Strengthening the Primary Health Care System in Nova Scotia

Evidence Synthesis and Guiding Document for Primary Care Delivery*: Collaborative family practice team-based care & health homes*

Nova Scotia Health | Primary Health Care

Original April 2017 | Updated May 2023

ACKNOWLEDGEMENT:

The original evidence synthesis and guiding document (2017) was completed as a result of contributions from many Primary Health Care leaders, providers, and partners. We thank representatives from the Nova Scotia Health Authority, Department of Health and Wellness, and IWK Health Centre for their participation in the planning process. This revised version was completed in 2023.

RECOMMENDED CITATION:

Primary Health Care, NSH (2023). *Strengthening the Primary Health Care System in Nova Scotia. Evidence synthesis and guiding document for primary care delivery: Collaborative family practice team-based care and health homes.* Nova Scotia: Primary Health Care, Nova Scotia Health.

FOR FURTHER INFORMATION:

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INTRODUCTION

Primary care improvement is viewed as a critical starting point for transforming health care systems and improving access and quality of care (Starfield et al., 2005; Hutchison, 2008; Health Council of Canada, 2009; as cited in Baker and Dennis, 2011). Furthermore, there is strong evidence in the literature to support primary health care as the foundation of high performing health systems (Baker & Dennis, 2011; McMurchy, 2009; Shi, 2012; Starfield et al., 2005; CFPC, 2019). This review reflects on the evidence related to the ***primary health care system*** and its contributions to health system performance and population health at the system level. In order to realize these benefits in the Nova Scotia context, the model recommended to organize one function of the primary health care system, that is **PRIMARY CARE DELIVERY**, is the ***health home***, with high-performing interprofessional ***collaborative family practice teams*** forming the basis of the health home. The evidence as it relates to emerging outcomes associated with the health home model and the well-established evidence base for team-based care is presented.

The 2003 report, *Primary Health Care Renewal: Action for Nova Scotians,* identified a well-coordinated, integrated, and sustainable primary health care system as the foundation of the overall health system. In 2017, the original *Strengthening the Primary Health Care System in Nova Scotia*, articulated the evidence base that supported the growth of team-based primary health care in Nova Scotia through multi-year investments. The 2022 Primary Health Care Strategy (Primary Health Care, 2022) reiterates the importance of primary health care as the foundation of the health system to improve the overall health status of Nova Scotians, supports achievement of multiple goals in the Government of Nova Scotia's Action for Health [2022], and reinforces the vision to strengthen team-based care. The system-level aims of the PHC Strategy (**Figure 1**) provides a framework for the strategic coordination of the many initiatives related to primary health care to ensure alignment over a 5-year roadmap.

Investing in the community-based primary health care system to improve patient access and to increase the number of collaborative family practice teams and collaborative teams working in a health home/health neighbourhood model is a key step to achieve Nova Scotia Health's vision: *Healthy people, healthy communities – for generations* (Nova Scotia Health, 2019).

