature scan was conducted in the Pubmed and CINAHL databases to better understand the uses of nurses in primary healthcare, to gauge the success of primary healthcare initiatives involving nursing care, and to gain a sense of nursing involvement in collaborative primary healthcare models such as the one promoted in Nova Scotia. Hand searching of references was also used. The purpose of the literature scan was to guide the research team in drafting the research proposal, to create interview guides for key informants, to draft the nursing focus group questions, and to draft nurse survey questionnaires.

The scan focused on licensed practical nurses, registered nurse, and nurse practitioners as the population of interest. Two main terms – primary healthcare and team-based care – were added to each population to execute the search strategy. When available MESH (medical subject headings) were used in place of the keywords. MESH headings included in the search strategy were "multidisciplinary care team," "primary healthcare." Keywords used included "nurse-led," "team-based," and "interdisciplinary teams." Very little was found related to licensed practical nurses, and this finding is supported by a recent scoping review by Curnew and Lukewich (2018). The small number of articles related specifically to VON nurses were concerned with patient safety within the home (Coyte & McKeever, 2001). Articles were limited to publications in English.

Following this initial scan, a grey literature search was done to gain a better understanding of the main issues in primary healthcare within Nova Scotia and Canada, along with specific nursing initiatives related to primary healthcare. This scan was targeted to capture recent data, initiatives, and policies related to primary healthcare in Canada and beyond. It included federal and provincial government reports, reports by the OECD, the Commonwealth Fund and the Canadian Institutes of Health Information, reports produced by healthcare consultants, strategic planning documents, and position papers by relevant stakeholders. Further searches were done to investigate initiatives of interest such as registered nurse prescribing.

Benefits of Nursing Care

A poll by the College of Registered Nurses of Nova Scotia (CRNNS, 2017b) showed that 95% of recipients were satisfied or very satisfied with the care they received from nurses. There is a growing body of research establishing the positive effects of nurse involvement in primary healthcare. A systematic review of randomized-control trials comparing care by nurse practitioners to physicians in primary healthcare settings of developed countries showed patients were satisfied with the care they received by nurse practitioners and that it was of equal quality to care provided by physicians (Horrocks et al., 2002). The study also showed that nurse practitioners had longer visits with patients. There were no differences in the consultations, referrals, or prescribing practices.

Use of nurse practitioners within team-based care has many benefits to patients, the teams they work with, communities employing them, and the health system at large. Studies done in Canada and abroad have found that patients are receptive to care from a nurse

practitioner, and that nurse practitioners promote patient satisfaction (Carryer & Adams, 2017; Parker et al., 2013; Sangster-Gormley & Canitz, 2015; Canadian Nurses Association, 2016). An American consumer survey recently showed an increased public openness to care by nurse practitioners, particularly when it reduced wait times (Dill, et al., 2017). A recent British Columbia study showed that nurse practitioners are notable for their willingness to care for complex, frail individuals in rural areas (Sangster-Gormley & Canitz, 2015). Patients who received primary care from advanced practice nurses[4] receive more education and report high satisfaction with care (Swan, et al., 2015).

While much of the research on nursing in primary healthcare focuses on nurse practitioners, there is also a growing recognition of the role of other nurses. According to the Canadian Family Practice Nurses Association, family practice nurses, typically registered nurses, are generalists who work in partnership with primary healthcare providers, offering a broad range of health services, including, preventative health screening (e.g. PAP examinations, chronic health conditions), health education (e.g. healthy living, chronic disease self-management), healthcare management and program delivery (e.g. diabetes, hypertension, chronic obstructive pulmonary disease), therapeutic interventions (e.g. wound care, immunizations), and coordination of services to specialists and/or community services (Canadian Family Practice Nurse Association, n.d.; Family Practice Nurses Association of Nova Scotia, n.d.). The presence of a Family Practice Nurse in primary healthcare settings has been linked to improved interprofessional collaboration, the ability to build trusting relationships with patients (Oandasan et al., 2010), improved patient confidence that the care provided will meet their needs, and reduced wait times in the clinic (Ammi,et al., 2017). Research has found that when registered nurses assist in the care of patients with chronic conditions, their clinical outcomes improve compared with patients with physician-only care (Bodenheimer & Smith, 2013).

> The presence of nursing staff in a primary healthcare practice... is associated with better patient clinical outcomes, and better perceived quality of care

[4] In Canada, 'advanced practice nurses' includes nurse practitioners, and clinical nurse specialists, a protected title in Quebec. See Canadian Nurses Association, 2019.

The presence of nursing staff in a primary healthcare practice, and higher nurse staffing levels within that practice, is associated with better patient clinical outcomes, and better perceived quality of care, particularly among patients with chronic conditions (Griffiths, Maben, & Murrells, 2011).

A recent global systematic review on the use of nurses in primary healthcare settings found that the use of registered nurses decreased the care workload of the lead primary care provider, freeing up time and leading to improved access to care (Norful, et al., 2017). Clinical tasks completed by registered nurses in the study included prescribing refill medications, immunizations, point-of-care diagnostic testing, care planning, health promotion, and patient education. Non-clinical tasks included participating in policy development and primary healthcare research.

Expanded Role for Nurses

The expanded role and increased use of nursing professionals in primary healthcare delivery has proven to be a successful endeavour both in Canada and abroad on a variety of indicators. An evaluation of the roles of nurse practitioners and other advanced practice nurses conducted by researchers published by the OECD in 2010 examined studies from the US, Canada, the UK and Finland (Delamaire & Lafortune, 2010). Researchers found the use of nurses in expanded practice roles improved access to services and reduced wait times. The evaluation also found the quality of care provided by nurses doing substituted tasks (tasks transferred from physician to nurse) was of the same quality, with a higher degree of patient satisfaction, and was either at a reduced or equal cost. A Canadian authored study also concluded that the use of nurse practitioners in primary healthcare settings as alternatives to family physicians was potentially cost-effective (Martin-Misener et al., 2015; see also Brown & Poffenroth,2018).

In Canada, and internationally, nurse practitioners work in a variety of emergency care settings such as urban and rural emergency departments, emergency department fast-track areas for less severe patients and urgent care centres (CNA, 2013). In these settings, nurse practitioners provide care, develop guidelines, educate other staff and perform administrative duties (Considine et al., 2006). A 2008 review by Corker and Kellopourey, cited in a Canadian Nurses Association report on nurse practitioners in emergency departments (2013), estimated that at least 30% of emergency department patients could be treated by nurse practitioners. A small qualitative study of nurse practitioners working in

emergency departments in Australia found that they were able to help physicians manage the sub-acute patient workload in the emergency department and were useful in addressing patients with chronic disease related care needs from a preventative perspective (Li, et al., 2013).

A review of 36 international studies by Carter and Chochinov (2007) suggests that employing nurse practitioners in emergency care could allow for the optimal use of limited physician resources and improve overall access. Nurse practitioners were equivalent to physicians on X-ray interpretation, with excellent documentation, physical exam accuracy, appropriateness of urgent referrals and adherence to protocols.
Other studies have shown a reduction in wait times associated with the use of nurse

> A review of 36 international studies by Carter and Chochinov (2007) suggests that employing nurse practitioners in emergency care could allow for the optimal use of limited physician resources and improve overall access.

practitioners in emergency departments (Fry, et al., 2011 Jennings et al., 2008; Jennings et al., 2015). Emergency nurse practitioners improve quality of care (O'connell and Gardner, 2012), and recipients of emergency nurse practitioner care consistently show high levels of satisfaction (Jennings et al., 2015; Byrne et al., 2001; Hoskins, 2011).

Research has shown for decades that registered nurses can independently manage many primary healthcare concerns. Australia has implemented nurse-led chronic disease care where nurses work from protocols to manage patients in partnership with a physician who reviews cases every six months. This model is linked to improved communication between healthcare staff and patients, and improved disease self-management by patients (Eley et al., 2009).

In primary care settings, registered nurses are capable of providing preventative care and treatments. Nurses, for example, are able to do PAP smears of the same quality as physicians and manage chronic care needs like teaching and health coaching (Bodenheimer and Smith, 2013).

A UK based randomized control trial showed high levels of patient satisfaction when nurses managed minor illnesses independently in a general practice (Shum et al., 2000). Similarly, patients with uncomplicated low back pain were managed with equal effectiveness by nurses following a protocol, with better patient satisfaction scores (Greenfield et al., 1975). A recent meta-analysis examined the substitution of nurses for traditionally physician-provided clinical tasks in 32 publications of predominantly European origin. The results of the pooled data from the meta-analysis showed improved patient satisfaction with nurse-led care, and reduction in hospital admissions and mortality (Martínez-González et al., 2014).

Registered nurse prescribing is a relatively new and growing phenomenon. Research on this practice in Ireland, for example, found that nurse and midwife prescribing improved services to patients by reducing wait times (Adams, et al. 2013). A recent review showed that nurse prescribing in Ireland over the past 10 years is viewed positively and considered an established practice with success on several fronts including nurse and patient satisfaction (Wilson, Murphy, Nam, Fahy, & Tella, 2018). Irish nurses are required to take a six

month course to prescribe and can then prescribe in a number of care settings including emergency departments, oncology, primary care, and cardiac care. Some medications prescribed by nurses include vaccines, pain relievers like tylenol, antibiotics, warfarin, and some antihypertensives.

As the Canadian Nurses Association points out in its review (2015), several studies have found that prescribing by nurses and others is well-received by the public. Berry, Courtenay, and Bersellini (2006), for example, found that the UK public is confident in nurses' prescribing abilities. A 2011 literature review similarly found that non-medical prescribing is widely accepted and appreciated by patients (Bhanbhro et al., 2011; see also Latter & Courtenay, 2004 and Binkowska-Bury et al. 2016). Patients report high levels of satisfaction and confidence in nurse prescribers due to their specialist knowledge, efficient service, and awareness of their limitations (Berry, Courtenay, & Bersellini, 2006; Wilkinson, Carryer, & Adams, 2014; see also Kooienga & Wilkinson, 2016). Patients value the nurse-patient relationship, and value nurses' expertise, and are therefore trusted as prescribers (Hobson, Scott, & Sutton, 2010).

Registered nurse prescribing is reported to be safe and clinically appropriate (Latter et al., 2011) and conservative (Drennan, Grant, & Harris, 2014). It also benefits patients through service delivery improvements (Jones, Edwards, & While, 2011; Stenner & Courtenay, 2008), and improves access (Stenner & Courtenay, 2008).

In Sweden, continuing education allows nurses to order diagnostic tests, diagnose, and treat a patient. Prescribing in this model is typically limited to a formulary of medications, most of which are accessible to patients without a prescription. A recent study of this model shows that patients are satisfied with having some of their primary healthcare provided by nurses (Bergman et al., 2013). A study in New Zealand demonstrates that registered nurse diabetes specialists with prescribing authority can improve patient outcomes, access, and satisfaction with care by providing a more responsive, expert, and timely service than they typically receive (Wilkinson, Carryer, & Adams , 2014).

Registered nurses have been prescribing in the United Kingdom since 2012, and that country has the most expansive prescribing legislation. There are now over 19,000 nurse prescribers (approximately 3% of the workforce), many of whom work in the primary healthcare sector (Royal College of Nursing, 2014). Prescribing occurs in a number of different areas including for hypertension and diabetes (Clark et al.,2011), emergency

and sexual health (Black, 2013), acute care settings (Jones, Edwards, & While, 2011), and respiratory care (Carey, Stenner, & Courtenay, 2014).

Some provinces in Canada have also implemented nurse prescribing. In 2015, the Canadian Nurses Association developed a Framework for Nurse Prescribing in Canada which at the time of its writing included several provinces where prescribing was practiced (Figure 17). There have been some developments since that time, such as the planning that is underway in Nova Scotia.

Figure 17. Nurse prescribing in Canada

Jurisdiction	Current Activities and Status
Alberta	• The College and Association of of Registered Nurses of Alberta is developing and finalizing standards for RN prescribing. RNs will be able to prescribe in specific settings for particular populations/needs.
British Columbia	• The College of Registered Nurses of British Columbia is leading the use of certified practice: RNs in certified practice have the authority to independently administer and dispense certain drugs that normally require a prescription or an order. Certified practice categories include contraceptive management, sexually transmitted infections, remote practice and First Call (rural practice).
Manitoba	• The College of Registered Nurses of Manitoba is developing a RN prescribing role (currently referred to as "RN authorized prescriber") that will be linked to specific practice settings and specialties (e.g., primary care, public health, reproductive health).
New Brunswick	• RN prescribing is not in place.
Newfoundland and Labrador	• RNs working in specific areas of the province may (under authorization through their employer) provide patients with selected medications in specific situations.
Nova Scotia	• RN prescribing is not in place.
Northwest Territories	• RN prescribing is not in place.
Nunavut	• RN prescribing is not in place.
Ontario	• RN prescribing is not currently in place.
Prince Edward Island	• RN prescribing is not in place.
Quebec	• The Ordre des infirmières et infirmiers du Québec is in the process of implementing RN prescribing for specific situations and patient needs.
Saskatchewan	• The Saskatchewan Registered Nurses' Association is in the midst of implementing "additional authorized practice." This is somewhat similar to the certified practice approach in British Columbia.
Yukon	• RN prescribing is not in place.

Source: (Canadian Nurses Association, 2015)

Team-based Care

As the 2002 Romanow Report pointed out, collaboration and teamwork are key components to the delivery of effective primary healthcare. Team-based care can be defined as "...the provision of health services to individuals, families, and/or their communities by at least two health providers who work collaboratively with patients, and their caregivers – to the extent preferred by each patient – to accomplish shared goals within and across settings to achieve coordinated, high-quality care." (Mitchell et al., 2012) Team-based care is premised on the belief that patients receive better care when they can draw on the skill and expertise of a variety of team members.

The Nova Scotia Health Authority describes collaborative teams as follows:
Different types of primary health care providers who collaborate and share responsibility for comprehensive and continuous primary health care for a practice population. With patients and families as core partners on the team, the team consists of various combinations of family physicians, nurse practitioners, family practice nurses, and other providers such as dietitians, social workers, occupational therapists, physiotherapists, pharmacists, learners, behaviourists, medical office assistants, and/or community mental health workers, identified based on the needs of the community. Management/leadership support is important to provide strategic and operational support to the team. Clerical/office staff are considered integral members of the team (NSHA, 2017a).

When patients perceive that collaboration between their providers is effective, they are more likely to report better and more accessible care (Ammi et al., 2017). When team-based care is fully realized, it improves the comprehensiveness of care, its coordination, efficiency and effectiveness, and patient and provider satisfaction (Schottenfield et al., 2016; Coleman et al, 2016; Wagner, 2000). Further research shows that collaborative teams improve the management of chronic diseases and other complex care (Gulliford et al., 2002; Wagner, 2000), and they lead to increased access and reduced wait times (Virani, 2012).

Greater use of nursing professionals as part of collaborative teams has not come without barriers. As the authors of a recent white paper on patient-centered, team-based primary care put it, "Of all of the changes envisioned as part of the transformation to improved and more patient-centered primary care, perhaps none is more promising and more challenging than the transition to team-based delivery of care." (Schottenfield et al., 2016).

Doctors Nova Scotia points out in their recent scan (2018) and position paper (2019) that lack of clarity around different scopes within a practice setting can lead to confusion and suboptimal care allocation. They point to a series of challenges associated with collaborative practices including communications, payment models, different approaches to patient care, lack of understanding and trust between providers, lack of coordinated approach to scope change among providers and uncertainty around liability. Many studies have pointed to the lack of awareness and understanding of the role nurse practitioners play in the health system, including their education and their relationship with other members of the health team (Canadian Federation of Nurses Unions, 2018; Wong and Farrally, 2013; CNA, 2016).

Interprofessional collaboration is hindered when there is a lack of role understanding among health professionals working together on a team, a lack of willingness to collaborate, poor communication between providers, and challenges around decision making and processes (Valaitis et al., 2018). Lack of knowledge and understanding of the nurse practitioner's role in particular has been cited as a barrier to their practice within teams (Sangster-Gormley & Canitz, 2015). If not executed properly, team-based care can disrupt valuable patient-provider relationships and result in fragmented care across the multiple team members (Schottenfield et al., 2016). As Mitchell et al., (2012) put it, "At the most basic level, establishing and maintaining high-functioning teams takes work." Concerning potential barriers, they site a lack of experience and expertise, cultural silos, deficient infrastructure, and inadequate or absent reimbursement (see also Young et al., 2011).

High-Functioning Healthcare Systems

The literature supports the central role of primary health care as the foundation of high-performing health systems (NSHA, 2017; Baker & Dennis, 2011; McMurchy, 2009; Shi, 2012; Starfield et al., 2005). A 2011 study of top performing health systems identified robust primary healthcare teams as a crucial feature (Baker & Dennis, 2011).

As the Nova Scotia Health Authority (2017) points out, investment in primary healthcare is associated with a reduced rate of healthcare spending, and better health outcomes including lower rates of potentially avoidable hospitalization and lower socioeconomic inequality in self-rated health (referencing Kringos, 2013).

> Effective health workplaces have positive organizational cultures championed by effective leaders who promote respect and trust between staff and departments

Effective health workplaces have positive organizational cultures championed by effective leaders who promote respect and trust between staff and departments (Bodenheimer et al, 2014). They are committed to excellence and recognize and value the positive contributions of employees. They are also adept at building and maintaining a proficient workforce, retaining and recruiting staff, and investing in the development of existing staff (Taylor et al., 2015).[5] They know to respect the expanded scope of providers, and support staff with education (NSHA, 2017a; Wagner et al., 2017).

Effective workplaces respect front-line staff by supporting their autonomous practice, as appropriate to each provider group. Allowing nurses to practice autonomously as members of the healthcare team has been shown to improve access to care (Ammi et al., 2017). Interdisciplinary teamwork is also promoted as all members of the organization contribute to a common goal and communicate effectively (Taylor et al., 2015).

A recent nation-wide study of nurse practitioners raises serious concerns around several of these issues (Canadian Federation of Nurses Unions, 2018). Forty-nine percent of the 1,160 nurse practitioner respondents reported that input into organizational practices and policies is a leading source of work-life dissatisfaction, and 47% cited a lack of opportunities for professional development. Twenty-six percent of nurse practitioners in the study reported not working to full scope in their principal position. The major reasons for this were reported as the way the role was defined, employer or institutional barriers, and lastly the personality or philosophy of physicians they practice with.

Bodenheimer et al. (2014) see population management as a key building block of high-functioning primary healthcare systems. This includes using nurses and others to

[5] *Note that the Taylor et al. review focused on high-performing hospitals, though the analysis is generalizable to the overall system.*

manage a practice's panel to proactively identify patients who may require interventions, like a mammogram or other cancer screening. It also involves employing them in case management for patients with complex care needs.

> Research shows, moreover, that improved integration and coordination improves patients' experiences, reduces mortality and morbidity, and decreases hospital length of stay

Baker and Denis (2011) point out that strengthening linkages between acute and community-based care promotes high performance and improves health services (see also Kringos et al., 2010). Focusing on primary healthcare facilitates this coordination across sectors. This ability to effectively coordinate is a challenge in a fragmented health system that has not historically emphasized the importance of primary healthcare. Research shows, moreover, that improved integration and coordination improves patients' experiences, reduces mortality and morbidity, and decreases hospital length of stay (Baker and Axler, 2015).

Effective primary healthcare can also be cost-effective via reduced hospitalization and emergency department use (Shi, 2012), and for interventions associated with improved continuity and coordination of care (Dahrouge, 2012; McMurchy, 2009; Barker et al., 2017). Enabling continuity of care is associated with improved preventative and chronic care, lower costs, and better experience with care for patients and providers (Bodenheimer et al,. 2014; Bodenheimer and Berry-Millett, 2009).

A review of high performing health systems by the Ontario Hospital Association emphasized that patients and health professionals desire coordinated and connected care, with transitions between care settings that are "clear, smooth, timely and convenient" (Baker and Axler, 2015). The review emphasized the importance of information infrastructures for ensuring improvements in the coordination of care. Electronic health records, for example, allow providers to focus on patient care rather than duplicating efforts around information collection. Electronic health records can also facilitate communication and tracking of patients as they move through different sectors of the healthcare system. As Bodenheimer et al. (2014) argue, in high-performing systems, clinicians automatically know when their patients have been discharged from hospital.

In their review of high-performing primary healthcare systems, Bodenheimer et al. (2014) envision a system where patients have access to clinicians in a variety of manners including e-visits, telephone calls, group appointments and appointments with a variety of team members, as appropriate to their care. This requires physician remuneration structures that account for the need for team consultation and do not only reward in-person physician visits.

Literature Conclusion

This review suggests that nurses offer great value to primary healthcare patients and the primary healthcare system. Patients appreciate care from nurses, and nursing care promotes positive health outcomes. Unfortunately, nurses' full value is not being realized at this time. Nurse practitioners and other nurses have more to offer our patients. Part of realizing their potential involves ensuring collaborative teams have a clear understanding of nurses' scope and role. Nurses are integral members of collaborative health teams and when teams are appropriately developed, they can provide optimal care.

A high-functioning health system for Nova Scotia places primary healthcare at its core. It prioritizes care coordination and employs nurses in patient population management and chronic disease management to ensure appropriate follow-up and continuity of care. A high-functioning system also makes use of technology in order to provide comprehensive care while supporting continuity of care for patients.

VII. Key Informant Interviews

Between late June and mid-August 2018, the research team conducted interviews with 14 key informants in Nova Scotia. The interviews typically lasted 30 to 45 minutes and took place in person and over the phone. Informants were identified by the researchers' knowledge of various experts, through a search on government, employer and academic websites, and through references from other informants. Informant questions were developed from preliminary research questions, and from issues that arose during the preliminary literature review. The questions were kept constant across interviews, but informants were encouraged to approach questions from the perspective of their own background and expertise. The questions for the informants can be found in Appendix B. The informants provided signed consent for their participation, and interviews were recorded to ensure accuracy of representation.

The key informants tended to see the primary healthcare system in Nova Scotia in a state of positive growth and development as more collaborative teams are established, with plenty of room for further growth. That said, many noted the need for greater public education, and

a lack of understanding of primary healthcare and of nurses' roles in particular. In their view, the public focused almost entirely on the role of physicians. They believed nurses were not good at educating the public and other health professionals about their own value and scope of practice, and there is a need for better education and communication on this front.

Informants believed that team-based care was progressing in the province, but that interprofessional collaboration remains a challenge as role confusion persists. Several pointed out that the mere presence of different professionals together in a work setting does not guarantee well-functioning interprofessional teams.

Related to the above points, informants believed in the continuing need for a culture shift around how the healthcare system functions, and how primary healthcare should be delivered. Part of this culture shift involves the public coming to understand what nurses can do, and the quality care nurses provide. Many criticized the reluctance to move away from a medical model focused on illness care, citing the need for a more holistic vision of primary healthcare that recognizes the broader determinants of health. Informants saw primary healthcare as a focal point in the healthcare system that served to coordinate other aspects of care, including mental health and public health.

Informants were generally supportive of enhancements to nurses' scope of practice, particularly the move towards registered nurse prescribing which is occurring in other jurisdictions and is being developed in Nova Scotia. Not all nurses would become prescribers, but rather those with the appropriate training, and who work in appropriate settings, like primary healthcare.

> With more nurses as part of collaborative teams, they believe we could increase access, improve wait times, care coordination, and chronic disease management, and reduce reliance on the emergency care system.

The informants believed primary healthcare could be greatly improved in the province by means of greater nurse involvement. With more nurses as part of collaborative teams, they believe we could increase access, improve wait times, care coordination, and chronic disease management, and reduce reliance on the emergency care system.

Several informants commented on system-level barriers that prevent greater nursing involvement in primary healthcare. In a few instances, for example, a specialty services, will not accept referrals from nurse practitioners, even when this is within their scope and policy supports this. Some felt that nurses were not being utilized effectively, and that research was not being heeded. Others found that some employers did not respect nurses' autonomy and knowledge, and nurses struggle with the lack of congruence between the care they could provide and they care they are allowed to provide.

VIII. Focus Groups

The research team conducted focus groups to gain a better understanding of nurses' involvement in primary healthcare, to explore what nurses want to do for patients and the obstacles they face, and to develop hypotheses for future survey work. Focus groups were held in July of 2018 for the identified groups of nurses: nurses working in primary healthcare, nurse practitioners, emergency nurses, and nurses working for the Victorian Order of Nurses (homecare). Focus groups were 1.5-hours in duration and conducted online. A sample of the focus group questions can be found in Appendix C, and a more fulsome discussion of the focus group recruitment and methodology can be found in Appendix D.

Summary Findings by Group

I. Nurse Practitioners

The nurse practitioner focus group discussion centered around the understanding of the nurse practitioner role primarily by other health professionals and administrators, frustration with management, workplace rules, and the relationship nurse practitioners have with their patients. Within the nurse practitioner group, there was general agreement on most issues with very few exceptions.

Nurse practitioners felt that other health professionals, namely physicians and administrators, did not always understand their role. This lack of role understanding hindered their ability to practice autonomously, presented barriers to the continuity of patient care, conflicted with their moral duty of care, and created confusion for their patients. The result was that nurse practitioners in our focus group did not feel respected in their role. Several focus group participants recounted their challenges with not having their role formally recognized on internal Health Authority forms. For example, patients were being asked who their family doctor was when being cared for by a nurse practitioner. In this scenario, several nurse practitioners reported delays in receiving referrals or in following up on test results for a patient. As a solution, some gave business cards to their patients describing how to respond to other providers asking this question.

Lack of understanding of the nurse practitioner role was cited as the cause for their rigidly scheduled work hours. Nurse practitioners in the focus group described the importance of working outside of their scheduled hours to attend to urgent patient care matters such as responding to abnormal lab tests or answering phone calls related to patient care from other providers. Nurse practitioners in our focus group felt bound by a duty of care to work outside of their scheduled hours to provide patient care in certain situations, but were frustrated with management when they were not able to adjust their working hours to accommodate. Some of this frustration was related back to the collective agreement, which many believed did not provide for the appropriate flexibility. [6]

Nurse practitioners described working from a holistic nursing model, seeing everything "from pre-conception to death" in their practice. The basis of this care model was described as an equal power relationship with the patient, focusing on prevention, health promotion, and treatment.

Nurse practitioners valued their educational preparation but several claimed they would have benefitted from a residency or mentorship program to prepare them for autonomous practice.

II. Primary Healthcare Nurses [7]

Primary healthcare nurses discussed the importance of relationships with their patients, the value and potential of their role, and the lack of understanding of their role by patients and other healthcare providers.

[6] *The subsequently settled collective agreement with the NSHA in January 2019 attempts to address many of these issues.*

[7] *All of the nurses in this focus group were registered nurses with the family practice nurse education and certification.*

Nurses shared how patients benefit from a holistic nursing model by allowing for a greater understanding of how patient health connects with other aspects of their lives. In their role, primary healthcare nurses reported being able to spend more time with their patients compared to physicians, allowing them to focus on care aspects like patient education, disease prevention, health maintenance, and medication compliance.

Primary healthcare nurses described having a high level of autonomy in their practices. They perform a wide variety of tasks, from medication administration, to following up on lab tests, preparing prescriptions and referrals for the physician to authorize, home visits, and patient teaching. Nurses in the focus group felt the public and some physicians did not have a good understanding of their role unless they had previous exposure to it.

Primary healthcare nurses feel that their role supports patient care and has the potential to grow through role expansion, like the ability to renew prescriptions, for example. The model that nurses work from, combined with the longer visit length, and practice autonomy are the pillars supporting this potential, which may also improve and expand patient access

to primary healthcare. One quote by a participant highlights how her role is benefiting the patients in her practice:

Usually I have them ask for the nurse because they can get in quickly. And they know that the doctor is in the office as well and if there is an issue he can pop his head in quickly to address anything that I can't take care of perhaps like a prescription refill or a prescription change or something like that he can do that quickly, but I've already provided the ducation behind it, and then he can just verify it. But a lot of the time the families and the patients will call and say, "Can I see the nurse?" "If I can't get into the doctor is it ok if I see the nurse" or just skip the doctor and see me anyway so it's great that way. (primary healthcare nurse participant)

III. Homecare Nurses (VON)

Discussions with VON nurses focused on continuity and communication in patient care delivery, patient health education, and regional differences within VON. Participants shared experiences highlighting the challenges associated with continuity of care for their clients. Problems in maintaining continuity of care were attributed to two main causes, poor communication within the health care system, and a lack of primary healthcare providers.

Poor communication between the acute care sector and VON services creates confusion for patients and VON staff, disrupting the continuity of patient care. Nurses described scenarios where their patients would be sent home from hospital admission, a surgical procedure, or emergency department visit without notification to VON, and without a follow-up plan or discharge orders being provided to the VON. Also, most VON nurses are not able to access hospital-based patient records to see the results of diagnostic or lab tests. One nurse told a story of a patient she cared for who was seen in the emergency department and thought she had a broken bone. The VON nurse was unable to view the patient's diagnostic report and did not receive any report from the emergency physician. Eventually, the nurse learned that her patient did not in fact have a broken bone.

Another factor complicating continuity of care is the lack of primary healthcare providers. Some VON participants described how the lack of a provider meant their patients needed to seek care in a walk-in clinic or emergency department if orders were not sent to VON or if they required follow-up for their condition.

VON nurses felt more health education was needed particularly in chronic disease

management and on healthy ageing. Participants shared several stories of diabetic patients who lacked basic education about their disease process. Participants felt this was a need VON nurses were well positioned to fill.

Regional differences between the policies, practices, and funded services was pronounced in the focus group, with some participants explicitly stating this was an issue for the VON. Significant regional differences discussed included the intake process for new clients and whether extra hours could be autonomously allocated to complete a visit. Regarding the intake process, nurses felt their patients were becoming more complex, requiring a longer intake visit. Some felt that clients were often assigned insufficient time from Continuing Care for both nursing and support visits. Differences between the VON services offered as publicly funded also varied, with some areas still offering foot care and others charging a fee to patients. Licensed practical nurses within the VON were described as underutilized in some regions. For example, some are not permitted to do intravenous rehydration while others are.

IV. Emergency Department Nurses

The main topics discussed in this focus group were education both for the public and for nurses. Nurses agreed that more public education is needed around general health knowledge (so-called 'health literacy'), education about the emergency care system (hours of operation, processes around transfers, and expectations), and public education around what options are available for care outside of the emergency department. To support the need for public education around the emergency care system, participants shared their stories highlighting patient frustration, confusion, and unrealistic expectations with the system. One nurse felt that some patients expected drive-thru like service from emergency services while another discussed the unrealistic care timelines patients often expect.

Nurses repeatedly highlighted how essential it was to have the recommended training and preparation when working in an emergency department. Nurses indicated they enjoyed and valued this training but expressed frustration at not being able to obtain such training promptly.

Nurses claimed that workload is a major concern for both staff and patients. All nurses described working in departments facing overcrowding, capacity, and workload issues, often described as prolonged. Nurses attributed these conditions to the lack of available beds elsewhere in the healthcare system, resulting in physical space limitations within the

department to see patients. Nurses also attributed overcrowding and workload issues to a lack of available community-based services (homecare, ambulatory care) for patients requiring return visits like intravenous medications, routine blood transfusions, or wound

> Nurses also attributed overcrowding and workload issues to a lack of available community-based services (homecare, ambulatory care) for patients requiring return visits like intravenous medications, routine blood transfusions, or wound dressings

dressings. Many patients were required to receive these services in the emergency department, increasing the workload for nursing staff.

Poor follow-up and access to primary healthcare providers were other issues nurses consider to unduly increase their workload. Nurses described situations where patients were being turned away from walk-in clinics, had no primary healthcare provider, or who were not offered appropriate follow-up. In these situations, patients are often instructed to seek treatment in the emergency department if their condition does not improve.

Nurses felt stressed and pressured when asked to do increasingly more tasks, particularly those that fell outside of the traditional nursing role, such as blood work. Nurses had divergent opinions related to the “Treat and Release” policy with some feeling it was not realistic to implement given their time limitations while others felt it would improve wait times. This policy allows registered nurses to treat and release (without official admission or discharge) patients who present for a small subset of conditions such as a fishhook injury or a minor burn (NSHA, 2016).

IX. Public Perception Survey

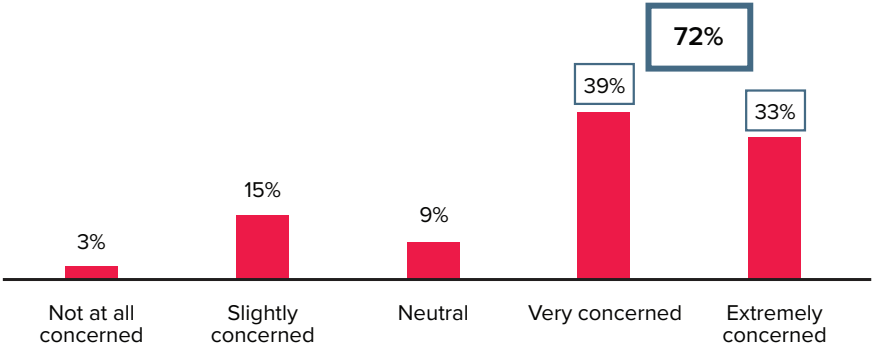
In the summer of 2018, the Nova Scotia Nurses' Union commissioned a public survey of Nova Scotians with an aim to measure access and wait times for primary healthcare, as well as openness to receiving care from nurse practitioners.[8] Six hundred (600) Nova Scotians over the age of 18 were surveyed by phone (land lines and cellphones), with proportionate representation by age, geography and gender. The results are accurate to within 4.0%, 19 times out of 20.

The survey revealed that a large majority (72%) of Nova Scotians are concerned about access to primary healthcare.

[8] *Survey conducted by the Halifax, Nova Scotia branch of MQO Research, an accredited Gold Seal Member of the Marketing Research and Intelligence Association.*

Figure 18.

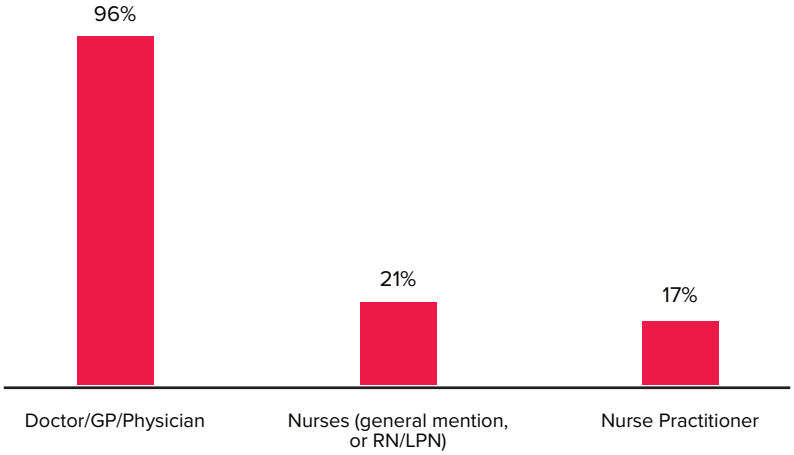
Are you concerned about Nova Scotians' access to primary healthcare?



When Nova Scotians were asked to think about primary healthcare providers, nearly all (96%) mentioned doctors, while one in five (21%) mentioned nurses and 17% made explicit mention of nurse practitioners.

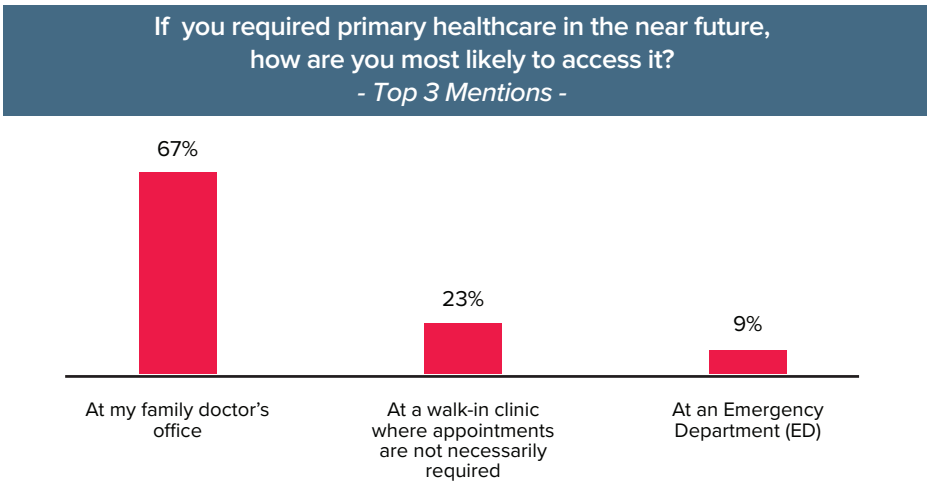
Figure 19.

When you think about who provides primary healthcare, what types of health professionals come to mind?
- Top 3 Mentions -



Nine percent of Nova Scotians claimed they were most likely to access primary healthcare at an emergency department if they needed it in the near future. This ranged from 9% in Cape Breton, to 19% on the South Shore, to 7% for the rest of Nova Scotia. Sixty-seven percent claimed they would go to their family doctor's office, while 23% said they would attend a walk-in clinic.

Figure 20.



Regarding visits to the emergency department, over 50% of respondents were dissatisfied (26%) or extremely dissatisfied (24%) with their wait.

Eighty-five percent of Nova Scotians reported having a primary care provider, but only 3% of these have a nurse practitioner playing that role, whereas 4% depend on a collaborative team.

While a majority of Nova Scotians understood that nurse practitioners conduct assessments (95%) and provide treatments (88%), only 45% knew they could diagnose diseases, disorders and conditions, and only 54% knew they could prescribe medications. Sixty-nine percent of Nova Scotians knew that nurse practitioners order or conduct tests, and 64% knew they refer to specialists or other healthcare professionals.

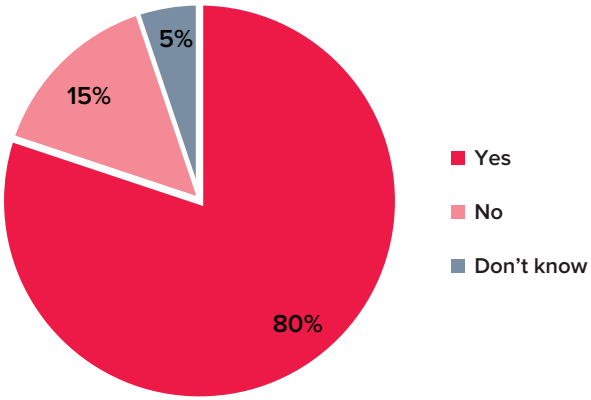
Figure 21.

What roles do you believe Nurse Practitioners currently play in our healthcare system? *- Prompted Responses -*	
Assessments (take blood pressure, heart rate, body temperature, pap test etc.)	95%
Provide treatments (apply a medication, apply a sling etc.)	88%
Order or conduct tests (x-rays, bloodwork etc.)	69%
Refer to specialists or other health care professionals (physiotherapist, psychologists, general practitioner)	64%
Prescribe medications	54%
Diagnose diseases, disorders and conditions	45%

When asked if they would consider having a nurse practitioner as their primary provider, 80% of Nova Scotians said yes, 15% said no, and 5% did not know or did not answer.

Figure 22.

If you did not have a primary healthcare provider, would you consider having a Nurse Practitioner as your primary provider?



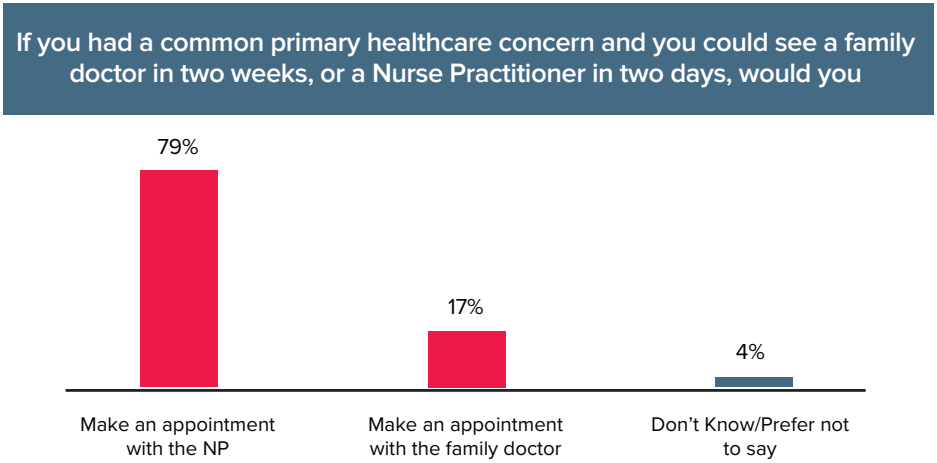
For those who said no (n=90), 49% claimed that nurse practitioners lacked knowledge, experience or qualifications, 19% claimed they prefer doctors, 20% claimed nurse practitioners were not capable enough, or as capable as doctors, and 15% were not aware of their skills, training or capabilities.

Figure 23.

Could you elaborate on why you would not be open to receiving primary healthcare from a Nurse Practitioner?
- Subset: Those who stated 'No' in Q7 -

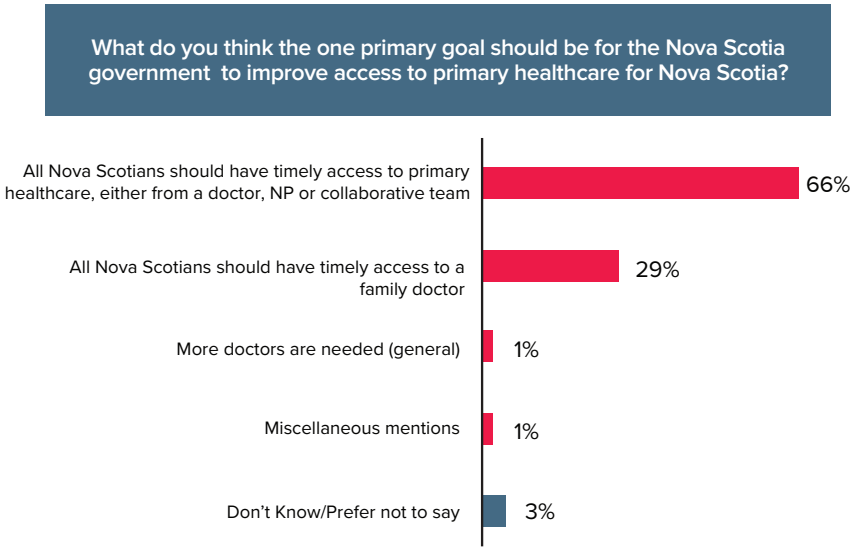
When asked about the role of nurse practitioners in primary healthcare, 53% of Nova Scotians said they see nurse practitioners as temporary providers for patients waiting for a family doctor, while 38% saw them as permanent providers. Nevertheless, a majority of Nova Scotians would be willing to see a nurse practitioner rather than wait for a physician if it meant quicker access to care.

Figure 24.



When asked about government priorities, 29% said government's priority should be that all Nova Scotians have timely access to a family doctor, while 66% claimed it should be that all Nova Scotians have timely access to primary healthcare, either from a doctor, nurse practitioner or collaborative team.

Figure 25.



The public perception survey confirmed that many Nova Scotians are concerned about primary healthcare access in our province. Many Nova Scotians are waiting for care, or are receiving it in non-ideal circumstances. The survey also demonstrated that many Nova Scotians still do not understand the role of nurse practitioners in primary healthcare, including their capabilities and the role they are trained to play.

X. Nurse Surveys

In fall of 2018, the Nova Scotia Nurses' Union conducted an online survey of nurses in the province regarding perceptions of their working conditions and on the quality of care the system provides. In addition to questions on work-life and perception of system quality and function, respondents also answered questions on nurse-centered initiatives that could potentially improve primary healthcare in the province. Some survey questions concerning working conditions and organizational relationships were adapted from the Home Healthcare Nurse Job Satisfaction survey that has been validated in the literature (Ellenbecker et al., 2008). Additional questions were developed based on discussions with key informants and with participants of the four focus groups. The research team worked with professional investigators from the Health Authority's Research Methods Unit to prepare the survey and to analyze the data.

Following the removal of partial and incomplete surveys, 586 participants, including licensed practical nurses (30.9%), nurse practitioners (10.6%) and registered nurses (58.5%), were included in the final analysis. Ninety-five percent of respondents self-identified as

female. Figure 26 shows the distribution of nurses across the various practice settings represented, the overall survey results are accurate within a 4% margin of error, 19 times out of 20.

Figure 26.