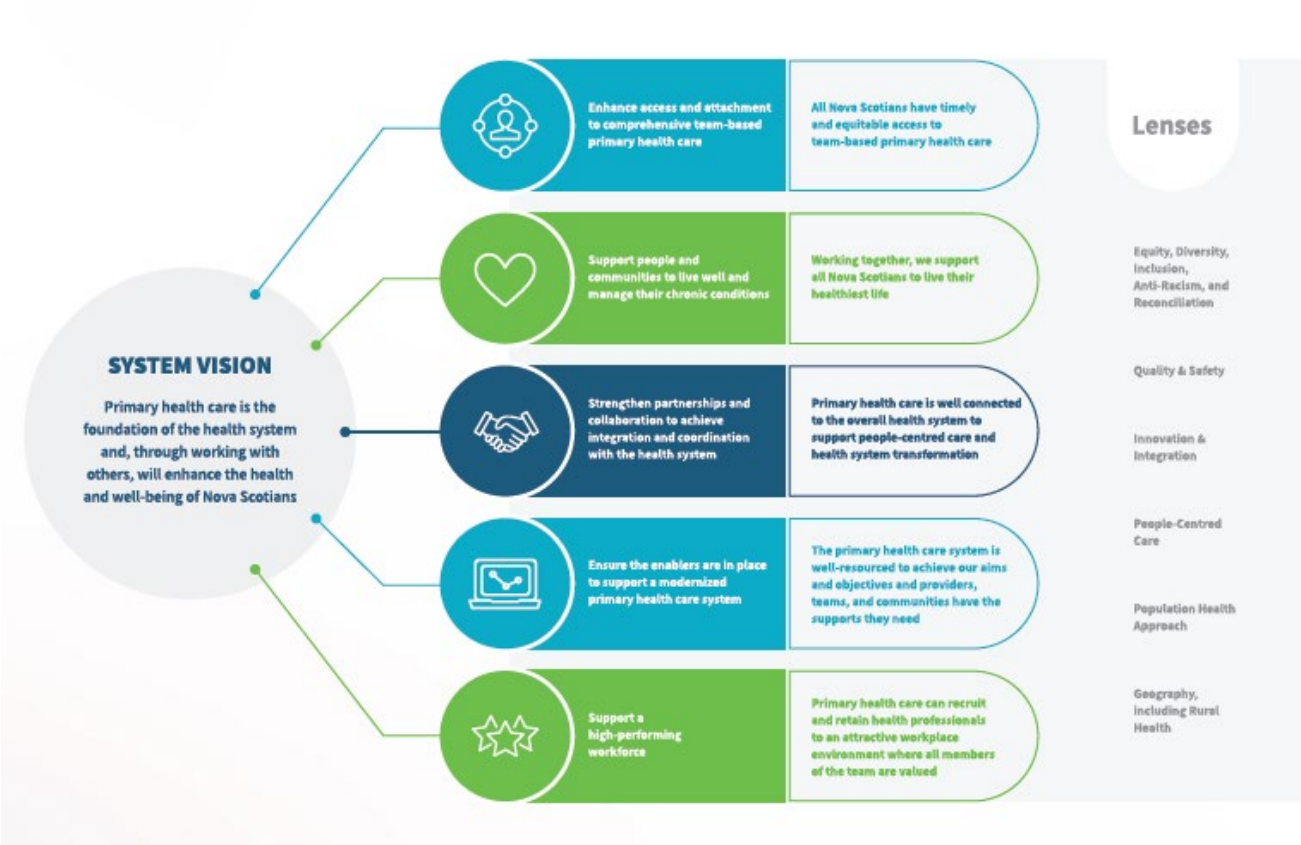

Figure 1. Primary Health Care Strategy (Primary Health Care, 2022)

THE PRIMARY HEALTH CARE SYSTEM

DEFINING PRIMARY HEALTH CARE

Primary Health Care is a **multidimensional system** that has a responsibility to organize care for patients across the continuum of care and understand and work with our partners to improve the health of communities (adapted from Kringos, 2010).

Primary health care is 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. It also includes the continuum of care from pre-conception to end-of-life care, emphasizing health

> *“Primary health care is a philosophy for organizing and delivering a range of coordinated and collaborative community-based services that empower individuals, families and communities to take responsibility for their health and well-being. Effective primary health care requires a culture and system designed to be responsive to individual and population health needs.*
>
> (Government of Newfoundland and Labrador, 2015, p. 10) ”

promotion, disease and injury prevention, health maintenance, and supporting patients and families in being partners in their health journey. With patients and families being core partners on the team, primary health care professionals include family doctors, family practice nurses, nurse practitioners, licensed practical nurses, pharmacists, social workers, dietitians, physiotherapists, behaviourists, psychologists and many others, who all work collaboratively to improve the health and well-being of their patients and clients. Primary health care is the foundation of the health system, where the majority of people experience most of their health care, in the community, and is the ongoing point of contact a person has with the overall health system (adapted from Nova Scotia Health Authority, 2015; Annapolis Valley Health, 2005; Capital Health, 2009).

THE FUNCTIONS & ENABLERS OF A STRONG PRIMARY HEALTH CARE SYSTEM

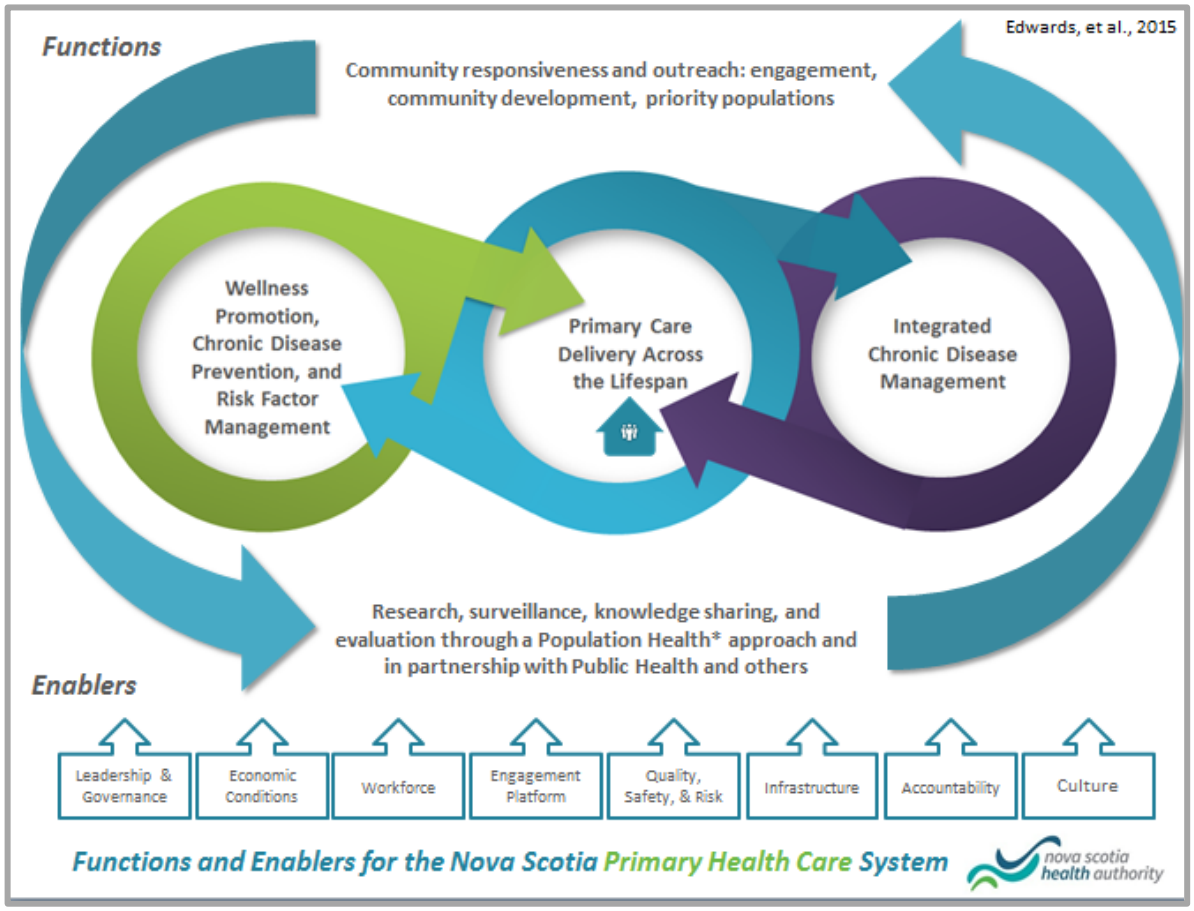

Figure 2: Functions and Enablers for the Nova Scotia Primary Health Care System (Edwards et al., 2017)

The functions and enablers of a strong primary health care system have been derived through synthesis of the literature (e.g., McMurchy, 2009; Kringos, 2010; etc.) and through consultation with primary health care leaders, teams, and partners across the province. The primary health care functions and enablers (**Figure 2**) continue to serve as a foundation for planning and as a conceptual framework for how the primary health care system is viewed in Nova Scotia (Edwards et al., 2017).

The functions of primary health care system include:

Primary care delivery across the lifespan from birth to end of life care

- Wellness promotion, chronic disease prevention, and risk reduction for individuals, groups, and communities;
- Integrated chronic disease management;
- Research, surveillance, knowledge sharing, and evaluation through a Population Health approach and in partnership with public health and others; and
- Community responsiveness and outreach: engagement, community development, and priority populations.