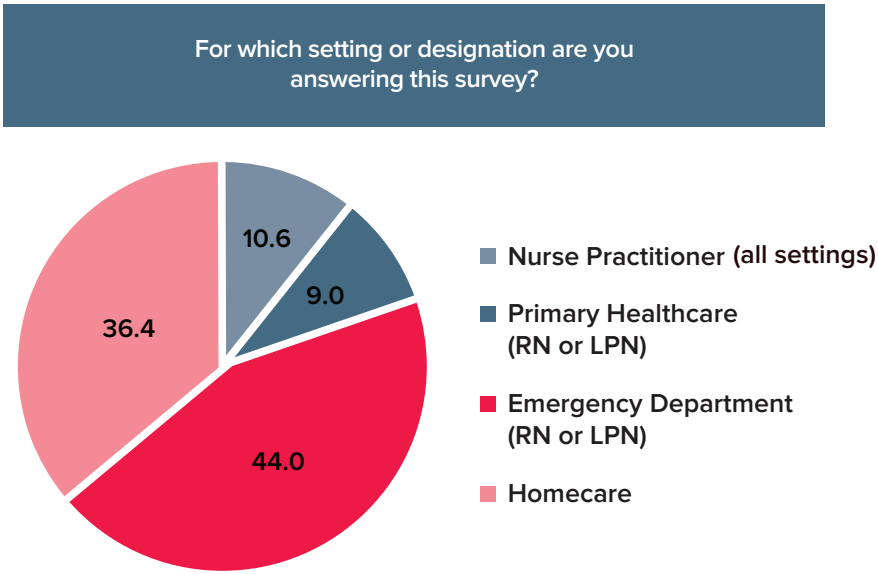
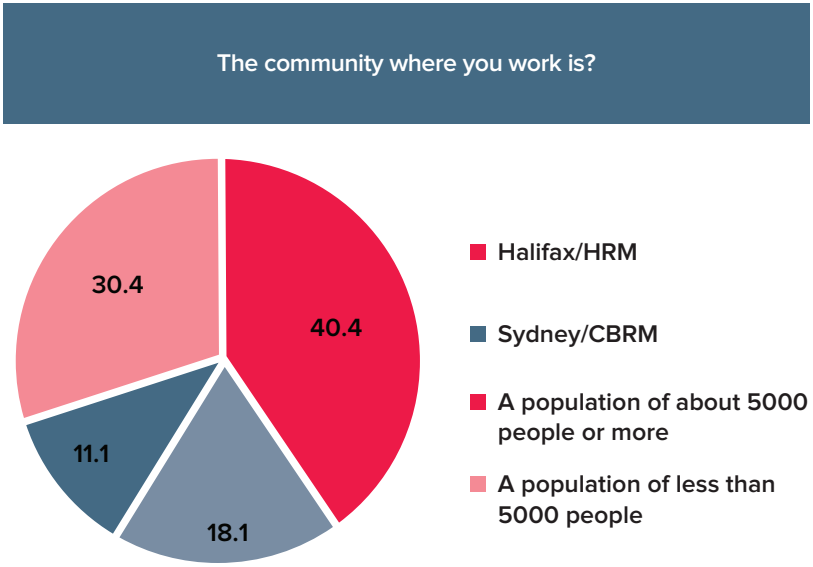


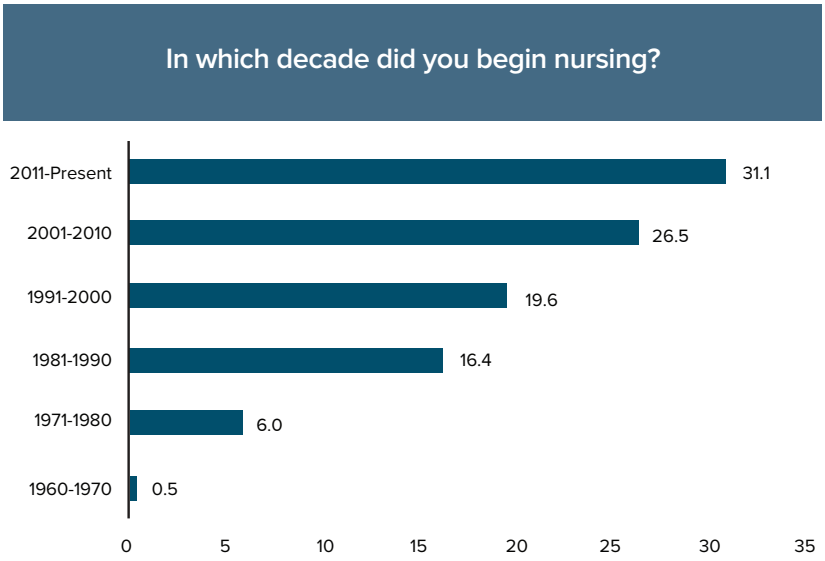
Figure 27 shows the percentage of nurse respondents according to the size of community they work in. Those answering the survey represented communities of varying sizes, from urban centres like Halifax/HRM (40.4%) and Sydney/CBRM (18.1%) to smaller areas with a population of 5000 or more (11.1%), to those with a population of less than 5000 (30.4%).

Figure 27.



The mean age of nurses participating in the survey was between 35 and 44 years. Forty-two percent of nurse respondents had over 20 years of nursing experience. A full breakdown of respondents' nursing experience is shown in Figure 28.

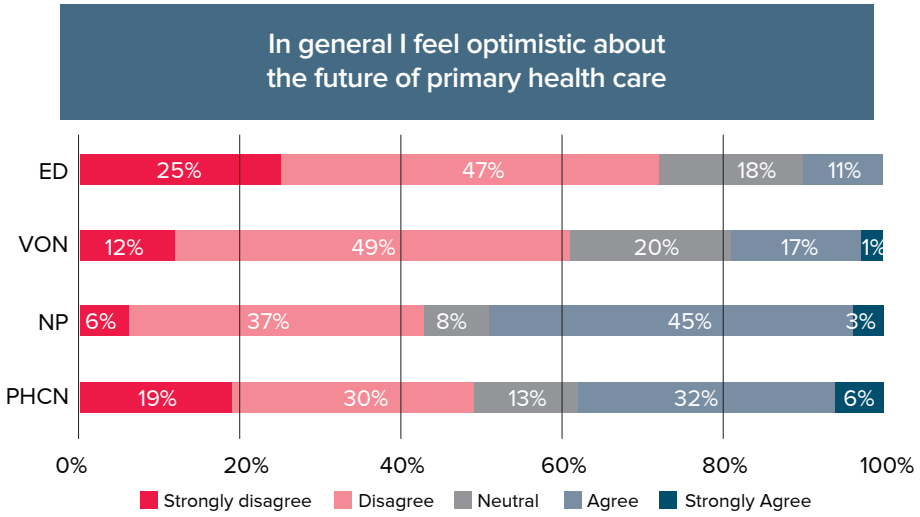
Figure 28.



Common Questions

The survey was structured such that all respondents were asked a core group of common questions, with other questions specifically targeted to relevant subgroups. When asked if they felt optimistic about the future of primary healthcare in Nova Scotia, 62.8% of respondents disagreed. Figure 29 shows that this question was answered similarly across all subgroups.

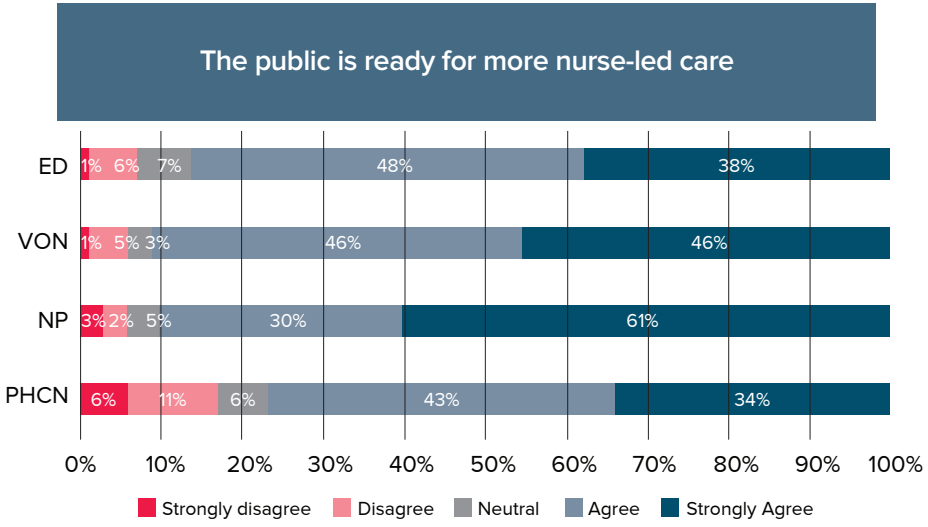
Figure 29.



On the whole, nurses also did not feel optimistic about the future of emergency care (13.5% were optimistic versus 69.0% not) or home care (21% were optimistic versus 46.6% not) in Nova Scotia. This sentiment was shared among the relevant subgroups working in these areas (Emergency Department nurses and VON nurses).

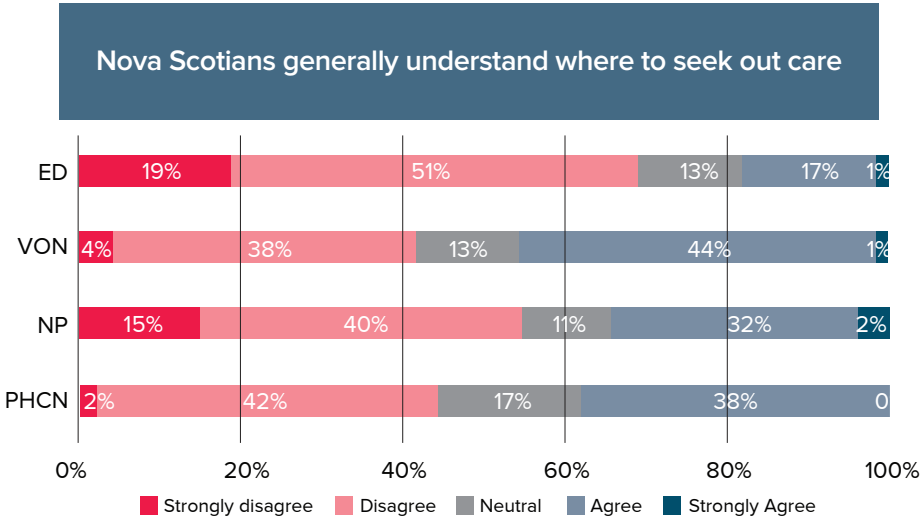
Respondents were asked if they believed the public was ready for more nurse-led care. As shown in Figure 29, nurses from all practice settings overwhelming agreed with this statement. Overall, 87% of nurses agreed that the public is ready for more nurse-led care.

Figure 30.



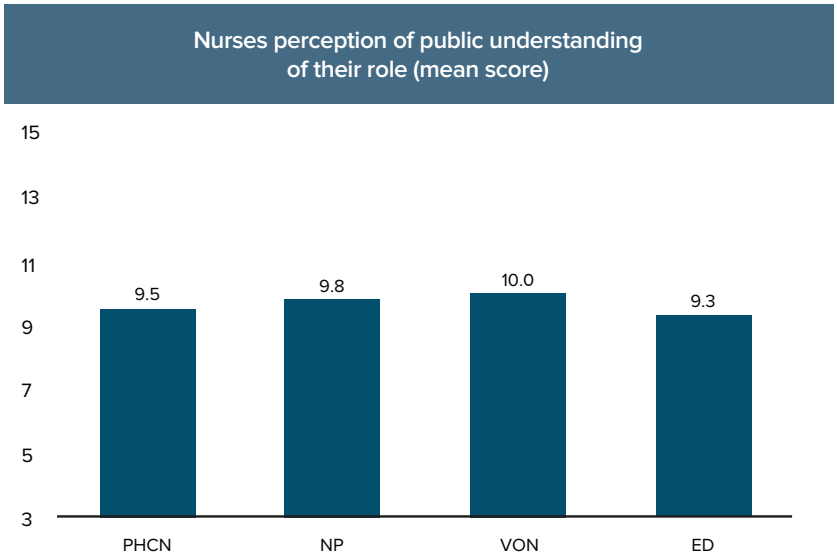
Some questions were designed to gauge how nurses perceived public understanding of the healthcare system and the role of nurses in it. When asked if they believed Nova Scotians generally understood where to get care for their medical concerns, 55.5% of respondents disagreed. Figure 31 shows how responses varied across practice settings.

Figure 31.



Three questions measured nurses' perception of public understanding of the role of nurses in the health care system, with a higher score meaning greater perceived understanding. Scores could range from 3 (lowest) to 15 (highest). Questions probed if respondents believed the public understood the range of care nurses can provide, the benefits of having a nurse practitioner, registered nurse or licensed practical nurse involved in their care, and nurses' role in providing that care. As shown in Figure 32, scores on this scale were compared across practice settings to determine if perceptions varied according to nurses' place within the healthcare system. There was a significant difference in mean perception scores across practice settings ($F = 4.87$, $p = 0.0024$). Post-hoc tests with adjustment for multiple comparison showed VON nurses rated the public's understanding of the nurses' role significantly higher than emergency department nurses rated this understanding.

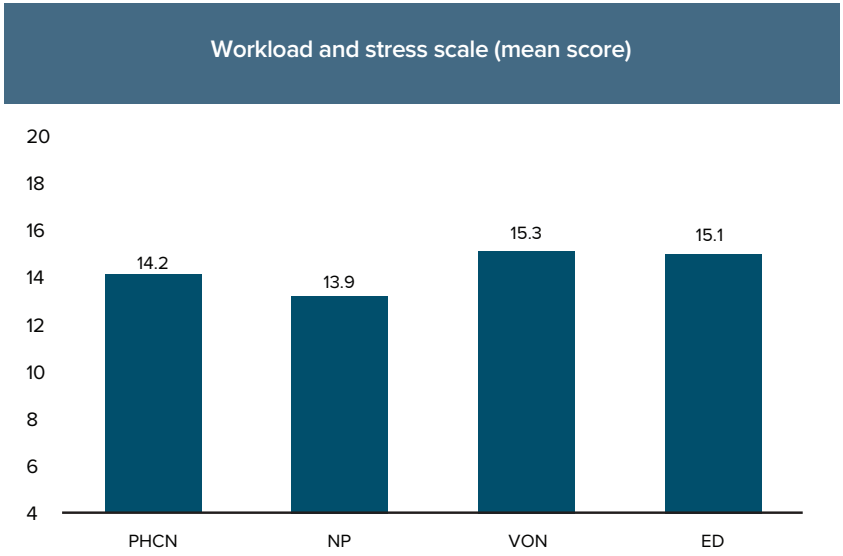
Figure 32.



A set of four questions measured nurses' rating of their workload and stress. A higher score on this scale indicated a higher perceived workload and/or stress level, with scores ranging from 4 (lowest) to 20 (highest). These questions asked if nurses felt overwhelmed by their workload, could deliver better care with more time, were able to meet the demands of their job, and if they were able to cope with the increased demands of documentation. The mean scores on this scale are shown in Figure 33 as compared across practice settings. A significant difference in self-reported workload score was found between the practice

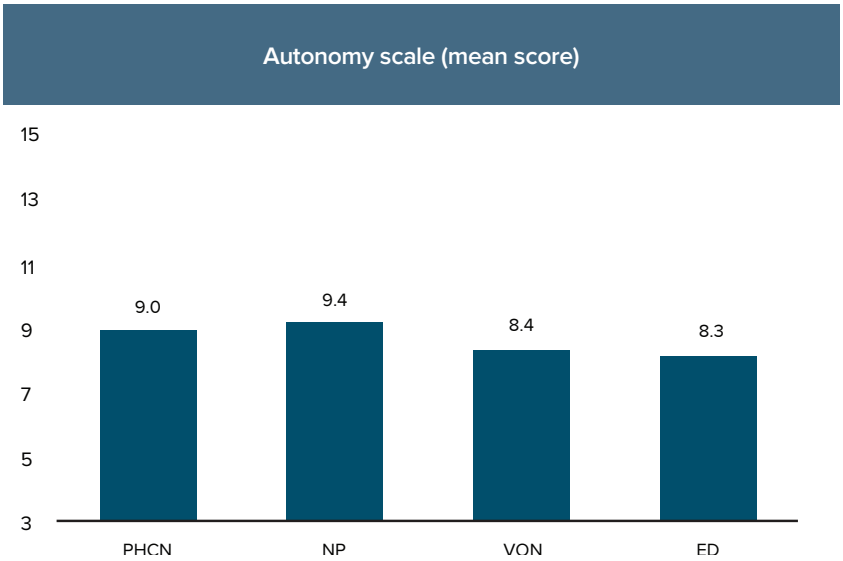
groups (F = 7.85, p < 0.001). Post hoc tests with adjustment for multiple comparison showed that while nurses in all settings expressed concerns around high workload, nurses in emergency departments reported a greater perceived workload/stress level than nurse practitioners and those in the primary healthcare nurse group. VON nurses also reported a significantly greater workload/stress level than nurse practitioners and primary healthcare nurses. A full 91% of nurses claimed that at times they are overwhelmed by their workload.

Figure 33.



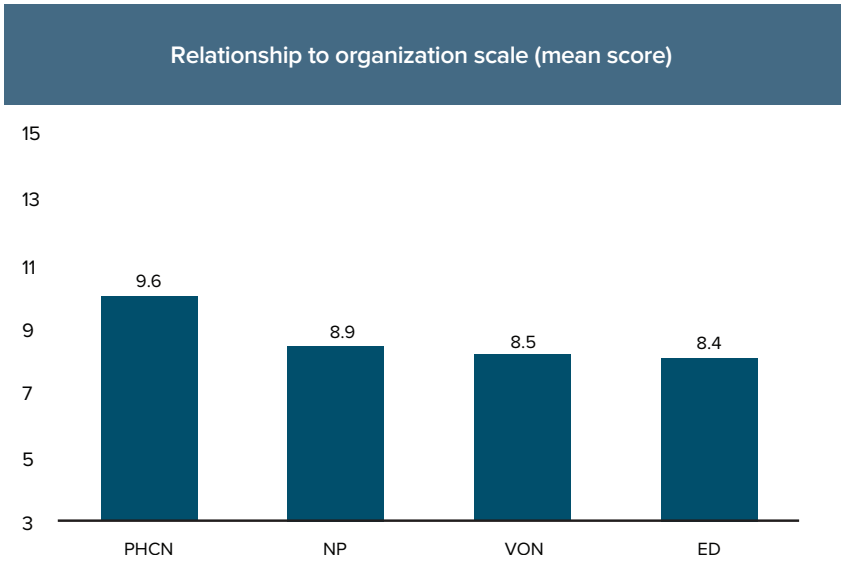
Three of the survey questions were designed to measure nurses' sense of autonomy within their practice, with scores ranging from 3 (lowest) to 15 (highest). These questions asked about nurses' level of frustration when duties are pre-determined, control over scheduling their time, and autonomy over day-to-day decisions in their work. A higher score on this scale indicates a greater sense of autonomy. Figure 34 depicts mean scores on this scale broken down by practice setting. A significant difference in autonomy scores was detected across practice groups (F = 4.84, p <0.0025) such that nurses in the nurse practitioner group reported a significantly higher sense of practice autonomy than emergency department nurses, according to post hoc tests with adjustment for multiple comparison. Nurses in the nurse practitioner group also reported having significantly higher autonomy than VON nurses.

Figure 34.



Nurses' relationship with the organization they work for was also of interest. This was measured on a scale consisting of three questions, with a higher score indicative of a better relationship with the organization. Possible scores ranged from 3 (low) to 15 (high). Questions asked covered satisfaction with nursing administration, influence over organizational policies, and perceived growth opportunities within the organization. The mean scores (as shown in Figure 35) were significantly different between practice groups ($F = 3.52$, $p = 0.0149$). Post hoc comparisons adjusted for multiple comparisons showed primary healthcare nurses rated their relationship to their employer higher than that of emergency department nurses, as well as VON nurses.

Figure 35.



In addition to questions about their relationship with the organization they work for, respondents were asked about co-workers and others they interact with at work. They answered questions about the perceived understanding of their role by physicians they work closely with (Figure 36), less closely with (Figure 37), other healthcare practitioners (Figure 38) and their managers (Figure 39). As shown in Figure 40, they were also asked if they felt valued by their employer, with fewer feeling valued (32%) than not (43%).

Figure 36.

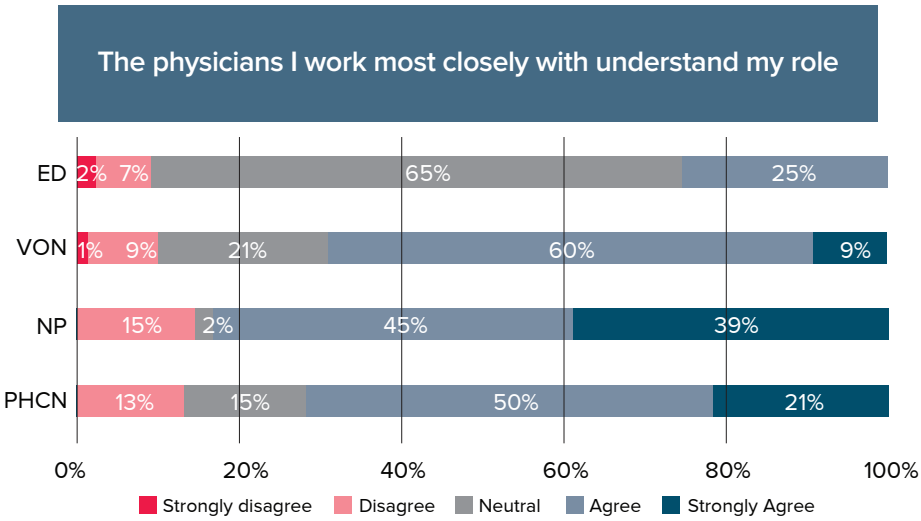


Figure 37.

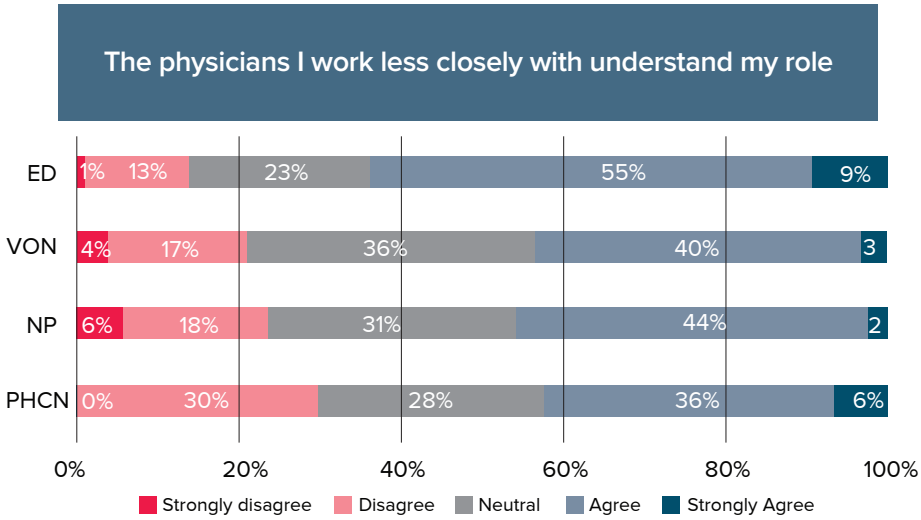


Figure 38.