The functions are supported by **foundational enablers**, which are required to build and sustain the primary health care system and include: leadership and governance; economic conditions; workforce; engagement platform; quality, safety, and risk; infrastructure; accountability; and culture. While the enablers are largely consistent with what is needed across other parts of the health care system, the enablers to support community-based primary health care require a different orientation than in acute care or other parts of the system.

The focus of this review is to describe the model and supporting evidence in the literature for **PRIMARY CARE DELIVERY**, which includes the following constructs/elements:

- Person–centered care
- Provide a community-oriented approach through understanding the practice population
- Ensure accessibility (timely access, across settings and geographies, communication approaches, affordability, culturally appropriate, equitable)
- Foster continuity (informational, relational, management)
- Offer a comprehensive team approach
- Coordinated & integrated - coordination of individuals' and families' health and community-based supports
- Provide individual health promotion, prevention, acute episodic care, ongoing management of chronic conditions, rehabilitation, management of frailty, and end of life supports

ATTRIBUTES & BENEFITS OF A STRONG PRIMARY HEALTH CARE SYSTEM

Countries with strong primary health care systems report better population health outcomes, reduced inequities in population health, and lower rates of hospitalization resulting in reduced health care costs (Starfield et al., 2005; Shi, 2012; Freidburg et al., 2010; Kringos et al., 2013; McMurchy, 2009; Schafer et al, 2019; WHO & UNICEF, 2020). Research findings have shown inequities between populations; patients with a migration background, experiencing poverty, or who are adversely affected by the social determinants of health have less positive health experiences and outcomes (Schafer et al, 2019; WHO & UNICEF, 2020). This indicates room for improvement in how services are accessed and delivered.

In an extensive review conducted by McMurchy (2009) critical attributes and benefits of leading primary health care systems were identified. The four critical attributes of primary health care systems were identified to be access, coordination, comprehensiveness, and continuity. Additionally, a fifth attribute, community-oriented health, should be considered as an essential element of a strong primary health care system, to emphasize the importance of understanding and responding to communities and building community capacity (Starfield et al., 2005; Johns Hopkins University, 2015). Each critical attribute is associated with numerous benefits, solidifying their importance. Taken together, these factors provide the basis for investing in building strong primary health care systems.

Benefits associated with each attribute include, for example:

- Enhanced **access** is associated with reduced wait times, improved coordination, improved referrals, less duplication of services, reduced mortality, and reduced self-referred emergency department visits (McMurchy, 2009; Shi, 2012; Cowling et al., 2013). There is also evidence that access to primary care can lead to improvements in other inter-related attributes, such as continuity and comprehensiveness, and is linked to improvements in health equity for priority population groups in multiple reviews (Shi, 2012; Kringos et al, 2010; Starfield et al., 2005).
- Over time, **continuity** of care is associated with appropriate preventative care, fewer diagnostic tests and prescriptions, reduced emergency department usage, improved patient satisfaction, improved provider satisfaction, improved chronic disease prevention and management, fewer hospitalizations for ambulatory care sensitive conditions, and reduced health disparities associated with socioeconomic status (McMurchy, 2009; Hsaio & Boult, 2008; Barker et al., 2017).
- **Comprehensiveness** of care is correlated with improved quality of care, reduced morbidity and mortality, increased prevention and screening activities, and lower hospital admissions rates and length of stay (McMurchy, 2009; Bazemore et al., 2015). As well, individuals with access to a comprehensive primary health care team are more likely to receive disease prevention and health promotion than those who do not have access to a primary health care team (Khan et al., 2008).
- **Coordination** of care is associated with reduced redundancy in services, greater patient satisfaction, improved chronic disease prevention and management, and improved patient safety (McMurchy, 2009).
- **Community-oriented health** "takes into account the health care needs of a defined population" and acknowledges that unmet health care needs of people in the community can influence the entire community (Johns Hopkins University, 2015).

Positive effects of primary health care related to **health status, population health** and **health equity** include:

- Primary care, through its dimensions/attributes, contributes to overall health system performance and population health (Kringos et al., 2010; Starfield et al., 2005)
- Within the literature, having a strong primary health care system is recognized as the strongest enabling factor in providing high quality chronic care for those with single and multiple chronic conditions (Nasmith, 2010).

- In a study by Hansen et al. (2015), it was identified that living in a country with a strong primary health care system (both related to structural elements and related to attributes, such as continuity and coordination) had positive impacts to the health status of individuals living with chronic conditions and this effect was particularly pronounced for those with multimorbidity.
- Primary health care interventions have a population health impact, which has corresponding effects on macroeconomic indicators such as employment, productivity, and economic growth (Dahrouge, 2012).
- Starfield (2006), revealed that investments in primary care have greater impacts to health equity than investments in the health system overall. This was reinforced by a systematic review of the core dimension of primary care (Kringos et al., 2010).
- Shi (2012) identified strong primary care as associated with health equity and suggested that strong primary health care "can mitigate the adverse effectives of income inequality" (p. 15).

Finally, there is increasing evidence in the literature suggesting that investment in primary health care is **cost-effective**, particularly for interventions associated with improved *continuity and coordination* of care due to reduced hospitalizations and emergency department use (Dahrouge, 2012; McMurchy, 2009; Kringos et al., 2010; Shi, 2012; Barker et al., 2017). Some studies suggest that the correlation between continuity and reduced hospitalizations for ambulatory care conditions may be stronger for the highest users of health care (Barker et al., 2017). A study in the United States correlated *comprehensiveness* of care with reduced health care expenditures for Medicare beneficiaries (Bazemore et al., 2015), identifying evidence that supports the importance of comprehensiveness and the assertion that comprehensive services in primary care leads to reduced health care costs (Kringos, 2013).

Doing things differently by reinvesting resources and implementing changes in the primary health care and broader community-based system will not only improve the person-centered health care experience of Nova Scotians but will also contribute to the sustainability of the overall health care system. Prioritizing primary health care and allocating resources to build a strong primary health care system has been shown to "bend the cost curve" over time through a study of 11 European Countries (Kringos et al. 2013). Kringos and colleagues identified that the investment in building strong primary care was associated with a reduced rate of growth in health care spending; lower rates of potentially avoidable hospitalization; better population health outcomes; and lower socioeconomic inequality in self-rated health.

> *"Strong primary care does not develop spontaneously but requires a well-developed organizational planning between levels of care."*
>
> (Akman et al, 2022, p. 1)

Freidburg et al., (2010) highlight the importance of monitoring change over time as it relates to reorienting health systems and strengthening primary health care to observe improvements in health outcomes over time. In a focused review, Shi (2012) reinforces the assertion that outcomes in the primary health care context take time to emerge, in particular those related to cost savings. The past few years have demonstrated the impacts that unexpected challenges and emergencies, like COVID-19, can have on a health system. The World Health Organization and UNICEF (2020) highlight the importance of creating and

maintaining a monitoring system to continue to be able to provide care and to ensure the resiliency of the primary care system over time.

In order to build a strong primary health care system, conclusions from the literature identify that it is important to focus on all attributes (access, comprehensiveness, continuity, coordination, community-oriented) of primary health care through the implementation of multi-faceted interventions. Kringos et al. (2010) reinforce this, by describing the complexity of the primary health care system and the inter-relatedness of the critical attributes from a process and outcome perspective. Multi-faceted interventions that focus on all attributes of primary health care include the implementation of team-based care delivery models, such as the **person-centred health home**, which is the proposed approach in Nova Scotia to realize the benefits for Nova Scotians that are observed in other jurisdictions related to high performing primary health care systems.

HEALTH HOMES: A MODEL FOR TEAM-BASED PRIMARY HEALTH CARE

DEFINING THE HEALTH HOME MODEL

A 'health home' is a person-centered, team-based primary health care delivery model that promotes access to timely, coordinated, comprehensive, and continuous primary health care. It is 'the place [patients] feel most comfortable presenting and discussing their personal and family health and medical concerns" (College of Family Physicians of Canada,2019, p.2). The model serves as a mechanism for organizing primary care delivered by collaborative family practice teams and can serve as a blueprint for achieving the Quadruple Aims of: improved population health outcomes, improved patient experience, improved staff experience, and reduced per capita costs (Jackson et al., 2013; Neilson et al., 2016; Stein et al, 2021). The heath home model put forth by the College of Family Physicians of Canada [CFPC] originally in 2011 and revised in 2019 emphasizes "high-quality, patient-centered, and comprehensive care to patients and their families during their lifetime" (CFPC, 2019, p.1) while also incorporating safety, accountability, and meeting the needs of the population, with the goal of achieving improved health outcomes for individuals and families (adapted from *Patient's Medical Home,* CFPC, 2011 & 2019).