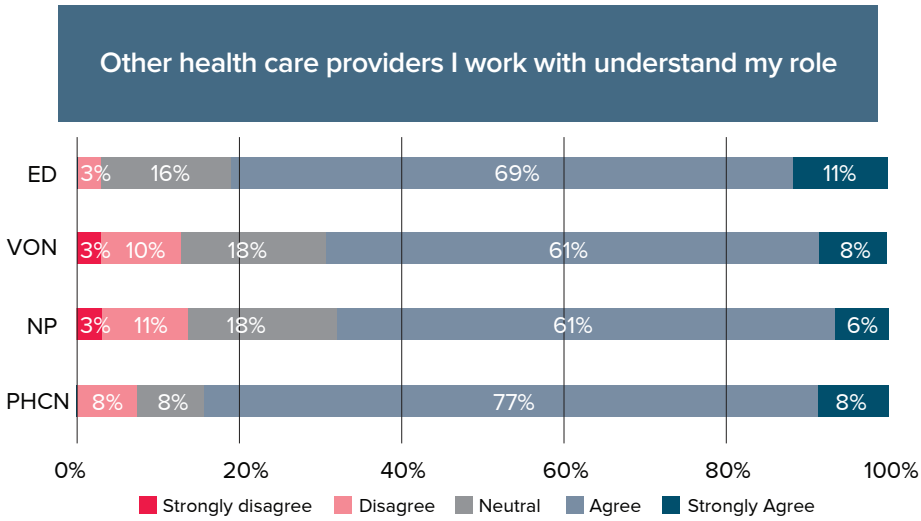


Figure 39.

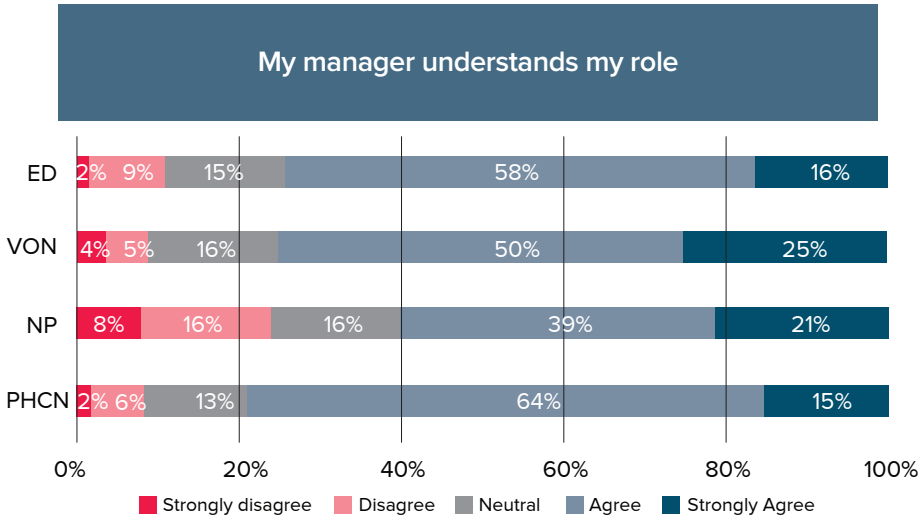
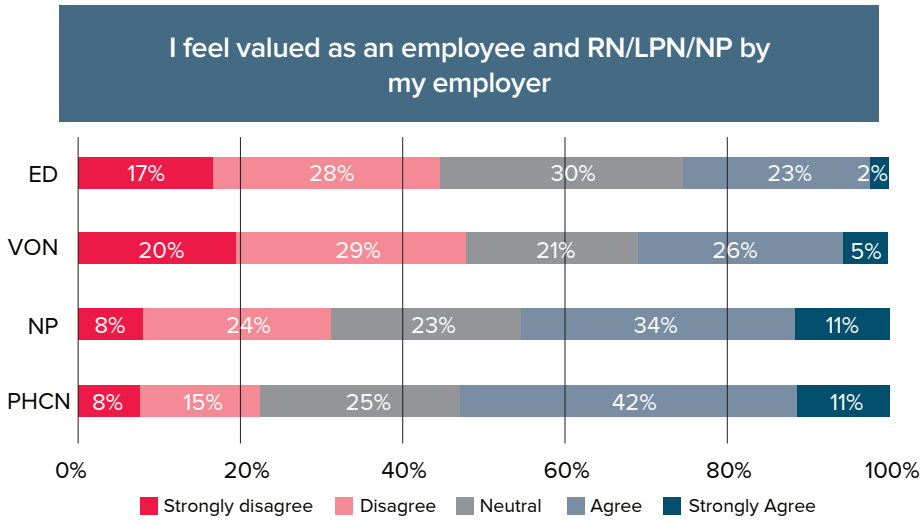


Figure 40.



Nurses were also asked about the care that they provide to patients and clients in their practice. Most emergency department and VON nurses claimed that they lacked adequate time to provide patient education. These questions and responses are shown in Figures 41 to 43.

Figure 41.

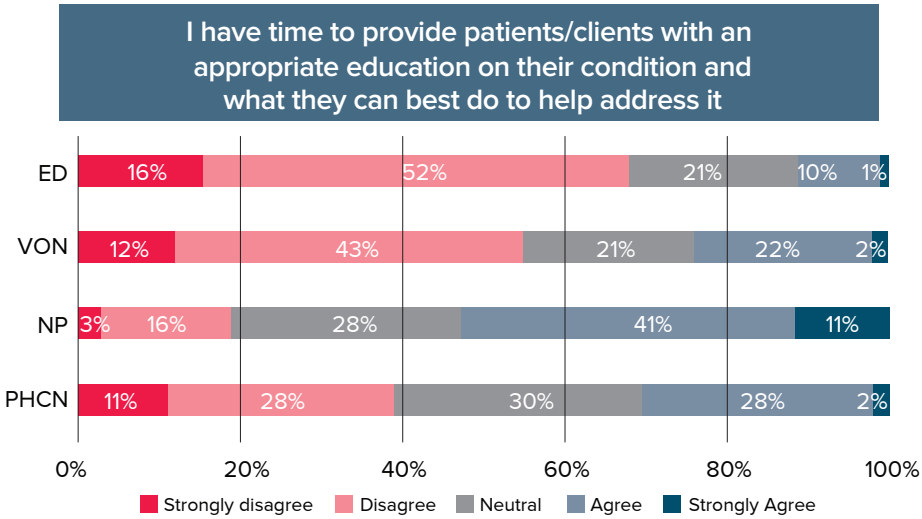


Figure 42.

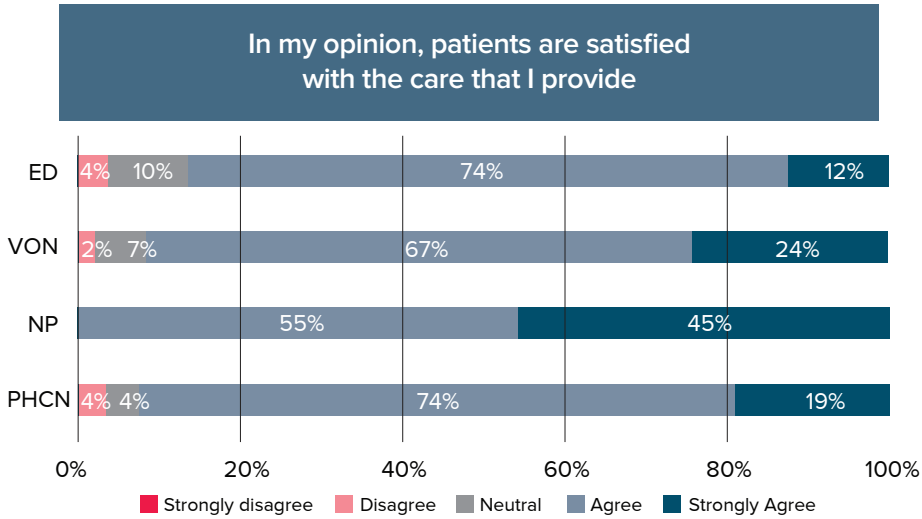
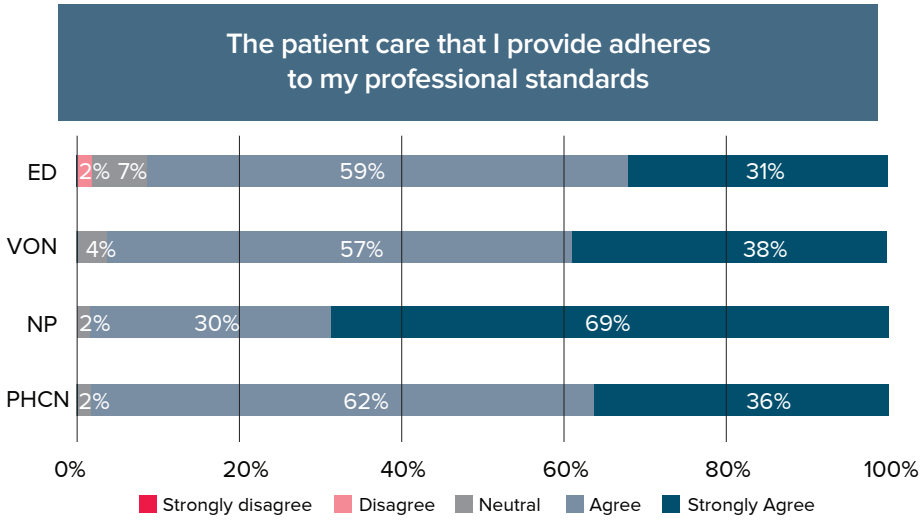
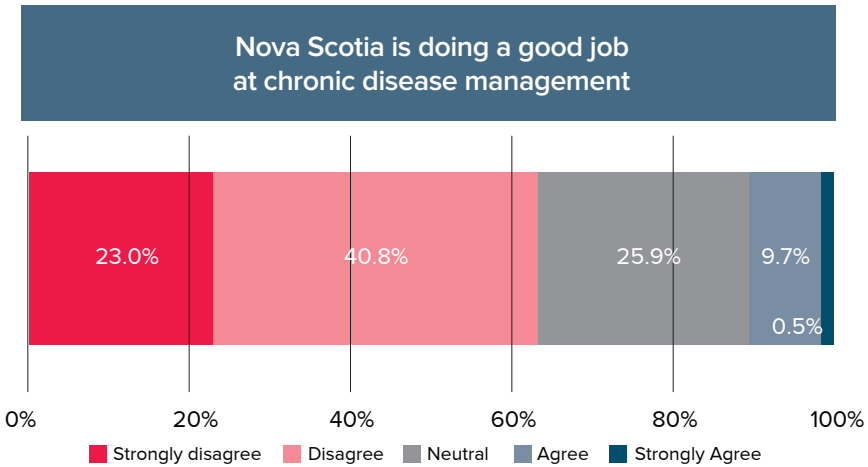


Figure 43.



Respondents were asked about the Nova Scotia Health Authority's vision for primary healthcare in the province. This vision involves working towards a system that is more comprehensive, collaborative, addresses the social determinants of health, and is better at chronic disease management. Twenty-eight percent of nurses agreed that this vision was being realized in their area, while 40.1% disagreed. When asked if progress was being made towards this vision, 31.6% agreed and 37.2% disagreed. When asked if collaborative care was working well in the healthcare system, 33.3% agreed and 33.5% disagreed. As shown in Figure 44, a majority (63.8%) of nurses do not believe Nova Scotia is doing a good job at chronic disease management.

Figure 44.



After the common questions, nurses were streamed into specific groups to answer questions according to their practice setting. The composition of these groups was based on that of the focus groups discussed in Part VIII, primary healthcare nurses (LPNs and RNs), nurse practitioners, home care nurses employed by VON (LPNs and RNs), and emergency department nurses (LPNs and RNs).

Primary Healthcare Nurses

A total of 42 nurses answered the questions in the primary health care nurse group. The nurses were asked for their opinions on the composition of and potential for primary healthcare clinics in Nova Scotia. Eighty-one percent of nurses indicated a willingness to work in a primary healthcare clinic with a nurse practitioner as the most responsible provider.

Nurses were split on the concept of nurse-led clinics (clinics without an on-site nurse practitioner or doctor but the ability to refer to one when needed). Thirty-nine percent reported that they would be willing to work in such a clinic, while 40% said they would not. A strong majority (81%) of nurse respondents believed patients should be able to schedule independent nurse-only visits in all clinics.

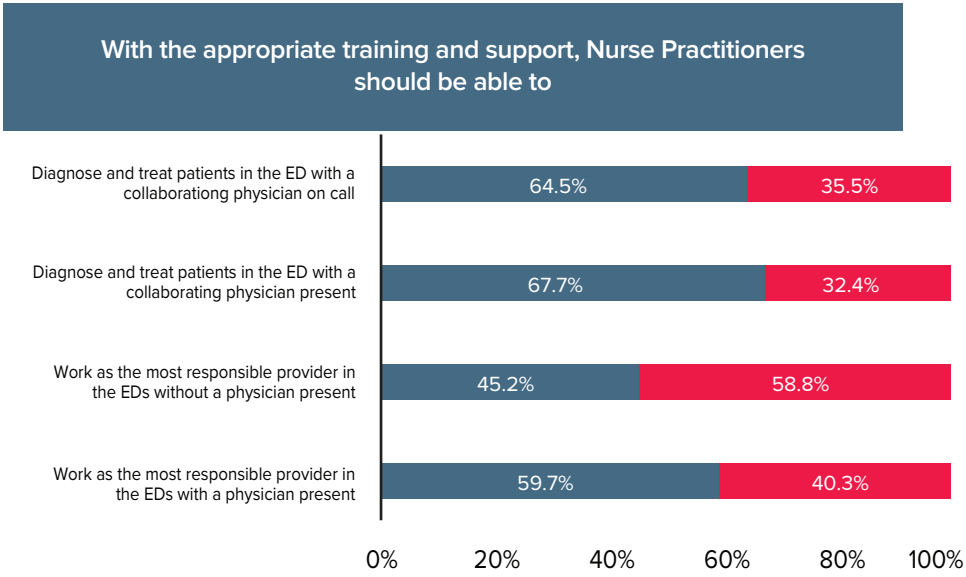
Finally, nurses in this group were asked about how physicians were funded in their clinics and if this influenced the quality of patient care. Fifty percent reported working with physicians funded according to fee-for-service, 21% by salary, and 29% reported other or unknown. Of those nurses working with fee-for-service physicians, 67% indicated that funding influenced patient care quality, 50% rating the influence as negative and 20% as positive. Of those working with salary-funded physicians, 55% indicated that funding influenced patient care quality, 22% rating it positive, and 22% as negative. As these numbers are based on a small sample of nurses working in the family practice setting, they should be interpreted with caution.

Nurse Practitioners

The nurse practitioner group (N=62) was asked a variety of questions regarding their patients' access to primary health care, and their openness to playing a larger role in the healthcare system. Forty-five percent of nurse practitioners reported that at least one in five of their patients lacked regular access to a primary healthcare provider, with 69% indicating that this adds to their workload and 48% indicating it affects the quality of care they are able to provide. Of the nurse practitioners working in primary healthcare, all who answered claimed they would work in a primary healthcare clinic as the most responsible provider.

Nurse practitioners were asked to give their opinions on the provision of emergency care in Nova Scotia, which 89% of respondents said nurse practitioners should play a larger role in. Figure 45 shows nurse practitioners' opinions on their preferred role in emergency departments, which 58% of nurse practitioner respondents indicated they would personally consider working in.

Figure 45.



Nurse practitioners were asked about their role in Collaborative Emergency Centres (CECs). Ninety-one percent of respondents agreed that employers should hire nurse practitioners to lead CECs. Seventy-six percent of nurse practitioners agreed that Nova Scotia should allow Collaborative Care Centres (CEC) to be run with a nurse practitioner as the most responsible provider, and no physician present. Fifty-six percent said they would personally agree to work in a CEC as the most responsible provider if given the appropriate training and support. Further, 84% of nurse practitioners believe that Nova Scotia should extend full hospital privileges to allow acute care nurse practitioners with the appropriate training and support to admit and transfer patients.

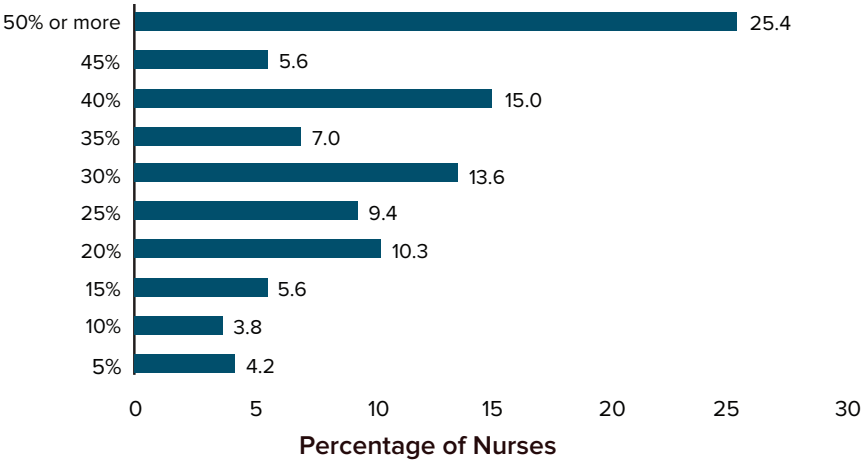
Homecare Nurses

Homecare nurses employed by the VON (N = 213) answered survey questions pertaining to their clients' access to primary healthcare services, their scope of employment and practice, their relationship with their clients and their relationship with the Continuing Care Branch of the Nova Scotia Health Authority. The Continuing Care Branch of the Health Authority is responsible for assessing clients and referring them to VON services.

A majority (93%) of homecare nurses agreed that when a client lacks access to a regular primary healthcare provider this adds to their workload, and 83% agreed that the quality of care they can provide is negatively impacted. A quarter of respondents estimated that 50% or more of their clients are currently in such a situation. Figure 46 shows overall estimates that nurses gave when asked about the proportion of their clients who lack access to a regular provider. Ninety-two percent of homecare nurses believed that employers should hire nurse practitioners to serve as primary healthcare providers or to lead collaborative practice teams.

Figure 46.

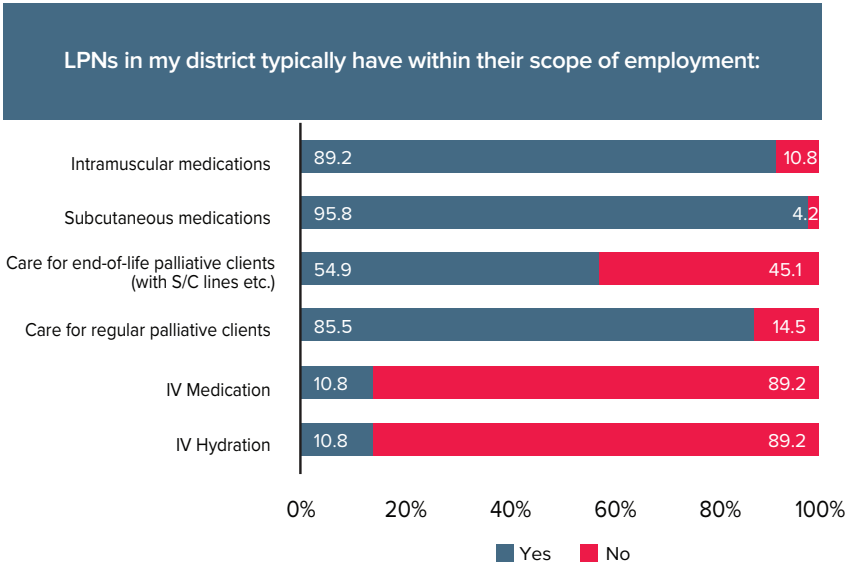
Proportion of clients without regular access to a primary healthcare provider, collaborative practice or team



Homecare nurses were also surveyed on information sharing between the acute care and homecare sectors of the healthcare system. When asked if their clients received adequate education upon discharge from the hospital, 70% of nurses disagreed, and only 11% agreed. Half of the participants (50%) also disagreed when asked if information was shared efficiently between the acute and homecare sectors. Similar views were shared about information sharing between primary healthcare and homecare (41% disagreed).

Nurses were asked about typical duties included in the licensed practical nurse scope of employment, these are shown in Figure 47. Fifty percent of home care nurses agreed that their employer allowed licensed practical nurses to work to their full scope of practice, while 35% disagreed.

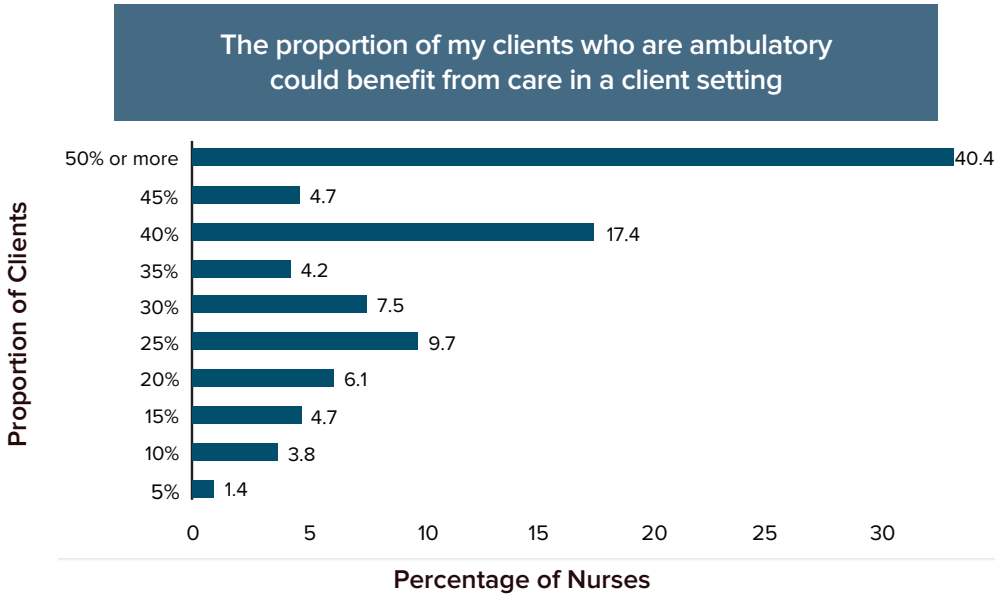
Figure 47.



When asked if their employer allows registered nurses to work to their full scope of practice, 78% agreed. Regarding expansion of the registered nurse scope of practice, 69% agreed that when the registered nurse prescribing course is in place in Nova Scotia, homecare registered nurses with the required education and certification should be able to prescribe and adjust certain medications according to a clinical decision guide. Only 10% disagreed, with 21% offering no opinion. Eighty-four percent of respondents agreed that with the appropriate supports and training, homecare registered nurses should be able to order routine tests (e.g. lab work, follow-up x-rays) following a clinical decision guide. Only 7% disagreed, with 9% offering no opinion.

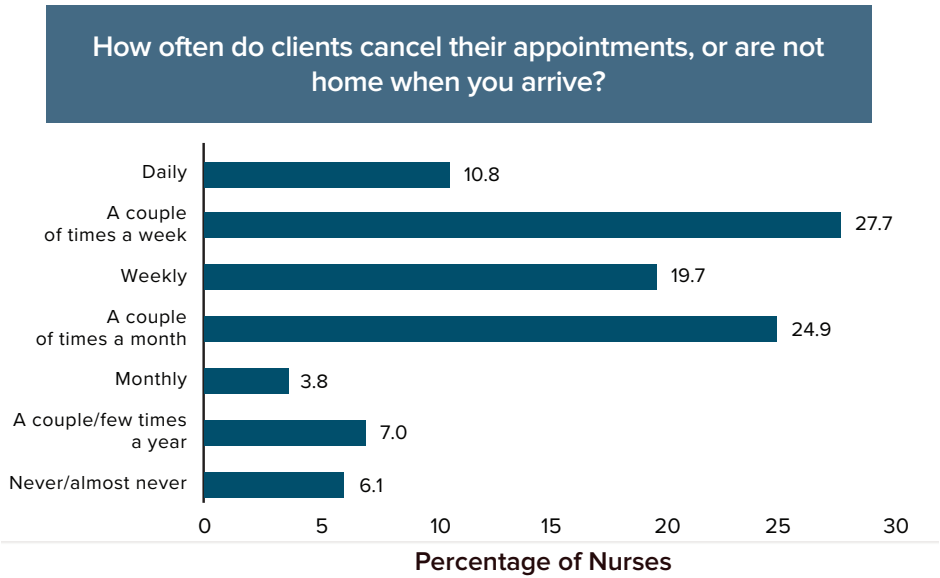
Homecare nurses were asked about the ambulatory clinic that is available for some VON clients in the Halifax area. Nearly all (92%) of all respondents agreed that the clinic model should be expanded across the province, with 40% estimating that half or more of their clients would benefit from such a model. Further estimates of the proportion of clients who would benefit from an ambulatory clinic are shown in Figure 48.

Figure 48.



Nurses also estimated the frequency of appointment cancellations and the frequency of clients not being home when they arrive. These estimates are shown in Figure 49. Regarding length of client visit, 83% agreed that they are able to add time to a client visit if they deem it necessary.

Figure 49.



The Continuing Care branch of the Nova Scotia Health Authority coordinates placement of clients with VON. Nurses responding to the survey were asked about their relationship with Continuing Care. When asked if VON and Continuing Care communicate effectively with each other, 59% agreed and 17% disagreed (23% offered no opinion). Homecare nurses were asked to evaluate the timeliness of client placement by Continuing Care. Fifty-five nurses agreed that placement is timely, while 16% disagreed and 28% remained neutral. Most nurses offered no opinion on whether client service improved since Continuing Care took over initial client assessment (62%), although 17% agreed it had, and 16% disagreed. Forty-seven percent of nurses agreed that Continuing Care Coordinators understand the role of nurses within VON, while 21% disagreed. Sixty percent of nurses agreed that VON does a good job of matching client needs with the appropriate provider (i.e. RN, LPN, CCA).

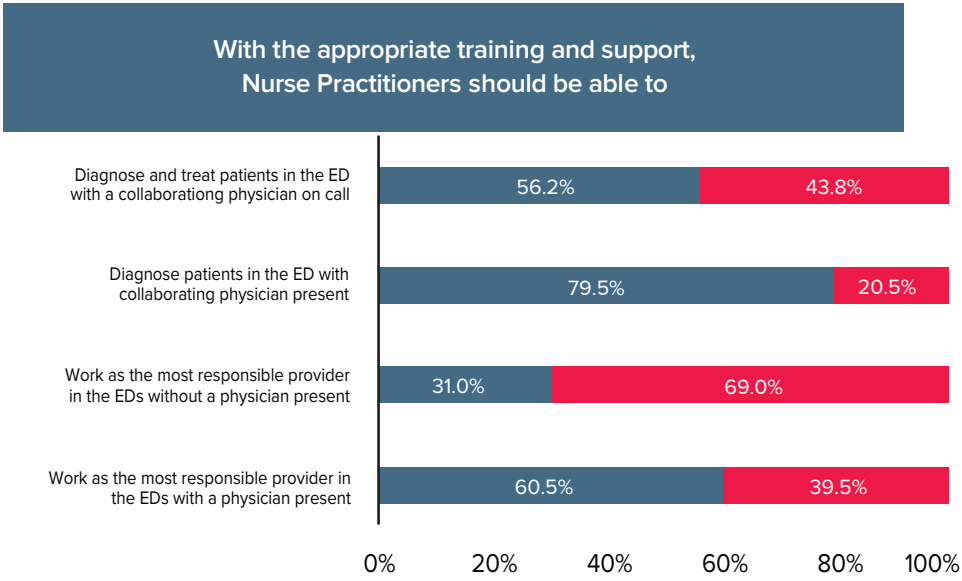
Emergency Department Nurses

Nurses in the emergency department group were first asked about the Nova Scotia Health Authority's "Treat and Release" policy. Forty-five percent of respondents were aware of the policy. Of those that were aware of the policy, 84% agreed that it was beneficial to patients, and 85% agreed it was beneficial to emergency department nurses and other staff.

Emergency department nurses were asked about potential expansion of the registered nurses scope of practice, including registered nurses prescribing. Once the registered nurses prescribing course is in place, 60% of nurses agreed that emergency department nurses with the required education should be able to prescribe and adjust certain medications following a clinical decision guide. Eighteen percent disagreed with registered nurses prescribing, while 21% remained neutral. Almost all (95%) emergency department nurses also agreed that registered nurses with the appropriate training should be able to order diagnostic tests for their patients.

Emergency department nurses were also very supportive of nurse practitioners having a role in emergency care, with 91% agreeing that nurse practitioners should assume a larger role in emergency departments. Figure 50 outlines respondents' opinions on the potential role of nurse practitioners in the emergency department.

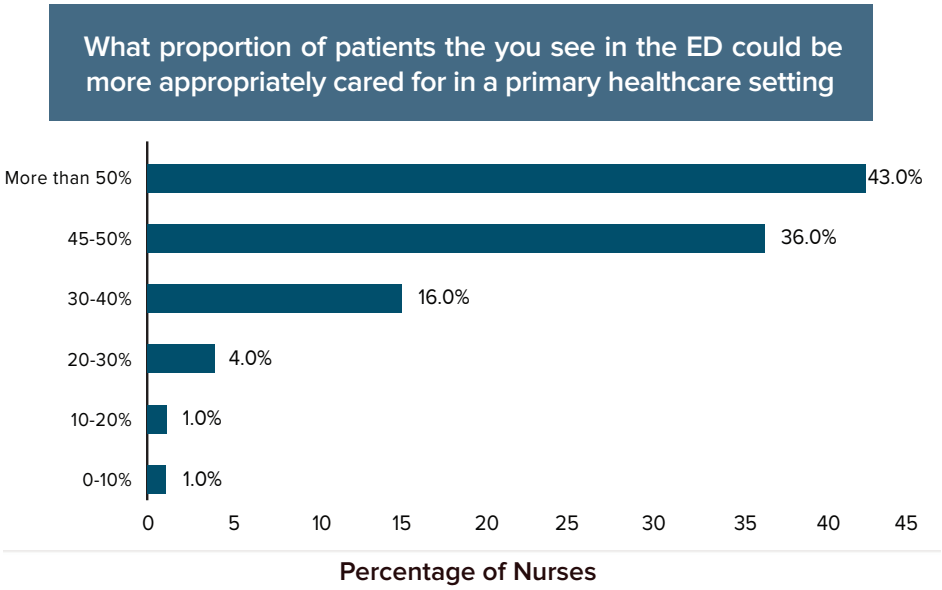
Figure 50.



Nurses were also asked about the potential for nurse practitioners to work in Collaborative Emergency Centres with 59% agreeing that Nova Scotia should allow CECs to be run with an nurse practitioner as the most responsible provider, and no physician present (23% disagreed). Further, 59% would consider working with a nurse practitioner in such a capacity (24% would not).

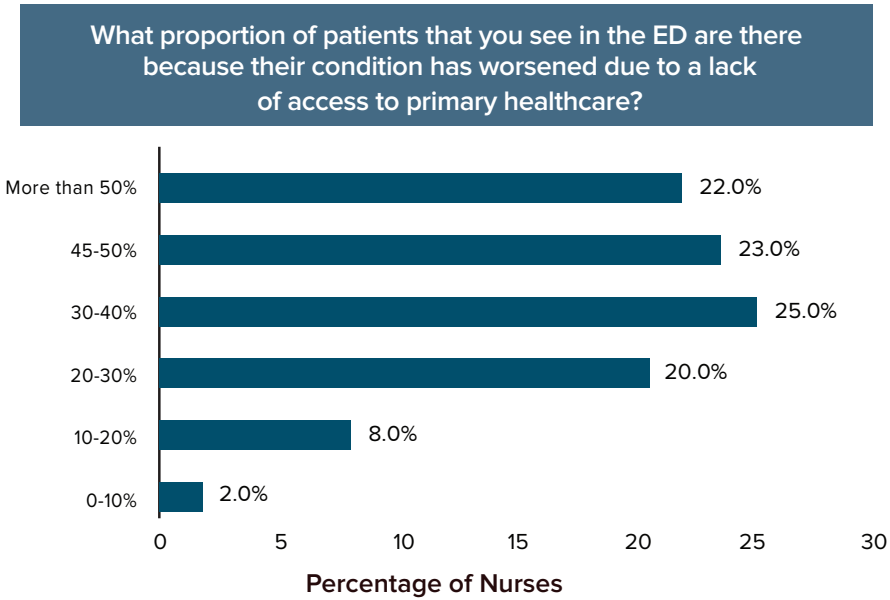
The Emergency Department nurse group was asked about the proportion of their patients they believed could be more appropriately cared for in a primary healthcare setting such as a family practice or collaborative clinic. These estimates are shown in Figure 51.

Figure 51.



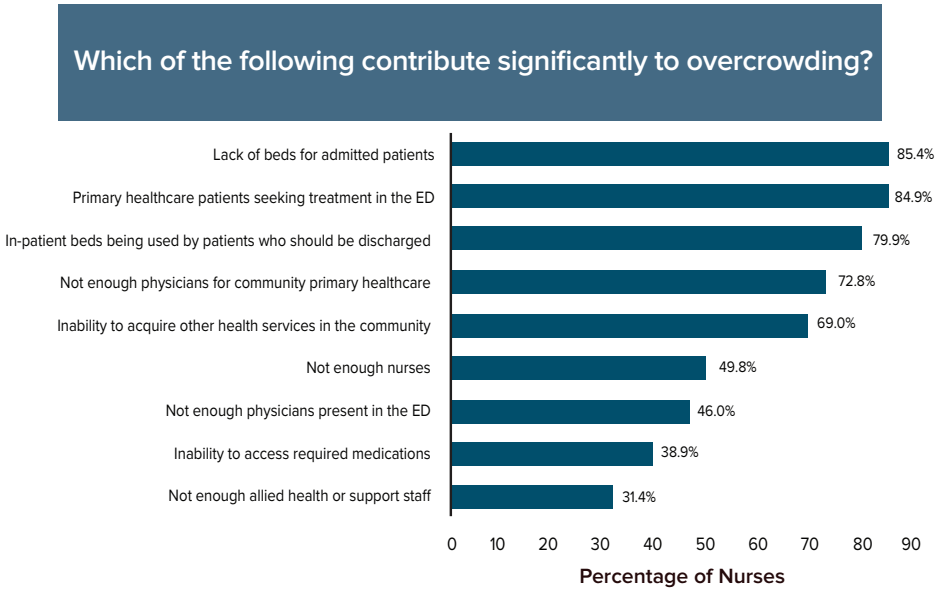
As seen in Figure 52, emergency department nurses were also asked to estimate the proportion of their patients who present in the emergency department because their condition has worsened due to a lack of access to primary healthcare. Most emergency department nurses (93%) agreed that lack of access also leads to increased return visits to the emergency department for conditions that have worsened.

Figure 52.



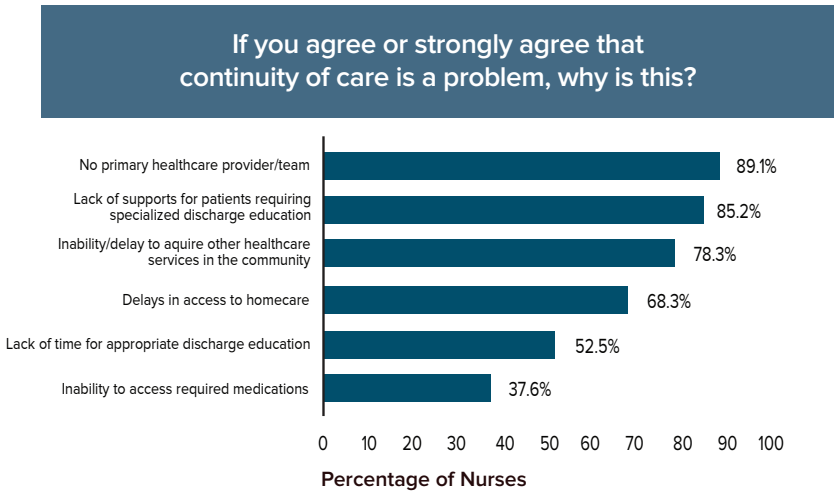
Next, emergency department nurses gave their opinion on their perception of the public's expectation of wait times and services in the emergency department, as well as the reasons for overcrowding in the emergency department if occurring in their department. Eighty-seven percent of nurses agreed that the public does not have realistic expectations of wait times in the emergency department, and 74% did not believe the public has realistic expectations of the services available in the emergency department. Overcrowding in emergency departments was also reported to be an issue by 82% of respondents. The top three reasons given for overcrowding were lack of beds for admitted patients, primary healthcare patients seeking treatment in the emergency department, and in-patient beds being used by patients who should be discharged. These and other reasons given for overcrowding are shown in Figure 53. Most nurses also agreed (79%) that wait times were an issue in their emergency department.

Figure 53.



Finally, emergency department nurses were asked if continuity of care upon discharge was a concern for their emergency department patients, with 78.3% agreeing that it is. Of those that strongly agreed, or agreed that continuity of care was a concern, the top reason given was lack of access to a primary healthcare provider or team, followed by a lack of supports for patients requiring specialized discharge education (e.g. mental health and addictions, dementia). Figure 54 gives a ranking of the reasons given.

Figure 54.



XI. Discussion, Themes and Recommendations

The literature review, key informant interviews, focus groups, public perception survey and nurse surveys have generated a large amount of data concerning primary healthcare in Nova Scotia, the role nurses play in it, and potential advancements to this role. These have also provided useful insights around emergency care and homecare nursing. Several key themes and lessons emerged.

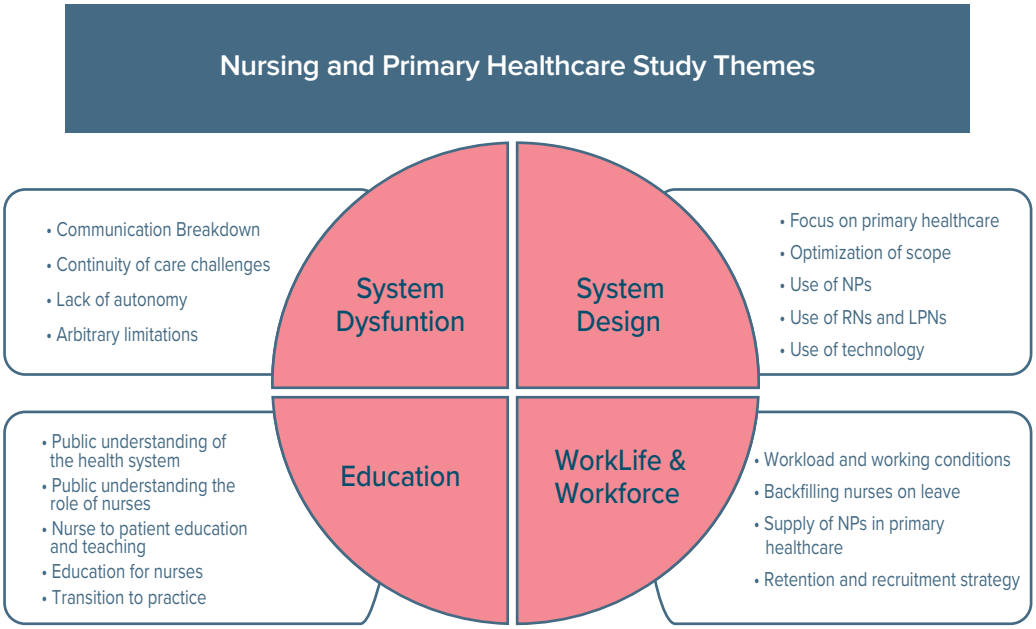
Wait times and access to care are a problem across Nova Scotia, as is well known. We have extremely high rates of chronic disease, difficulties providing access in rural locations, and non physician staff are still providing fewer healthcare interventions when compared to other jurisdictions. The operative measure is Nova Scotians' ability to access timely primary healthcare, and on this indicator we fare poorly. As a province, we must improve our efforts at retaining and recruiting physicians while also making better use of nurse practitioners, registered nurses, licensed practical nurses and other providers.

The positive message from the research presented here – a message coming from all sources – is that the nursing profession is able to help address the challenges facing primary healthcare in Nova Scotia.

> As a province, we must improve our efforts at retaining and recruiting physicians while also making better use of nurse practitioners, registered nurses, licensed practical nurses and other providers.

The research team's analysis led to the separation of key learnings into four broad thematic categories. Many of the issues identified touch on more than one theme at a time. Nurses from all sectors spoke about dysfunctions within the system that decrease efficiency, disrupt care and continuity of care, and create roadblocks to the provision of quality patient care. They spoke of the need to transition towards a truly collaborative care model that appreciates the scope of each provider and recognizes and values the whole, socially-situated patient. they spoke of the need to educate the public, both on how the health system should work, and how they can better care for themselves. And they spoke of the many pressures of their work-life that impede effective, high-quality care. Addressing nurses' concerns and realizing the vision they present will require a concerted effort to retain and recruit nurses in the province.

Figure 55.



System Dysfunction

We have surveyed literature on the importance of an integrated health system, and we have heard from nurses concerning the ways we do not live up to this standard. It is central to efforts to improve health, improve patient experiences, reduce costs, and improve provider experiences, that we achieve a truly integrated system where transitions between care in primary healthcare, homecare and hospital care are seamless, and where the goals of care-continuity and comprehensiveness are promoted.

As we have seen, there are many points of communication breakdown between the various sectors in our healthcare system, and this does not serve the needs of patients. In particular, it presents a significant challenge to continuity of care. VON nurses are often unaware of the interventions their clients receive in primary healthcare and acute care settings. They require clear lines of communication with other sectors such that they have full access to a patient's chart and are easily able to coordinate care.

Recommendation 1

As government moves towards its unified 'one patient one record' system, it should take measures to ensure it functions across sectors, allowing homecare, primary healthcare and hospital care nurses and other providers to seamlessly share crucial patient information.

Recommendation 2

In the interim, the Victorian Order of Nurses, the Department of Health and Wellness and the Nova Scotia Health Authority should review communications processes to ensure that VON nurses, hospitals and collaborative practices are empowered to seamlessly share information and are equally aware of changes and developments to the health status of their patients.

Other dysfunctions within our system involve the arbitrary and unnecessary limits we sometimes place on health providers, including insufficient visit time, and as we have seen, there is a disparity in the scope of practice of our licensed practical nurses in the VON. Further, some VON registered nurses and licensed practical nurses do not feel that their professional judgment is heard and valued when it comes to addressing the evolving needs of their clients.

Recommendation 3

The Victorian Order of Nurses should review the scope of practice of its licensed practical nurses in each region and ensure that all are able to practice to full scope, partaking in client care to the full extent of their capabilities.

Recommendation 4

Continuing Care and the VON should work together to ensure that clients receive adequate time for visits and frontline nurses' professional autonomy and judgment is valued with respect to the care needs of clients, particularly as conditions change and needs evolve.

Nurses working in collaborative practices often feel that funding mechanisms that require that a doctor see every patient in order for the practice to be remunerated lead to a poor use of resources and show a lack of respect for nurses' abilities. Nurse practitioners, for their part, sometimes feel constrained by their working conditions such that there is conflict between what management requires of them, and what their professional standards demand. Removing these barriers and allowing nurses to practice to the full extent of their abilities will lead to improved access and improved patient care.

Recommendation 5

The Nova Scotia government should ensure that team members in all settings are able to practice autonomously according to their scope of practice, and do not face arbitrary barriers to providing effective, quality care.

Recommendation 6

In concert with the above recommendation, the Nova Scotia Health Authority should ensure that the employment conditions of nurse practitioners take into account their standards of practice and their requirement to provide comprehensive care to patients, including outside of regular work hours.

System Design: Collaborative, Scope Optimized, Holistic

All sources of data point to the ongoing need for a culture shift towards a more holistic model of primary healthcare. Nurses and other health experts agree that what is needed is not simply access to care, but access to a system of care that is comprehensive and offers continuity. This means that care is not episodic but rather geared towards addressing the full social determinants of health. It is only by means of a robust primary healthcare system that we can achieve this transformation. Furthermore, quality primary healthcare must be available when Nova Scotians need it, and this means increasing access to after hours care. This will require investment, and new providers, given that current providers report high levels of workload and burnout.

Recommendation 7

Government should continue to increase investment in primary healthcare as the foundation of a high-functioning healthcare system.

Recommendation 8

Government, employees and provider representative should work together to grow collaborative teams and increase access to primary care services outside of regular hours.

Another major plank in this transformation involves optimizing the use of our nurses in the province so that they can contribute to the extent allowed by their scope of practice. The introduction of registered nurse prescribing, limited to nurses who take the necessary training, will help more Nova Scotians access the medications they need. This could be of immense benefit to VON clients, emergency department patients and primary healthcare patients.

Recommendation 9

As envisioned, registered nurse prescribing, with the appropriate training and protocols, should be introduced in Nova Scotia, along with the ability to order diagnostic tests related to this function. Special attention should be given to its possible benefit in homecare, emergency care and primary healthcare settings. At the same time, care should be taken to ensure that new prescribing authorities do not adversely affect nursing workloads.

Employing nurse practitioners in more settings will also improve access and the health of Nova Scotians. We have seen that VON nurses are often in the difficult situation of recognizing the need to change the care provided to a client without access to a doctor or nurse practitioner who can order that change. If the VON was funded to employ nurse practitioners to help with clients who have no regular primary healthcare provider, this could be rectified.