A Health Home builds on:

"the long-standing historical contribution of family physicians and primary care to the health and well-being of Canadians, as well as the emerging models of family practice and primary care that have been introduced across the country. Importantly, this vision provides goals and recommendations that can serve as indicators."

Foundational work completed by CFPC in 2011 to create the Patient's Medical Home (PMH) guided the Health Home vision in Nova Scotia. CFPC updated the original model in 2019 to reflect the changing context and current realities of primary health care (CFPC, 2019). The 2019 CFPC Patient's Medical Home (**Figure 3**) was developed after extensive stakeholder feedback. The model outlines a vision for transforming family

practice, identifies ten revised key pillars, and includes objectives and desired outcomes. "The importance of being responsive to community needs through engagement, and ensuring the provision of equitable, culturally safe, anti-oppressive practice that seeks to assess and intervene into social determinants of health, is now more clearly featured" in this revised mode (CFPC, 2019, p.1). In a patient's medical home, a collaborative family practice team acts as a hub for access to and coordination of comprehensive medical and health care services, provided by an inter-disciplinary team of providers. In a patient-centered medical home, every citizen has their own [primary care provider], along with access to an interprofessional team of providers, timely appointments, and coordination of other medical services. The team would use an electronic medical record, have a model of remuneration that supports the model of care, and the necessary system supports would be in place for ongoing evaluation and quality improvement (CFPC, 2011 & 2019). Other provinces in Canada have adopted variations of a health home / patient's medical home model, including Alberta, Manitoba, Newfoundland, British Columbia, Northwest Territories, Quebec, and Ontario, as well as jurisdictions in the United States, Australia, and other countries internationally.

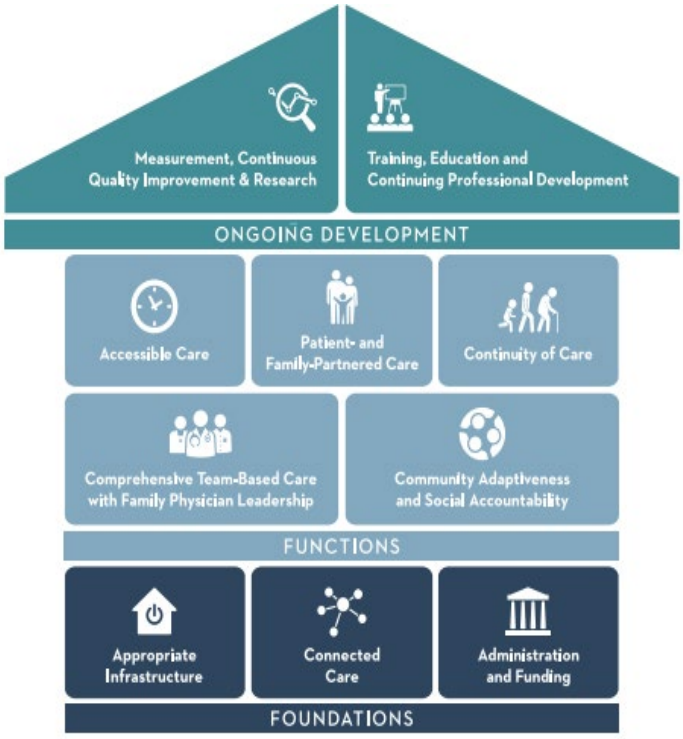

Figure 3. Patient's Medical Home (CFPC, 2019)

The health home model encompasses three themes (foundations, functions, and ongoing development) while incorporating in ten pillars related to these themes. Within each pillar, strategies and intended outcomes are identified to help teams strengthen and align with the PMH model. Each strategy is based on best practice and evidence. The core attributes of primary health care are contained within these elements (accessibility, comprehensiveness, continuity, coordination, and community-oriented), as well as the foundational enablers needed to develop, support, and sustain the health home (e.g., quality, adoption of an EMR, supportive leadership and governance structures, etc.). The College of Family Physicians acknowledges this model is not a one-size-fits all but encourage teams to align with the model "by incorporating strategies that match the realities of their unique settings" as well as "adapt(ing) and respond(ing) to the needs of their patients and communities" (CFPC, 2019, p.3). While there is variability and customization in terms of how the core elements of the health home model are implemented at the practice level, there is general consensus in the fundamental concepts or principles of the model (Hoff et al., 2012). Moreover, the core elements are intended to be implemented collectively as part of a comprehensive model, not as discrete constructs, in order for the practice to be considered on a journey to becoming a health home (Hoff et al., 2012).