Recommendation 10

Given the number of unattached VON clients, and the challenge this creates for appropriate care, the Victorian Order of Nurses should be funded to hire nurse practitioners to provide orders for dressing changes, medication changes and other interventions when required.

Emergency departments across the province are dealing with a large number of patients requiring primary care, and this puts stress on the department. With more fast-track areas to treat non-urgent cases and nurse practitioners to provide care when a doctor is not required, we could reduce this stress and increase access to after-hours care. As it stands, these settings are not designed to focus on primary care, and yet many Nova Scotians present at emergency departments for this very reason. While we should not lose sight of the goal to provide a collaborative practice home for every Nova Scotian, we must also ensure that our citizens have access to timely care when they need it. Allowing nurse practitioners to admit and transfer patients within the hospital will further improve efficiency.

Recommendation 11

In order to effectively deal with non-urgent patients presenting at emergency departments, and to increase access to after-hours care, regional emergency departments should have adjacent 'fast-track' areas to treat non-urgent patients.

Recommendation 12

The Nova Scotia Health Authority should employ nurse practitioners in emergency departments and collaborative emergency centres to care for patients who do not require intervention from an emergency physician.

Recommendation 13

To ensure we make optimal use of their abilities, employers and the nursing regulator should give nurse practitioners working in emergency departments the authority to admit and transfer patients, as per their professional judgment and scope of practice.

And lastly, we have the opportunity to make improved use of nurse practitioners in primary healthcare itself. They have an independent scope of practice, and like general practitioners, they collaborate with many other providers and refer cases when appropriate. Nurse practitioners could run collaborative practices in areas without doctors providing this service. The goal here is not to limit access to a doctor, but to allow access to other professionals when a doctor is not available or not required. Providers would be able to refer to a doctor when appropriate.

Recommendation 14

Given that nurse practitioners have an autonomous scope of practice, when population metrics or recruitment challenges warrant it, the Nova Scotia Health Authority should allow clinics to operate with a nurse practitioner as the highest level of provider.

The health of Nova Scotians would also benefit from improved access to registered nurses and licensed practical nurses. Nurses are able to help practices effectively care for patients with chronic diseases by serving as case managers, and this is a role that could be promoted further in the province. Further, in many collaborative practice settings, it is still not possible to have 'nurse-only' visits, even when this is what a patient requires. This can lead to unnecessary waits according to the doctor's or nurse practitioner's availability. All nurses are required by their professional standards to practice effective collaboration, and to refer patients when necessary. This helps ensure that patients always receive the care they need.

Recommendation 15

Government and the Health Authority should ensure primary healthcare practices receive funding so that nurses can provide effective case management for chronic disease patients.

Recommendation 16

To improve access, efficiency, and patient outcomes, the Health Authority should empower collaborative practices to book nurse-only visits, and visits with other professionals, based upon patients' individual needs. Government should ensure funding models support this.

As mentioned, there are many homecare clients who could benefit from care in ambulatory settings like the clinic that is available in Halifax. Increasing access to such clinics could increase efficiency with less time wasted travelling to clients' homes only to find out they are not there. Clients who are safe to be mobile would be encouraged to maintain their independence. The scope of VON-run clinics could easily be expanded to allow other seniors in the community the opportunity to see nurses and receive preventative care, education, and help with chronic disease management, improving overall access to care. In order to promote wellness and preventative care, our homecare nursing services could also be made available to seniors of a certain age who cannot easily leave the home, and who would benefit from an in-home consultation from a registered or licensed practical nurse.

Recommendation 17

The Victorian Order of Nurses, with support from the Department of Health and Wellness and the Nova Scotia Health Authority, should open more ambulatory clinics across the province for patients who are mobile and can receive their interventions on an appointment-basis.

Recommendation 18

The scope of future VON clinics should eventually be expanded to provide preventative care and wellness checkups for seniors in the community.

Recommendation 19

The VON, with funding and support from the Department of Health and Wellness and the Nova Scotia Health Authority, should offer, on request, in-home checkups to seniors 75 and older.

Technology is poised to play a lead role in increasing access to primary healthcare, and this must be central to any effort to redesign our system. While some progress is being made, funding and management structures are not yet fully supportive. Nurses and doctors could reach many more people by means of technology, and this could be particularly beneficial when practitioners are available to provide care, but unable to relocate to an

underserviced community. Care must be taken to ensure that we continue efforts to recruit providers to establish traditional practices in these communities as well. Technology could also benefit homecare clients, particularly those who are unable to easily leave the home for appointments.

Recommendation 20

The Nova Scotia Health Authority, working with regulators, unions, and educators, should develop a strategy for Nova Scotia to provide telemedicine (phone, web-based etc) access for rural and underserved areas of the province.

Recommendation 21

The Department of Health and Wellness should work with provider representatives to remove funding and policy barriers to the effective use of telemedicine in the province.

Recommendation 22

In order to increase clients' access to primary healthcare and specialists, the government should fund the VON to provide home-bound clients with the opportunity to have virtual appointments (e.g. via Skype) with primary healthcare providers and specialists, with a VON nurse present in the home.

Education

As we have seen, there is a need for the public to acquire a better understanding of the role of primary healthcare within the context of the broader health system. In a high-performing healthcare system, patients know and are able to access care from the right provider in the right setting at the right time. There is also a public knowledge gap when it comes to the role of nurses within the primary and overall healthcare systems. While recipients of nursing care report very high satisfaction levels, many other patients are unaware of nurse practitioners' and other nurses' capabilities.

Recommendation 23

The Nova Scotia Health Authority should redouble its efforts to educate the public on when to use the emergency health system, what level of services are available at different levels of emergency departments, and when to use the primary healthcare system, including walk-in clinics.

Recommendation 24

Government, employees, regulators and unions should collaborate on initiatives to help the public acquire a better understanding of the role and abilities of nurses, particularly within the primary healthcare system, such that they are apt to seek and welcome care from the most appropriate provider for their circumstances.

We have seen that many nurses believe that their own colleagues and managers do not always understand their scope of practice and role within collaborative practices and the larger healthcare system. Effective team-based care is not possible without a clear understanding of the role of various providers including nurse practitioners, family practice nurses and licensed practical nurses working in collaborative care settings.

Recommendation 25

The Nova Scotia Health Authority should be funded to create an educational module for members of collaborative practices that facilitates an improved mutual understanding of the role and ability of each provider, with the aim of crafting effective, high-functioning collaborative teams.

Education at the nurse-to-patient level is also incredibly important. Given the many challenges, nurses often experience conflict between their values and the reality of their work-life. This includes rationing resources for patient care or reducing patient autonomy by providing care the patient could provide for themselves. Nurses in homecare, emergency care and primary healthcare require time to educate their clients on self-care and management of their chronic conditions, bringing patients more fully into the collaborative care circle.

Recommendation 26

Funding and workplace organization should be structured to allow homecare, primary healthcare and emergency nurses the opportunity to teach clients and patients how to better self-manage chronic conditions, to the degree they are capable, helping preserve and promote patient autonomy.

Nurses also emphasized the importance of their own education when it comes to providing optimal patient care. And as we have seen, high-functioning health systems are known to invest in their workers to this end. Nurses want to contribute fully to our health system, and

this requires training and skill development. Registered nurses are able to take specialized training to work in collaborative practice settings, but there is no similar course for licensed practical nurses. Nurse practitioners, for their part, have reported that they would benefit from a residency program between the first and second year of their studies.

Recommendation 27

Given the continuous advancements and developments in healthcare, the Nova Scotia Health Authority should ensure that nurses in primary healthcare, emergency care and homecare have access to professional practice support and are provided with continuing education opportunities each year.

Recommendation 28

The Nova Scotia Health Authority, working with its Registered Nurse Professional Development Centre, should develop specific training for licensed practical nurses working in the primary healthcare sector.

Recommendation 29

Nurse practitioners should have the opportunity to complete a residency program in their designated field of practice between their first and second year of education.

Worklife and Workforce

The recommendations previously outlined depend upon a robust and dedicated workforce. Many of the recommendations articulated will go a long way towards improving nurses' working conditions, from increased respect for their autonomy and scope of practice, to investing in their continuing education. One common challenge that increases stress on the nursing workforce is the tendency to offload non-nursing duties onto nurses, such as laboratory and blood work. Management practices that do not allow for replacements to cover vacations and sick calls are another ongoing problem. Working with reduced staffing levels jeopardizes the quality of patient care while overburdening the nursing workforce.

Recommendation 30

In order to ensure that care is always provided by the most appropriate provider in emergency department settings, the Nova Scotia Health Authority must ensure that nurses are not required to complete non-nursing duties such as point of care testing (blood and laboratory work).

Recommendation 31

Since nurse practitioners are responsible for the care of their patients, the Nova Scotia Health Authority, with funding from government, should develop mechanisms such as a locum program to ensure care coverage when they are unavailable (e.g. on vacation or a leave of absence).

Recommendation 32

Employers in all settings should ensure that policies and practices support the replacement of nurses off sick or on vacation, beginning with the first absence.

Many of the recommendations outlined in this report require maintaining an adequate workforce. Increasing the number of nurse practitioners will require investments in order to expand the program seats at Dalhousie University and offer more opportunities for registered nurses to enter into return-of-service agreements to become nurse practitioners. Twenty-five seats were added over the course of 2018 and 2019, a step in the right direction. Funding for the family practice nurse program should continue and potentially be enhanced to ensure our supply of registered nurses suitable for collaborative practice work.

Recommendation 33

Government and the Nova Scotia Health Authority should take measures to increase our nurse practitioner workforce based on projected needs in all sectors, with an initial goal to bring our numbers from the current 200, to 500 by 2028.

Recommendation 34

Similarly, in order to provide the primary healthcare system Nova Scotia needs, government and the Nova Scotia Health Authority should develop a strategy to increase the supply of family practice nurses and licensed practical nurses in collaborative practices.

Recommendation 35

Given the intense recruitment and retention challenges across the healthcare system, the recommendations around recruitment should take place as part of a larger, government nurse retention and recruitment strategy, complementing strategies for physicians and other providers. family practice nurses and licensed practical nurses in collaborative practices.

XII. Conclusion

Government, employers, unions, patient groups, regulators, academics and other stakeholders all recognize the need to restructure the healthcare system to provide better health, reduce costs, improve the patient experience and improve the provider experience. It remains an incredibly difficult challenge as we deal with overcrowded emergency departments, care access challenges, nursing shortages, long-term care wait lists, a high proportion of alternative level of care patients in hospitals, and other patient flow challenges.

All major stakeholders, agree on the guiding principles of this book – the need to increase access, optimize scopes, and provide holistic, collaborative care. In this report, we have set forth a vision to help realize these goals.

Realizing this vision requires changes on several fronts. We must address dysfunctions within our healthcare system that impede communication, care coordination, care access

and patient flow. All stakeholders in the health system must work towards the transformation to a holistic model of care, based on meaningful collaboration and optimized scopes of practice for our various professionals, and taking advantage of the opportunities provided by technology. We must educate the public on how to make proper use of our healthcare system, and to understand the role of nurses in it, and give nurses the opportunity to educate patients and receive education for themselves. To achieve all of this, we must create collaborative and supportive working conditions that are conducive to high-quality patient care, and develop strategies to retain and recruit nurses as we build the health system of tomorrow.

Improving primary healthcare will not be easy, but it is the surest means to address many of these challenges over the long term. The nursing profession offers immense potential to our primary healthcare system and our system leaders must put policies and structures in place in order to capitalize on this potential. Nurses are ready to be part of the solution.

XIII. References

Adams, E., Cuddy, A., Flynn, M., Rose, L., & MacGabhann, C. (2013). Prescribing in Ireland: the National Implementation Framework. Nurse Prescribing. https://doi.org/10.12968/npre.2010.8.4.47413

Advisory Panel on Healthcare Innovation. (2015). Unleashing Innovation: Excellent Healthcare for Canada: Final Report of the Advisory Panel on Healthcare Innovation . Ottawa: ON. Retrieved from https://www.canada.ca/en/healthcanada/services/publications/healthsystemservices/reportadvisorypanelhealthcareinnovation.html#ack

Ammi, M., Ambrose, S., Hogg, B., & Wong, S. (2017). The influence of registered nurses and nurse practitioners on patient experience with primary care: results from the Canadian QUALICOPC study. Health Policy, 121 (12), 1215–1224. https://doi.org/10.1016/j.healthpol.2017.09.019

Angus Reid Institute. (2015). Health Care: Onethird of Canadians report difficult access to family doctors, rely on clinics and ERs. Retrieved from http://angusreid.org/healthcareanalysis/

Ansari, Z., Laditka, J.N., & Laditka, S.B. (2006). Access to health care and hospitalization for ambulatory care sensitive conditions. Medical Care Research and Review, 63(6):719741

Baker, G. R., & Axler, R. (2015). Creating A High Performing Healthcare System for Ontario: Evidence Supporting Strategic Changes in Ontario . Institute of Health Policy, Management and Evaluation, University of Toronto. Retrieved from https://ihpme.utoronto.ca/wpcontent/ uploads/2016/03/BakerOHA_HSRCreatingHighPerformingHealthcareSystem_policy_paper_oct...Final_.pdf

Baker, G. R., Denis, J.L.,& Canadian Health Services Research Foundation. (2011). A comparative study of three transformative healthcare systems: lessons for Canada. Retrieved from http://www.deslibris.ca/ID/229723

Barker, I., Steventon, A., & Deeny, S. R. (2017). Association between continuity of care in general practice and hospital admissions for ambulatory care sensitive conditions: cross sectional study of routinely collected, person level data. BMJ, 356, j84. https://doi.org/10.1136/bmj.j84

Bergman, K., Perhed, U., Eriksson, I., Lindblad, U., & Fagerström, L. (2013). Patients' satisfaction with the care offered by advanced practice nurses: A new role in Swedish primary care: Care offered by advanced practice nurses. International Journal of Nursing Practice, 19 (3), 326–333. https://doi.org/10.1111/ijn.12072

Bernstein, S. L. (2013). ED Care: Available, Competent, Affordable. Academic Emergency Medicine, 21 (1), 73–75. https://doi.org/10.1111/acem.12279

Berry, D., Courtenay, M., & Bersellini, E. (2006). Attitudes towards, and information needs in relation to, supplementary nurse prescribing in the UK: an empirical study. Journal of Clinical Nursing, 15 (1), 22–28. https://doi.org/10.1111/j.13652702.2005.01258.x

Bhanbhro, S., Drennan, V. M., Grant, R., & Harris, R. (2011). Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: a systematic review of literature. BMC Health Services Research, 11 (1), 330. https://doi.org/10.1186/1472696311330

BinkowskaBury, M., Więch, P., Bazaliński, D., Marć, M., Bartosiewicz, A., & Januszewicz, P. (2016). Nurse prescribing in Poland: Opinions expressed by primary care doctors, nurses, and patients. Medicine, 95 (33), e4506. https://doi.org/10.1097/MD.0000000000004506

Black, A. (2013). Non - medical prescribing by nurse practitioners in accident & emergency and sexual health: a comparative study. Journal of Advanced Nursing , 69 (3), 535–545. https://doi.org/10.1111/j.13652648.2012.06028.x

Bodenheimer, T., & BerryMillett, R. (2009, December 1). Care Management of Patients with Complex Health Care Needs. Retrieved April 25, 2019, from RWJF website https://www.rwjf.org/en/library/research/2009/12/caremanagementofpatientswithcomplexhealthcareneeds.html

Bodenheimer, T. S., & Smith, M. D. (2013). Primary Care: Proposed Solutions To The Physician Shortage Without Training More Physicians. Health Affairs, 32(11), 1881–1886. https://doi.org/10.1377/hlthaff.2013.0234

Bodenheimer, T., Ghorob, A., WillardGrace, R., & Grumbach, K. (2014). The 10 Building Blocks of HighPerforming Primary Care. The Annals of Family Medicine, 12 (2), 166–171. https://doi.org/10.1370/afm.1616

Bodenheimer, T., & Sinsky, C. (2014). From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider. The Annals of Family Medicine , 12 (6), 573–576. https://doi.org/10.1370/afm.1713

Bronca, T. (2015, September 9). Virtual visits. The new frontier of telemedicine. Medical Post. Retrieved from http://www.canadianhealthcarenetwork.ca/files/2015/06/MP12_VirtualDoctor.pdf

Brown, M., & Poffenroth, Y. (2018, June 4). Nurse practitioners take lead in new full service clinic for seniors. Retrieved June 6, 2018. Retrieved from https://www.folio.ca/nursepractitionerstakeleadinnewfullserviceclinicforseniors/

Bullard, M. J., Musgrave, E., Warren, D., Unger, B., Skeldon, T., Grierson, R., van der Linde, E., Swain, J. (2017, July). Revisions to the Canadian Emergency Department Triage and Acuity Scale (CTAS) Guidelines 2016. https://doi.org/10.1017/cem.2017.365

Byrne, G., Richardson, M., Brunsdon, J., & Patel, A. (2001). Patient satisfaction with emergency nurse practitioners in A & E. Journal of Clinical Nursing, 9 (1), 83–93. https://doi.org/10.1046/j.13652702.2000.00351.x

Callaghan, K., MartinMisener, R., O'Connell, C., Burge, F., & Gard Marshall, E. (2017). Comparison of Access to Nurse Practitioners in Primary Healthcare across Three Team Structures. Nursing Leadership (1910622X), 30 (4), 67–79.

Canadian Family Practice Nurses Association-CFPNA. (n.d.). Retrieved April 25, 2019, from The Canadian Family Practice Nurses AssociationCFPNA website https://www.cfpna.ca

Canadian Federation of Nurses Unions. (2018). Fulfilling Nurse Practitioners' Untapped Potential in Canada's Health Care System . Retrieved from https://nursesunions.ca/wpcontent/uploads/2018/06/CFNU_UntappedPotentialFinalEN.pdf

Canadian Home Care Association. (2012). Health Systems Integration. Synthesis Report. Retrieved from http://www.cdnhomecare.ca/media.php?mid=2965

Canadian Home Care Association, Canadian Nurses Association, College of Family Physicians of Canada. (2018). Better Home Care in Canada. A National Action Plan. Retrieved from https://www.cnaaiic.ca//media/cna/pagecontent/pdfen/betterhomecareincanada_anationalactionplancopy.pdf?la=en&hash=D7C8B69F4E0B000F74CE372D6DAFCA9D198ADD39

Canadian Institute for Health Information. (2012). PanCanadian Primary Health Care Indicator Update Report Ottawa: ON. Retrieved from https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC2000

Canadian Institute for Health Information [CIHI]. (2013e). A Performance Measurement Framework for the Canadian Health System (p. 34). Ottawa: ON. Retrieved from https://secure.cihi.ca/free_products/HSP_Framework_Technical_Report_EN.pdf

Canadian Institute for Health Information [CIHI]. (2014a). Chronic Disease Management in Primary Health Care: A Demonstration of EMR Data for Quality and Health System Monitoring (Analysis in Brief). Retrieved from https://secure.cihi.ca/free_products/BurdenofChronicDiseases_PHC_2014_AiB_ENweb.pdf

Canadian Institute for Health Information [CIHI]. (2014b). Sources of Potentially Avoidable Emergency Department Visits (pp. 1–33). Retrieved from https://secure.cihi.ca/free_products/ED_Report_ForWeb_EN_Final.pdf

Canadian Institute for Health Information [CIHI]. (2016a). How Canada Compares: Results From The Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries. Retrieved from https://www.cihi.ca/sites/default/files/document/textalternativeversion2016cmwfenweb.pdf

Canadian Institute for Health Information [CIHI]. (2016b). How Canada Compares: Results From The Commonwealth Fund's 2016 International Health Policy Survey of Adults in 11 Countries Data Tables. Retrieved from https://www.cihi.ca/en/commonwealthfundsurvey2016

Canadian Institute for Health Information [CIHI]. (2018a). How Canada Compares: Results From The Commonwealth Fund's 2017 International Health Policy Survey of Seniors — Accessible Report. Retrieved from https://www.cihi.ca/sites/default/files/document/cmwf2017textalternativereportenweb.pdf

Canadian Institute for Health Information. (2018c). Nova Scotia Ambulatory Care Sensitive Conditions. Retrieved from https://yourhealthsystem.cihi.ca/hsp/indepth?lang=en#/indicator/019/2/C2000/

Canadian Nurses Association, Canadian Medical Association, Health Action Lobby. (2013). Integration – a New Direction for Canadian Health Care. Retrieved from https://www.cnaaiic.ca//media/cna/files/en/cna_cma_heal_provider_summit_transformation_to_integrated_care_e.pdf?la=en&hash=094811D94F0487A196901715B5FE14516ACA194E

Canadian Nurses Association [CNA]. (2013). Nurse Practitioners in the Emergency Department. Retrieved from https://cnaaiic.ca//media/cna/pagecontent/pdfen/fact_sheet_nurse_practitioners_in_the_er_2013_e.pdf

Canadian Nurses Association [CNA]. (2015). Framework for Registered Nurse Prescribing in Canada. Retrieved from https://www.cnaaiic.ca/~/media/cna/pagecontent/pdfen/cnarnprescribingframework_e.pdf?la=en

Canadian Nurses Association [CNA]. (2016). The Nurse Practitioner. CNA Position. Retrieved from https://www.cnaaiic.ca//media/cna/pagecontent/pdfen/thenursepractitionerpositionstatement_2016.pdf?la=en&hash=B13B5142C8D02990439EF06736EA284126779BCC

Canadian Nurses Association. (2019). Advanced Practice Nursing. Retrieved April 25, 2019, from https://www.cnaaiic.ca/en/nursingpractice/thepracticeofnursing/advancednursingpractice

Carey, N., Stenner, K., & Courtenay, M. (2014). An exploration of how nurse prescribing is being used for patients with respiratory conditions across the east of England. BMC Health Services Research, 14 (1), 27. https://doi.org/10.1186/147269631427

Carey, I. M., Hosking, F. J., Harris, T., DeWilde, S., Beighton, C., & Cook, D. G. (2017). Ambulatory caresensitive conditions for emergency hospital admission. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK453408/

Carter, A. J. E., & Chochinov, A. H. (2007). A systematic review of the impact of nurse practitioners on cost, quality of care, satisfaction and wait times in the emergency department. CJEM, 9 (4), 286–295.

Clark, C. E., Smith, L. F. P., Taylor, R. S., & Campbell, J. L. (2011). Nurse - led interventions used to improve control of high blood pressure in people with diabetes: a systematic review and meta - analysis. Diabetic Medicine, 28 (3), 250–261. https://doi.org/10.1111/j.14645491.2010.03204.x

Coleman, K., Wagner, E., Schaefer, J., Reid, R., & Leroy, L. (n.d.). White Paper - Redefining Primary Care for the 21st Century. Retrieved from https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/systems/primary-care/workforce-financing/white_paper.pdf

College of Registered Nurses of Nova Scotia. (2014). Nurse Practitioner Standards of Practice. Retrieved from https://crnns.ca/wp-content/uploads/2015/02/NPStandards2014-WEB.pdf

College of Registered Nurses of Nova Scotia [CRNNS]. (2017a). Exploring Improved Access to Care through Registered Nurse Prescribing in Nova Scotia. Retrieved from https://crnns.ca/news/exploring-improved-access-to-care-through-registered-nurse-prescribing-in-nova-scotia/

College of Registered Nurses of Nova Scotia [CRNNS]. (2017b). Public perception survey of Registered Nurses and Nurse Practitioners in Nova Scotia. Retrieved from https://crnns.ca/wp-content/uploads/2018/01 PublicPerceptionSurvey2017.pdf

College of Registered Nurses of Nova Scotia. (2019). License Status Check. Retrieved March 21, 2019, from https://crnns.ca/registration/licence-check/

College of Registered Nurses of Nova Scotia [CRNNS], & College of Licensed Practical Nurses of Nova Scotia. (2017). Guidelines Effective Utilization of RNs and LPNs in a Collaborative Practice Environment. Retrieved from https://crnns.ca/wp-content/uploads/2015/02/EffectiveUtilization.pdf

Considine, J., Martin, R., Smit, D., Jenkins, J., & Winter, C. (2006). Defining the scope of practice of the emergency nurse practitioner role in a metropolitan emergency department. International Journal of Nursing Practice, 12(4), 205–213. https://doi.org/10.1111/j.1440-172X.2006.00570.x

Corporate Research Associates. (2017). Percentage of Atlantic Canadians with a family doctor remains high despite declines in certain regions (Quarterly Report and Urban Report). Halifax, NS: CRA. Retrieved from https://cra.ca/wp-content/uploads/2017/09/17-3-ATL-Press-Release-Family-Doctor-34893747342390823-1pdf

Courtenay, M., Carey, N., Stenner, K., Lawton, S., & Peters, J. (2011). Patients' views of nurse prescribing: effects on care, concordance and medicine taking. British Journal of Dermatology, 164(2), 396–401. https://doi.org/10.1111/j.1365-2133.2010.10119.x

Coyte, P., & McKeever, P. (2001). Home Care in Canada: Passing the Buck. Canadian Journal of Nursing Research, 33(2), 11–25. Retrieved from http://cjnr.archive.mcgill.ca/article/view/1631/1631

Curnew, D. R., & Lukewich, J. (2018). Nursing Within Primary Care Settings in Atlantic Canada: A Scoping Review: SAGE Open. https://doi.org/10.1177/2158244018774379

Curry, P. (2015). Broken Homes – Nurses Speak out on the state of long-term care in Nova Scotia and chart a course for a sustainable future. Nova Scotia Nurses' Union. Retrieved from http://www.nsnu.ca/site/media/nsnu/Broken%20Homes%20Web%20Version(2).pdf

Dahrouge, S., Devlin, R., Hogg, B., Russell, G., Coyle, D., & Fergusson, D. (2012). The Economic Impact of Improvements in Primary Healthcare Performance. Retrieved from https://www.cfhi-fcass.ca/Libraries/Commissioned_Research_Reports/Dahrouge-EconImpactPHC-E.sflb.ashx

Delamaire, M.-L., & Lafortune, G. (2010). Nurses in Advanced Roles: A Description and Evaluation of Experiences in 12 Developed Countries (OECD Health Working Papers No. 54). https://doi.org/10.1787/5kmbrcfms5g7-en

Dill, M. J., Pankow, S., Erikson, C., & Shipman, S. (2017). Survey Shows Consumers Open To A Greater Role For Physician Assistants And Nurse Practitioners. Health Affairs. https://doi.org/10.1377/hlthaff.2012.1150

Doctors Nova Scotia. (2017). Fixing Nova Scotia's Primary Health Care Problem: Physicians' Recommendations to Improve Primary Care in Nova Scotia. Retrieved from https://doctorsns.com/advocate/positions/primary-care-renewal

Doctors Nova Scotia. (2018). The Role and Value of Family Physicians in Primary Health Care. Environmental Scan. Retrieved from https://doctorsns.com/sites/default/files/2019-01/next-steps/Role-of-Family-Physician-environmental-scan.pdf

Doctors Nova Scotia and Nova Scotia College of Family Physicians. (2019). The Backbone of Primary Health Care: the Role and Value of Family Physicians in Nova Scotia. Retrieved from https://doctorsns.com/sites/default/files/2019-01/next-steps/Role-of-Family-Physician-position-paper.pdf

Doucette, K. (2019, March 25). Nova Scotia Nurses' Union raises alarm on ER overcrowding | CTV News Atlantic. Retrieved April 4, 2019, from https://atlantic.ctvnews.ca/nova-scotia-nurses-union-raises-alarm-on-er-overcrowding-1.4350603

Drennan, V. M., Grant, R. L., & Harris, R. (2014). Trends over time in prescribing by English primary care nurses: a secondary analysis of a national prescription database. BMC Health Services Research, 14(1), 54. https://doi.org/10.1186/1472-6963-14-54

Eley, D., Del Mar, C., Patterson, E., Synnott, R., G Baker, P., & Hegney, D. (2009). A nurse led model of chronic disease care - An interim report. Australian Family Physician, 37, 1030–1032.

Ellenbecker, C. H., Byleckie, J. J., & Samia, L. W. (2008). Further psychometric testing of the home healthcare nurse job satisfaction scale. Research in Nursing & Health, 31(2), 152–164. https://doi.org/10.1002/nur.20241

Family Practice Nurse Association of Nova Scotia. (n.d). What are the benefits of having nurses in family practice? Retrieved May 7, 2018, from http://fpnans.ca/for-nurses/

Ferrante J., Balasubramanian B., Hudson S., et al. (2010). Principles of the patient-centered medical home and preventive services delivery. Ann Fam Med (8): 108-116

Fraser, J. (2018, July 13). Group seeking meeting on health care issues. Cape Breton Post. Retrieved from http://www.capebretonpost.com/news/group-seeking-meeting-on-health-care-issues-226158/

Friedberg, M., Rosenthal, M., Werner, R., Volpp, K., Schneider, E. (2015). Effects of a Medical Home and Shared Savings Intervention on Quality and Utilization of Care. JAMA Intern Med, 175(8), 1362-1368. Doi:10.1001/jamainternmed.2015.2047

Fry, M., Fong, J., Asha, S., & Arendts, G. (2011). A 12-month evaluation of the impact of Transitional Emergency Nurse Practitioners in one metropolitan Emergency Department. Australasian Emergency Nursing Journal, 14(1), 4–8. https://doi.org/10.1016/j.aenj.2010.10.001

Gonzalez Morganti, K., Bauhoff, S., Blanchard, J. C., Abir, M., Iyer, N., Smith, A., … Kellermann, A. L. (2013). The Evolving Role of Emergency Departments in the United States. Retrieved from https://www.rand.org/pubs/research_reports/RR280.html

Greenfield, S., Anderson, H., Winickoff, R. N., Morgan, A., & Komaroff, A. L. (1975). Nurse-Protocol Management of Low Back Pain. Western Journal of Medicine, 123(5), 350–359. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1129908/

Griffiths, P., Maben, J., & Murrells, T. (2011). Organisational quality, nurse staffing and the quality of chronic disease management in primary care: Observational study using routinely collected data. International Journal of Nursing Studies, 48(10), 1199–1210. https://doi.org/10.1016/j.ijnurstu.2011.03.011

Grumbach, K. & P. Grundy. (2010). Outcomes of Implementing Patient Centered Medical Home Interventions: A Review of the Evidence from Prospective Evaluation Studies in the United States Washington, DC: Patient- Centered Primary Care Collaborative.

Gulliford, M., Figueroa-Munoz, J., Morgan, M., Hughes, D., Gibson, B., Beech, R., & Hudson, M. (2002). What does “access to health care” mean?: Journal of Health Services Research & Policy. https://doi.org/10.1258/135581902760082517

Health Canada (2015). High performing hospitals: a qualitative systematic review of associated factors and practical strategies for improvement. BMC Health Services Research, 15. Retrieved from https://doi.org/10.1186/s12913-015-0879-z

Hobson, R. J., Scott, J., & Sutton, J. (2010). Pharmacists and nurses as independent prescribers: exploring the patient’s perspective. Family Practice, 27(1), 110–120. https://doi.org/10.1093/fampra/cmp070

Hoff, T., Weller, W., & DePuccio, M. (2012). The Patient-Centered Medical Home: A Review of Recent Research. Medical Care Research and Review, 69(6), 619-644.

Hollander, M., & Prince, J. (2008). Organizing Healthcare Delivery Systems for Persons with Ongoing Care Needs and Their Families: A Best Practices Framework. Retrieved April 4, 2019, from Healthcare Quarterly website https://www-longwoods-com.ezproxy.library.dal.ca/content/19497/healthcare-quarterly/organizing-healthcare-delivery-systems-for-persons-with-ongoing-care-needs-and-their-families-a-bes

Homecare Ontario. (n.d.). Facts & Figures | Home Care Ontario. Retrieved April 25, 2019, from https://www.homecareontario.ca/home-care-services/facts-figures/publiclyfundedhomecare

Horrocks, S., Anderson, E., & Salisbury, C. (2002). Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. BMJ, 324(7341), 819–823. https://doi.org/10.1136/bmj.324.7341.819

Hoskins, R. (2011). Evaluating new roles within emergency care: A literature review. International Emergency Nursing, 19(3), 125–140. https://doi.org/10.1016/j.ienj.2010.09.003

Hunter, K. (2013). How nurses are shaping the future of health care. Retrieved April 25, 2019, from University of Toronto News website https://www.utoronto.ca/news/how-nurses-are-shaping-future-health-care

Jackson, G., Powers, B., Chatterjee, R., Bettger, J., Kemper, A., Hasselblad, V., Dolar, R., Williams, J. (2013). The Patient-Centred Medical Home. Annals of Internal Medicine, 158(3), 169-178

Jennings, N., O'Reilly, G., Lee, G., Cameron, P., Free, B., & Bailey, M. (2008). Evaluating outcomes of the emergency nurse practitioner role in a major urban emergency department, Melbourne, Australia. Journal of Clinical Nursing, 17(8), 1044–1050. https://doi.org/10.1111/j.1365-2702.2007.02038.x

Jennings, N., Clifford, S., Fox, A. R., O'Connell, J., & Gardner, G. (2015). The impact of nurse practitioner services on cost, quality of care, satisfaction and waiting times in the emergency department: A systematic review. International Journal of Nursing Studies, 52(1), 421–435. https://doi.org/10.1016/j.ijnurstu.2014.07.006

Jones, K., Edwards, M., & While, A. (2011). Nurse prescribing roles in acute care: an evaluative case study. Journal of Advanced Nursing, 67(1), 117–126. https://doi.org/10.1111/j.1365- 2648.2010.05490.x

Jorm, L. R., Leyland, A. H., Blyth, F. M., Elliott, R. F., Douglas, K. M. A., & Redman, S. (2012). Assessing Preventable Hospitalisation InDicators (APHID): protocol for a data-linkage study using cohort study and administrative data. BMJ Open, 2(6). https://doi.org/10.1136/bmjopen-2012-002344

Kephart, C., Asada, Y., Burge, F., Campbell, L., Dowling, L., Dyer, J., ... Terashima, M. (2016). Small area variation in rates of high-cost healthcare use across Nova Scotia. Halifax, NS: Martitime SPOR SUPPORT Unit. Retrieved from http://www.spor-maritime-srap.ca/sites/default/files/SARV%20Final.pdf

Kodner, D., & Spreeuwenberg, C. (2002). Integrated care: meaning, logic, applications, and implications – a discussion paper. International Journal of Integrated Care, 2. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1480401/

Kooienga, S., & Wilkinson, J. (2016). RN Prescribing: An Expanded Role for Nursing. Nursing Forum, 52(1), 3–11. https://doi.org/10.1111/nuf.12159

Kringos, D. S., Boerma, W. G., Hutchinson, A., Zee, J. van der, & Groenewegen, P. P. (2010). The breadth of primary care: a systematic literature review of its core dimensions. BMC Health Services Research, 10(1), 65. https://doi.org/10.1186/1472-6963-10-65

Laroche, J. (2018, March 19). Nova Scotia spending $39.6M on compensation for doctors. CBC News. Retrieved from https://www.cbc.ca/news/canada/nova-scotia/family-doctors-physicians-incentives-raise-fee-for-service-wage-health-1.4582542

Laroche, J. (2019, March 19). Health authority memo sparks concern among nursing homes. CBC News. Retrieved from https://www.cbc.ca/news/canada/nova-scotia/nursing-homes-emergency-department-backlog-overcrowding-association-1.5062972

Latter, S., & Courtenay, M. (2004). Effectiveness of nurse prescribing: a review of the literature. Journal of Clinical Nursing, 13(1), 26–32. https://doi.org/10.1046/j.1365-2702.2003.00839.x

Latter, S., Blenkinsopp, A., Smith, A., Chapman, S., Tinelli, M., Gerard, . . . Dorer, G. (2011). Evaluation of nurse and pharmacist independent prescribing. South Hampton and London: University of South Hampton, Keele University.

Li, J., Westbrook, J., Callen, J., Georgiou, A., & Braithwaite, J. (2013). The impact of nurse practitioners on care delivery in the emergency department: a multiple perspectives qualitative study. BMC Health Services Research, 13, 356. https://doi.org/10.1186/14726963-13-356

Martínez-González, N. A., Djalali, S., Tandjung, R., Huber-Geismann, F., Markun, S., Wensing, M., & Rosemann, T. (2014). Substitution of physicians by nurses in primary care: a systematic review and meta-analysis. BMC Health Services Research, 14(1). https://doi.org/10.1186/1472-6963-14-214

Martin-Misener, R., McNab, J., & Edwards, L. (2004). Collaborative Practice in Health Systems Change: The Nova Scotia Experience with the Strengthening Primary Care Initiative. Nursing Leadership. Retrieved from https://www.longwoods.com/content/16345

Martin-Misener, R., Harbman, P., Donald, F., Reid, K., Kilpatrick, K., Carter, N., Bryant- Lukosius, D., Kaasalainen, S., Marshall., D., Charbonneau-Smith, R., & DiCenso, A. (2015). Cost-effectiveness of nurse practitioners in primary and specialised ambulatory care: systematic review. BMJ Open, 5(6), e007167. https://doi.org/10.1136/bmjopen-2014-007167

McCarthy D, Mueller K, Tillmann, I. (2009). Group health cooperative: reinventing primary care by connecting patients with a medical home. The Commonwealth Fund, 2009. Retrieved from http://longtermscorecard.org/~/media/files/publications/case-study/2009/jul/1283_mccarthy_group-health_case_study_72_rev.pdf

McGill University. (2018). Results of the 2018 Health Care in Canada Survey A National Survey of Health Care Providers, Managers and the Public. Montréal: Que. Retrieved from https://www.mcgill.ca/hcic-sssc/hcic-surveys/2018

McMurchy, D. (2009). What are the critical attributes and benefits of a high-quality primary healthcare system? Retrieved from Canadian Health Services Research Foundation website https://www.cfhi- fcass.ca/Libraries/Primary_Healthcare/11498_PHC_McMurchy_ENG_FINAL.sflb.ashx

Mitchell, P., Wynia, M., Golden, R., McNellis, B., Okun, S., Webb, C. E., ... Kohorn, I. V. (2012). Core Principles & Values of Effective Team-Based Health Care. Retrieved from Institute of Medicine, Washington website www.iom.edu/tbc.

Muldoon, L., Hogg, W., & Levitt, M. (2006). Primary care (PC) and primary health care (PHC). Canadian Journal of Public Health, 97(5), 409–411.

Nelson, S., Turnbull, N., Bainsbridge, L., Caulfield, T., Hudon, G., Kendel, D., Mowat, D., Nasmith, L., Shamian, J., & Sketris, I. (2014). Optimizing Scopes of Practice: New Models of Care for a New Health Care System. Ottawa: ON: CAHS. Retrieved from http://cahs-acss.ca/wp-content/uploads/2015/07/Optimizing-Scopes-of- Practice_REPORT-English.pdf

Norful, A., Martsolf, G., de Jacq, K., & Poghosyan, L. (2017). Utilization of registered nurses in primary care teams: A systematic review. International Journal of Nursing Studies, 74, 15–23. https://doi.org/10.1016/j.ijnurstu.2017.05.013

Nova Scotia. (n.d.). Publications - Budget Documents. Retrieved from Government of Nova Scotia website https://beta.novascotia.ca/programs-and-services/publications-budget-documents

Nova Scotia. (2001). Registered Nurses Act. SNS 2001, c10. Retrieved from http://canlii.ca/t/jpjr.

Nova Scotia. (2013). Chronic Disease Prevention and Management. Retrieved from https://novascotia.ca/dhw/primaryhealthcare/chronic-disease-management.asp

Nova Scotia. (2015). Nova Scotia Health Profile. Retrieved from https://novascotia.ca/dhw/publichealth/documents/Population-Health-Profile-Nova-\Scotia.pdf

Nova Scotia.(2016a, Sep 28). Stronger Health-care Teams Across Nova Scotia. Retrieved from https://novascotia.ca/news/release/?id=20160928003

Nova Scotia. (2016b, Dec 6). One Person One Record Project Moves to Next Phase. Retrieved from https://novascotia.ca/news/release/?id=20161206001

Nova Scotia. (2018a, July 13). Incentive, More Capacity to Educate Nurse Practitioners. Retrieved from https://novascotia.ca/news/release/?id=20180713003

Nova Scotia. (2018b). Overview of OPOR. Obtained via email April 2019, from Nova Scotia Department of Health and Wellness.

Nova Scotia (2018c). Annual Accountability Report on Emergency Departments. April 1, 2017 to March 31, 2018. Retrieved from https://novascotia.ca/dhw/publications/Emergency_Departments_Report_2018.pdf

Nova Scotia. (2019a). Budget 2019-2020. Finance and Treasury Board, March 2019. Retrieved from https://beta.novascotia.ca/sites/default/files/documents/6-1692/ftb-bfi-039-en-budget-2019-2020.pdf

Nova Scotia. (2019b). New Nursing Act Introduced. Retrieved April 4, 2019, from https://novascotia.ca/news/release/?id=20190315002

Nova Scotia Health Authority. (2016). Interdisciplinary Clinical Manual. Policy and Procedure. Registered Nurses to Assess, Treat and Release Patients in Emergency Departments, CL-AP-005. Retrieved from http://policy.nshealth.ca/Site_Published/NSHA/document_render.aspx?documentRender.IdType=6&documentRender.GenericField=&documentRender.Id=70359

Nova Scotia Health Authority. (2017a). Strengthening the Primary Health Care System in Nova Scotia: Evidence Synthesis and Guiding Document for Primary Care Delivery: Collaborative family practice teams & health homes. Retrieved from http://www.nshealth.ca/sites/nshealth.ca/files/phc_evidence_synthesis_april_2017_final_updated.pdf

Nova Scotia Health Authority. (2017b). Nurse Practitioners. Retrieved from http://www.nshealth.ca/nurse-practitioners

Nova Scotia Health Authority. (2017c). What is a family practice nurse? Retrieved from http://www.nshealth.ca/what-family-practice-nurse

Nova Scotia Health Authority. (2018). Chronic Disease Innovation Fund. Retrieved March 22, 2019, from http://www.nshealth.ca/chronic-disease-innovation-fund

Nova Scotia Health Authority. (2019a). Primary Health Care Planning and Implementation. Presentation to Council of Unions, Jan 31, 2019.

Nova Scotia Health Authority. (2019b). Need a Family Practice Registry. Retrieved March 19, 2019, from https://needafamilypractice.nshealth.ca/FPSearchReasons/create

Nova Scotia Health Authority. (2019c). Call for records FOIPOP 2019-2020 unattached ED patients. Retrieved from https://www.nsndp.ca/sites/default/files/foipop_data_-er_patients_-_feb_2019.pdf

Nova Scotia Government and General Employees Union (NSGEU). (2017). Code Critical. Retrieved from http://files.constantcontact.com/f8a4f1d7001/57666e17-6d9b-4f29-9aae-2040130e141d.pdf

Nova Scotia Government and General Employees Union (NSGEU). (2018). Code Crisis. Retrieved from http://nsgeu.ca/filemanager/pdf/NSGEUCodeCrisisReport.pdf

Oandasan, I. F., Hammond, M., Gotlib Conn, L., Callahan, S., Gallinaro, A., & Moaveni, A. (2010). Family practice registered nurses: The time has come. Canadian Family Physician, 56, e375-382.

Osborn, R., Schneider, E., & The Commonwealth Fund. (2015, December). 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians: Doctors' Views of Practice Preparedness to Manage Care for Patients with Complex Needs. Retrieved from https://www.commonwealthfund.org/publications/journal-article/2015/dec/primary-care-physicians-ten-countries-report-challenges?redirect_source=/publications/in-the-literature/2015/dec/primary-care-physicians-in-ten-countries

Parker, R., Forrest, L., Ward, N., McCracken, J., Cox, D., & Derrett, J. (2013). How acceptable are primary health care nurse practitioners to Australian consumers? Collegian, 20(1), 35–41. https://doi.org/10.1016/j.colegn.2012.03.001

Patel, N. K., Jaén, C. R., Stange, K. C., Miller, W. L., Crabtree, B. F., & Nutting, P. (2015). Patient Centered Medical Home: A Journey Not a Destination. In Geriatrics Models of Care (pp. 155-162). Springer International Publishing

Public Health Agency of Canada. (2013, October 21). Chronic Diseases. Retrieved from http://cbpp-pcpe.phac-aspc.gc.ca/chronic-diseases/

Public Health Agency of Canada. (2019, February 5). Prevalence of Chronic Diseases Among Canadian Adults [research]. Retrieved March 22, 2019, from https://www.canada.ca/en/public-health/services/chronic-diseases/prevalence-canadian-adults-infographic-2019.html

Registered Nurses' Professional Development Centre [RNPDC]. (2016). Family Practice Nursing Education Program. Retrieved May 7, 2018, from https://www.rnpdc.nshealth.ca/Programs/default.asp?mn=1.50

Ritchie, S. (2018, June 25). Life on the wait list: Stories of Nova Scotia's family doctor shortage. Global News. Retrieved from https://globalnews.ca/news/4288579/life-on-the-wait-list/

Romanow, R., & Commission on the Future of Health Care in Canada. (2002). Building on values: the future of health care in Canada: final report / Roy J. Romanow, Commissioner.CP32-85/2002E-IN - Government of Canada Publications - Canada.ca. Retrieved from Government of Canada website http://publications.gc.ca/site/eng/237274/publication.html

Rosano, A. (2014). The relationship between avoidable hospitalisation and primary care. Maastricht University, Maastricht. Retrieved from https://cris.maastrichtuniversity.nl/portal/files/814672/guid-6d9e5e36-e64b-4a65-9375-bcbed91580fa-ASSET1.0

Ross, John. 2010. The Patient Journey Through Emergency Care in Nova Scotia: A Prescription for New Medicine. Governement of Nova Scotia, 104.