THE VISION FOR NOVA SCOTIA

It is envisioned that all Nova Scotians will have *access* to and receive *comprehensive* services from a collaborative family practice team that serves as a ***Health Home*** for themselves and their families. Individuals and families will work in *partnership* with their team to receive and participate in their own *continuous* and *coordinated* care across the lifespan from birth to death. Using a population health approach, each team provides primary care, wellness and chronic disease management to patients across integrated settings in the community cluster and community health network[1].

A ***Health Home*** is:

- A sustainable hub, that provides access to timely, coordinated and comprehensive health services based on the needs of the practice population;
- Where patients, families, and personal caregivers are encouraged to be active participants in decision making regarding their ongoing care;
- An environment for continuous interaction between patients and their team;
- Where strong, appropriate relationships are developed and strengthened over time; and
- Where we strive to achieve the best possible health outcomes for each person, the practice population, and the community being served

(adapted from the College of Family Physicians of Canada, 2019, A Vision for Canada: Family Practice – The Patient's Medical Home).

The ***core elements of the health home*** model include:

- The health home is **person- and family-centered** and provides community-oriented primary health care in the context of the community cluster and network whereby the team understands the characteristics of communities that influence health;
- Every patient has a **healthcare team** who is responsible, in partnership with the patient, for their overall care;
- The health home will offer its patients a **comprehensive** scope of services carried out by **interprofessional, collaborative family practice teams** and /or a network of providers who collaborate to best serve the needs of the patients of the practice population;
- **Timely access** to appointments / services within the health home is provided in conjunction with advocacy for and **coordination** of timely appointments with other health and medical services outside the health home;

[1] The **Geographic Framework** adopted by Nova Scotia Health for primary health care planning is referenced in a 2016 report on the development of community clusters for Nova Scotia (Terashima et al., 2016)

- **Continuity** of care, relationships, and information for all individuals affiliated with the health home (informational, relational, management continuity);
- Health homes are ideal sites for **training and research;**
- All health homes use **electronic medical records** (EMR) and share information across the team; this helps ensure continuity of care
- Health homes have ability to use virtual care technology to increase access options
- All health homes participate in ongoing evaluation of the effectiveness of its services as part of its commitment to **continuous quality improvement;**
- Health homes are **connected** to other aspects of the primary health care system, broader health care system, social system, and the broader community to meet the needs of the practice population;
- Health homes use population data to inform and target the care they provide at the practice level
- Health homes **work in collaboration with other health homes** in the community cluster and community health network to foster collaboration to promote person and family-centered care (e.g., urgent and after-hours care access; vacation coverage; sharing of resources and knowledge; etc.);
- Strongly supported **internally** (through governance, leadership, and management structures) and **externally** (by governments, the public, etc.).

(adapted from the College of Family Physicians of Canada, 2011 and 2019; Government of Newfoundland and Labrador, 2015, p.34).

The number of health homes and collaborative family practice team members in a community cluster will be determined by population-based metrics. The configuration of the health homes in each cluster will vary depending on the number of team members identified by the metrics, the geography of the community cluster, and adapted to the needs of the population.

A Health Home:

"It's not a place…it's a partnership with your primary care provider."

(Patient-Centered Primary Care Collaborative, 2022)

Working in partnership with patients and families, health homes will have a core complement of nursing resources (nurse practitioners, family practice nurses) and community adaptive team members (e.g., dietitians, social workers, occupational therapists, pharmacists, or others) identified based on, and adapted to, the needs of the community. A strong quality and accountability platform is critical to the development and maturity of health homes to ensure achievement of outcomes and to embed a culture of accountability and continuous quality improvement.