Royal College of Nursing. (2014). RCN Fact Sheet Nurse Prescribing in the UK. Retrieved from https://www.rcn.org.uk/about-us/policy-briefings/pol-1512

Sangster-Gormley, E., & Canitz, B. (2015). An Evaluation of the Integration of Nurse Practitioners into the British Columbia Healthcare System. BC.

Sanmartin, C. A., Khan, S., & LHAD Research Team. (2011). Hospitalizations for ambulatory care sensitive conditions (ACSC): the factors that matter. Retrieved from Statistics Canada website https://www150.statcan.gc.ca/n1/pub/82-622-x/82-622-x2011007-eng.pdf

Schneidereit, P. (2018, October 18). Family doctor crisis doesn't seem to be abating. The Chronicle Herald. Retrieved from https://www.thechronicleherald.ca/opinion/columnists/schneidereit-family-doctor-crisis-doesnt-seem-to-be-abating-251077/

Schottenfeld, L., Petersen, D., Ricciardi, R., Burak, H., McNellis, R., & Genervrio, J. (2016). Creating Patient-centered Team-based Primary Care (p. 27). Retrieved from Agency for Healthcare Research and Quality website https://pcmh.ahrq.gov/sites/default/files/attachments/creating-patient-centered-team-based-primary-care-white-paper.pdf

Schull, M. J., Slaughter, P. M., & Redelmeier, D. A. (2002). Urban emergency department overcrowding: defining the problem and eliminating misconceptions. CJEM, 4(02), 76–83. https://doi.org/10.1017/S1481803500006163

Shi, L. (2012). The Impact of Primary Care: A Focused Review. Scientifica, 2012. https://doi.org/10.6064/2012/432892

Shum, C., Humphreys, A., Wheeler, D., Cochrane, M.-A., Skoda, S., & Clement, S. (2000). Nurse management of patients with minor illnesses in general practice: multicentre, randomised controlled trial. BMJ, 320(7241), 1038–1043. https://doi.org/10.1136/bmj.320.7241.1038

Sibbald, S. L., Clark, A. F., & Gilliland, J. A. S. and J. (2018). Without Compromising Integrity: Research and Planning Around the Primary Healthcare Landscape in Southwestern Ontario. Retrieved from http://www.longwoods.com/content/25528

Stanford, Health Care. (n.d.). Fast Track. Retrieved March 22, 2019, from https://stanfordhealthcare.org/medical-clinics/emergency-department/fast-track.html

Starfield, B., Shi, L., Macinko, J. (2005). Contribution of Primary Care to Health Systems and Health. The Millbank Quarterly, 83(3), 457-502.

Statistics Canada. (n.d) Table 13-10-0394-01 Leading causes of death, total population by age group. Retrieved from https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310039401

Statistics Canada. (2011). Hospitalizations for Ambulatory Care Sensitive Conditions (ACSC): The Factors That Matter - ARCHIVED. Retrieved April 10, 2019, from https://www150.statcan.gc.ca/n1/pub/82-622-x/82-622-x2011007-eng.pdf

Stenner, K., & Courtenay, M. (2008). Benefits of nurse prescribing for patients in pain: nurses' views. Journal of Advanced Nursing, 63(1), 27–35. https://doi.org/10.1111/j.1365-2648.2008.04644.x

Suter, E., Mallinson, S., Misfeldt, R., Boakye, O., Nasmith, L., & Wong, S. T. (2017). Advancing team-based primary health care: a comparative analysis of policies in western Canada. BMC Health Services Research, 17(1). https://doi.org/10.1186/s12913-017-2439-1

Swan, M., Ferguson, S., Chang, A., Larson, E., & Smaldone, A. (2015). Quality of primary care by advanced practice nurses: a systematic review. International Journal for Quality in Health Care, 27(5), 396–404. https://doi.org/10.1093/intqhc/mzv054

Taylor, N., Clay-Williams, R., Hogden, E., Braithwaite, J., & Groene, O. (2015). High performing hospitals: a qualitative systematic review of associated factors and practical strategies for improvement. BMC Health Services Research, 15. https://doi.org/10.1186/s12913-015-0879-z

Thisthlewaite, P. (2011). Integrating Health and Social Care in Torbay. Improving Care for Mrs Smith. https://www.kingsfund.org.uk/sites/default/files/integrating-health-social-care-torbay-case-study-kings-fund-march-2011.pdf

University of Rhode Island [URI] (2017). URI study: Nurse practitioner home visits correlate to big drop in hospital admissions, ER visits. URI Today. Retrieved June 6, 2018, from https://today.uri.edu/news/uri-study-nurse-practitioner-home-visits-correlate-to-big-drop-in-hospital-admissions-er-visits/

Valaitis, R. K., O'Mara, L., Wong, S. T., MacDonald, M., Murray, N., Martin-Misener, R., & Meagher-Stewart, D. (2018, April). Strengthening primary health care through primary care and public health collaboration: the influence of intrapersonal and interpersonal factors. https://doi.org/10.1017/S1463423617000895

Virani, T. (2012). Interprofessional collaborative teams. Retrieved from Canadian Health Services Research Foundation website http://ra.ocls.ca/ra/login.aspx?inst=centennial&url=https://www.deslibris.ca/ID/234421

Vogel, L. (2017). Canadians still waiting for timely access to care. CMAJ, 189(9), E375–E376. https://doi.org/10.1503/cmaj.1095400

Vuik, S. I., Fontana, G., Mayer, E., & Darzi, A. (2017). Do hospitalisations for ambulatory care sensitive conditions reflect low access to primary care? An observational cohort study of primary care usage prior to hospitalisation. BMJ Open, 7(8), e015704. https://doi.org/10.1136/bmjopen-2016-015704

Wagner, E. H. (2000). The role of patient care teams in chronic disease management. BMJ: British Medical Journal, 320(7234), 569. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117605/

Wagner, E., Flinter, M., Hsu, C., Cromp, D., Austin, B., Etz, R., Crabtree, B., Ladden, M. (2017). Effective team-based primary care: observations from innovative practices. BMC Family Practice, 18(13). Doi:10.1186/s12875-017-0590-8

Wilkinson, J., Carryer, J., & Adams, J. (2014). Evaluation of a diabetes nurse specialist prescribing project. Journal of Clinical Nursing, 23(15–16), 2355–2366. https://doi.org/10.1111/jocn.12517

Wilson, D. M., Murphy, J., Nam, M. A., Fahy, A., & Tella, S. (2018). Nurse and midwifery prescribing in Ireland: A scope-of-practice development for worldwide consideration. Nursing & Health Sciences, 20(2), 264–270. https://doi.org/10.1111/nhs.12408

Winickoff, R. N., Ronis, A., Black, W. L., & Komaroff, A. L. (1977). A protocol for minor respiratory illnesses. An evaluation of its use by nurses in a prepaid group practice. Public Health Reports, 92(5), 473–480. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1432042/

Wong, S. T., & Farrally, V. (2013). The Utilization of Nurse Practitioners and Physician Assistants: A Research Synthesis. Retrieved from The Michael Smith Foundation for Health Research website https://www.msfhr.org/sites/default/files/Utilization_of_Nurse_Practitioners_and_Physician_Assistants.pdf

World Health Organization [WHO]. (2010). Telemedicine oppertunities and developments in member states. Retrieved from http://www.who.int/goe/publications/goe_telemedicine_2010.pdf

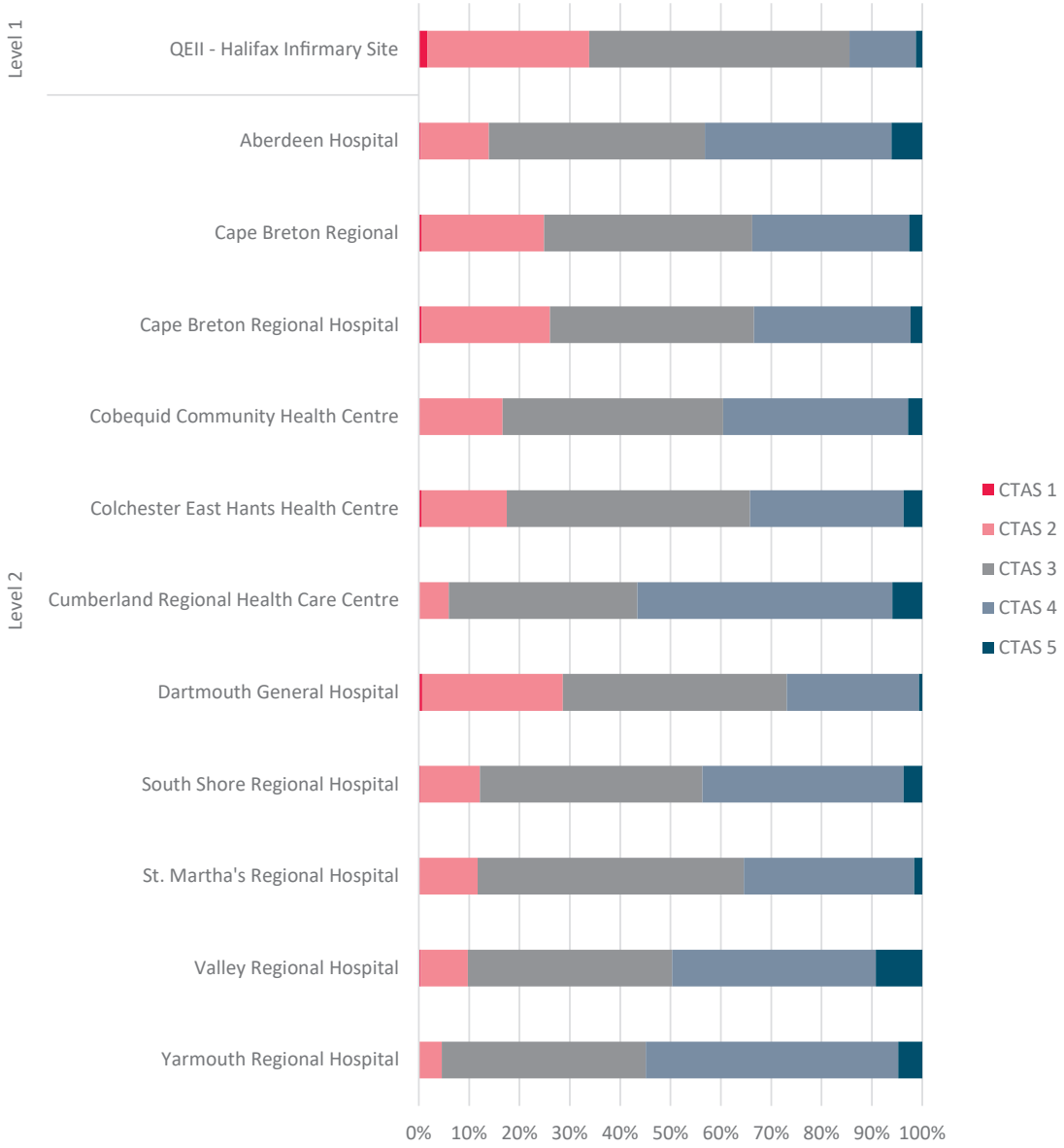
World Health Organization [WHO]. (2013). A global brief on hypertension: Silent killer, global public health crisis. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/79059/WHO_DCO_WHD_2013.2_eng.pdf;jsessionid=52EC4BD0DFF04372EACB138992296407?sequence=1

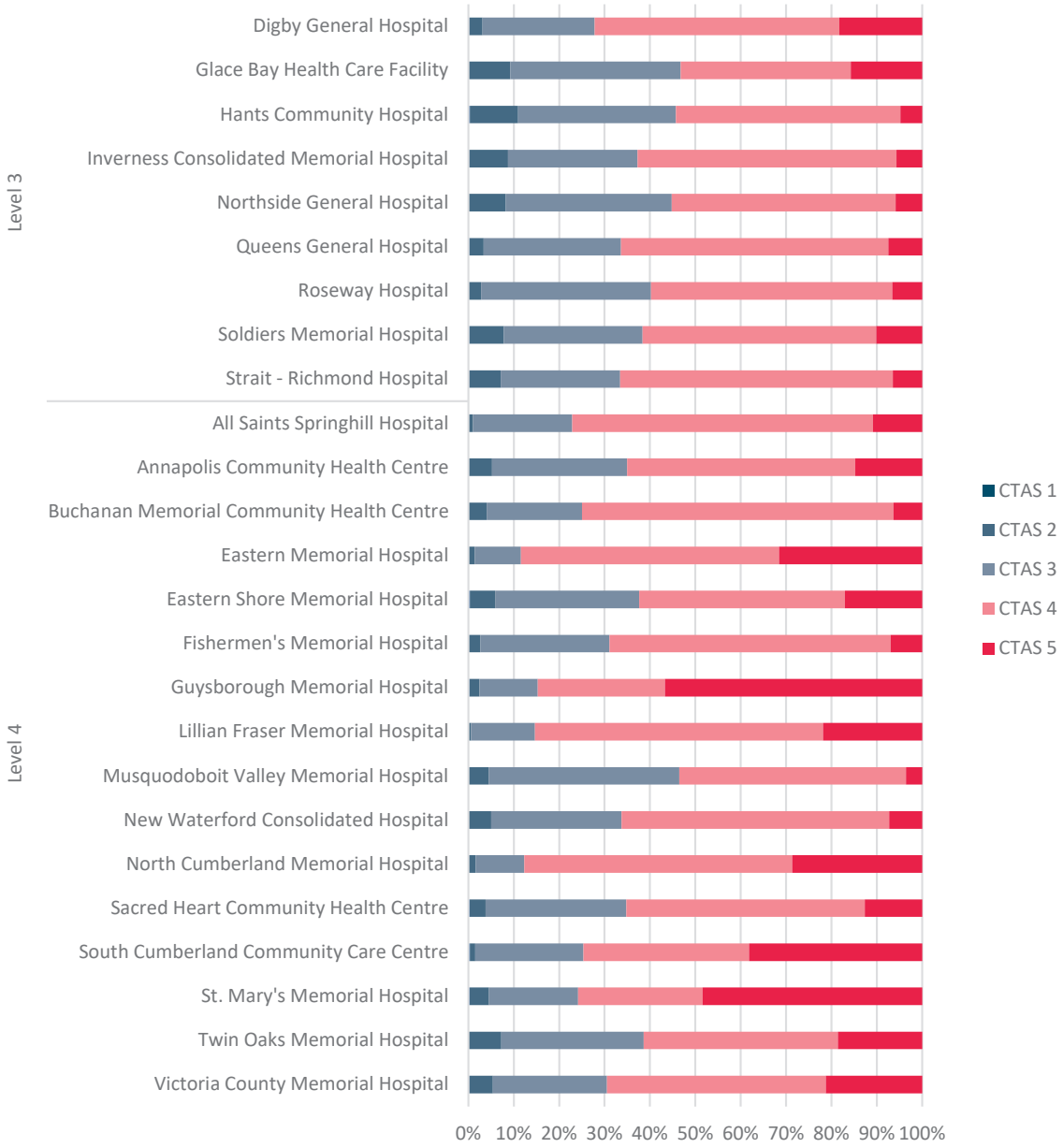
World Health Organization [WHO]. (2018). Noncommunicable diseases country profiles, Canada, 2018. Retrieved from https://www.who.int/nmh/countries/2018/can_en.pdf?ua=1

World Health Organization [WHO]/UNICEF. (2018). A Vision for Primary Health Care in the 21st Century. Towards universal health coverage and the sustainable development goals. Retrieved from https://www.who.int/docs/default-source/primary-health/vision.pdf

Young, H. M., Siegel, E. O., McCormick, W. C., Fulmer, T., Harootyan, L. K., & Dorr, D. A. (2011). Interdisciplinary collaboration in geriatrics: advancing health for older adults. Nursing Outlook, 59(4), 243–250. https://doi.org/10.1016/j.outlook.2011.05.006

Appendix A - *Emergency Department CTAS Levels 2018-2019*




Level 3
Digby General Hospital
Glace Bay Health Care Facility
Hants Community Hospital
Inverness Consolidated Memorial Hospital
Northside General Hospital
Queens General Hospital
Roseway Hospital
Soldiers Memorial Hospital
Strait - Richmond Hospital
Level 4
All Saints Springhill Hospital
Annapolis Community Health Centre
Buchanan Memorial Community Health Centre
Eastern Memorial Hospital
Eastern Shore Memorial Hospital
Fishermen's Memorial Hospital
Guysborough Memorial Hospital
Lillian Fraser Memorial Hospital
Musquodoboit Valley Memorial Hospital
New Waterford Consolidated Hospital
North Cumberland Memorial Hospital
Sacred Heart Community Health Centre
South Cumberland Community Care Centre
St. Mary's Memorial Hospital
Twin Oaks Memorial Hospital
Victoria County Memorial Hospital
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
CTAS 1
CTAS 2
CTAS 3
CTAS 4
CTAS 5

Appendix B - *Key Informant Questions*

Where possible we would ask for clarification between different nursing groups when giving specific examples (NP, RN, LPN, others).

1. How do you view primary healthcare in our province right now? Probe: concerning the role nurses are playing.

2. What is your vision for the future of primary healthcare in Nova Scotia and what role do you see for the nursing profession?

3. Are there primary healthcare initiatives that other jurisdictions have implemented that you think would work well in Nova Scotia?

4. Can you offer your opinion on the following:
   i. RN prescribing (independent and as a delegated medical function)
   ii. RNs renewing prescriptions
   iii. NPs / RNs being able to admit, transfer, and discharge from hospitals
   iv. NPs and RNs ordering diagnostic tests and making referrals
   v. NPs as independent practitioners from physicians

5. Do you think any barriers prevent greater nursing involvement in primary healthcare (e.g. policy, administration, regulatory, education, interprofessional collaboration)?

6. Do you think patients are/ would be receptive towards a greater nursing involvement in their primary care? Probe: Do you think the public has a good understanding of what nurses' can do?

7. What do you see as the potential outcome of greater utilization of nurses? Probe: Wait times/ accessibility to care?

8. Do you know of any data, policies, or programs that you think would be of interest to us for this project?

9. Do you have any final questions or comments?

Appendix C - *Nurse Focus Group Questions*

NSNU Online VON Focus Group Questions

1. Why did you decide to work as a homecare nurse? What makes it attractive for you?

2. Are there any barriers, or supports that are required, to optimize your role? Please note if there is anything you wish you could provide in your practice but cannot at this time.

3. How do you see the role of preventative healthcare in what you do as a homecare nurse?

4. What role do you think community care nurses play in primary health?

5. Do you notice any differences in the expectations of your regulatory body, your employer, your colleagues, your patients and yourself?

6. Are there ways that the VON could improve access to primary healthcare?

7. What is your vision for the future of primary healthcare in Nova Scotia?

8. Is there anything else you would like to say about primary healthcare in Nova Scotia?

Appendix D - *Focus Group Methodology and Description*

Purpose

The research team conducted focus groups to gain a better understanding of nurses' involvement in primary healthcare, to explore what nurses want to do for patients and what obstacles they face, and to develop hypotheses for testing in future survey work. Focus groups were held in July, 2018, for the identified groups of nurses: Family Practice Nurses (FPN), nurse practitioners (NP), Emergency Nurses (ED), or those working with VON home care. Focus groups were 1.5-hours in duration and conducted online. Potential participants were recruited by email using the NSNU's membership database. Invitations were sent to all eligible NSNU members. Inclusion criteria included those agreeing to participate that met one of the four group categories, were available at the date of the focus group and signed a consent form. Participants received a $25 grocery card thanking them for their participation.

Participant Characteristics

A total of 25 nurses participated in the focus groups: 9 nurse practitioners, 3 Family Practice Nurses, 6 Emergency Department Nurses, and 7 VON Nurses. The majority of participants had between 11-20 years of experience as a nurse. All participants identified as female, and ranged in age from 21 – 65 years.

Twenty-three percent of participants were from large urban areas such as Halifax Regional Municipality or Sydney, 27% were from large towns (population 10,000 – 30,000), 23% were from small towns (population 5,000 – 10,000) and 26% were from rural areas (population less than 5,000). Thirty-eight percent (38%) of participants were from eastern Nova Scotia, 23% were from northern Nova Scotia, and 19% from each of western and central Nova Scotia.

Group Process

Information obtained from key informant interviews, the researchers' literature review, and NSNU opinion leaders were used to create a structured list of interview questions for each group. Interview questions were open-ended with every attempt made not to preface or ask in a leading way during the focus group. Most of the questions asked in each group were the same with only 1 or 2 questions varying to capture work-specific variations. Questions were read to participants and not sent in advance.

Online Environment

Focus groups were conducted online using the GoToMeeting platform. Participants were encouraged to use their web cameras during the focus group but were not required. The majority of participants contributed to the focus group using their microphones or by using the phone-in participation option. A small minority elected to participate using the chat text function primarily due to technological difficulties. One participant had technical challenges and could only hear the focus group and was not able to contribute during the session. This participant wrote up a list of responses to the questions and reactions to peer comments and sent this to NSNU by email following the focus group. These responses were included in the focus group analysis.

Confidentiality and Consent

Group norms and expectations related to confidentiality were reviewed at the beginning of each focus group. Participants were reminded that sessions were being recorded and that they were free to exit the focus group at any time. Participants were also told they did not need to answer questions they did not feel comfortable with and that their names would not be used in any publications. Signed consent forms were emailed or faxed to NSNU by each participant.

Method and Analysis

Focus group transcripts were prepared for analysis by verbatim transcription using MAXQDA software. The epistemological orientation of the focus group coding and analysis followed a social constructivist approach emphasizing shared meaning, group consensus, divergent views, and the social concerns of participants. Statements of consensus and agreement were captured by noting visual signs of agreement such as head nods or by further probing statements “Is anyone else seeing this?” No theory was pre-selected to guide the coding and analysis process. Using an iterative process, transcripts were open-coded by three researchers reviewing each transcript as a group and agreeing to the codes by discussion and consensus. Definitions codes that were not explicit were developed by the researchers to ensure clarity and consistency in their application. Sentences or entire paragraphs of the transcripts were coded in this manner. A total of 26 codes and sub-codes were developed. The largest coded category was “System Dysfunction.” Codes were then grouped into themes by one researcher and presented to the research team for a final agreement on the emerging themes.