THE HEALTH HOME: EVIDENCE FOR A MODEL TO ORGANIZE PRIMARY CARE DELIVERY

The health home (patient-centered medical home) model has been evaluated largely in the United States context. Early evidence reviews suggest investing in the health home model results in improved quality of care, improvements in the patient experience, and reduced health care costs as a result of reduced health system utilization (Grumbach & Grundy, 2010). Subsequent studies and evaluation of health home models have been able to duplicate these findings (Neilson et al., 2016). Demonstrated benefits associated with the implementation of the health home model include:

- The Patient-Centered Primary Care Collaborative in the United States published a report of findings related to cost, quality, and utilization of the medical home model in 2017, with results coming from peer-reviewed studies and grey literature. The results from this review revealed increased patient satisfaction, positive impacts of team-based care, and the longer a patient medical home is in place, the more positive the outcomes. (Jabberpour et al, 2017);
    - The patient-centered medical home model has been implemented in 44 states and "it is estimated that 45% of family physicians practice within a patient-centered medical home model" (Jabberpour et al, 2017, p. 9).
    - The effects on quality within this review were mixed and showed either an increase or no change at all. Researchers felt this was most likely due to the inconsistencies in how data on quality is collected and measured across studies.
    - Practices who have implemented the patient-centered medical home model need time to transform and mature into true health homes before significant improvements can be seen (Jabberpour et al, 2017).

> *"In general, the patient-centered medical home showed a decrease in overall cost, with a more positive trend for more mature (homes) and for those patients with more complex medical conditions."*
>
> (Jabberpour et al., 2017, p. 14)

- Higher screening rates for patients participating in patient medical homes (Jabberpour et al, 2017)
- Improvements in access to care (McCarthy et al., 2009; Ferrante et al., 2010).
- Positive effects on patient experiences and provider experiences (Jackson et al., 2013; Patel et al., 2015).
- Improved needs satisfaction, quality of life, and patient activation (Sum et al, 2021)
- Positive effects on access to preventative services (Ferrante et al., 2010; Jackson et al., 2013).
- Jabberpour et al (2017) found that in situations where positive communication mechanisms and practices existed and were fostered, this helped build the team identity which reduced physician burnout.
- Associations with improved quality of care (Grumbach & Grundy, 2010; Hoff et al., 2015)
- Decreased utilization acute care services, in particular emergency department use (Grumbach & Grundy, 2010; Hoff et al., 2015; Jackson et al., 2013; Saynisch et al, 2021) and decreased hospital admissions and readmissions (Neilson et al, 2016; Jabberpour et al, 2017).
    - Some evidence suggests the increased role of and access to electronic communications and care may be impacting the decrease in emergency department use (Saynisch et al, 2021)

- Friedberg et al. (2015) recently demonstrated after three years post- medical home implementation, participating practices showed improvements in quality of care, increased primary care utilization coupled with decreased utilization of specialty services, emergency department use, and hospital care relative to comparator practices. The participating practices also experienced shared cost savings over the three-year period in the context of the intervention. Jabberpour et al (2017) also indicated cost savings in practices that implemented the medical home model.
- Evidence suggests that the patient-centered medical home may be more effective than traditional models of care for the treatment of chronic health disorders (Jones et al., 2015).

While the evidence related to high performing primary health care systems in this review comes from both national and international studies, the evidence specifically related to the health home model is largely limited to the United States context given the focus on evaluation of pilot projects, demonstration sites, and state / county wide initiatives. Directional and strategy documents were reviewed across international health systems and countries as well, including Australia and their plans to engage in widespread implementation of the health home model (Consumer Health Forum of Australia, 2016), New Zealand, Sweden, United Kingdom (NHS), Denmark and others that have been moving forward over the past two decades to strengthen the primary health care system and continue to call for enhanced primary health care using team-based models which encompass elements reflective of the health home or the model in its entirety.

An asset of the health home model is that it can be customized to the local context of the team and community, with a 'no one size fits all approach', this needs to be considered in designing evaluation approaches that are applied across health homes for monitoring larger scale results (Hoff et al., 2012; Jabberpour et al, 2017). Given the reported and potential benefits coupled with the investments that are required for implementation, there is widespread consensus in the literature the model needs to continue to be evaluated to strengthen the research base (Grumbach & Grundy, 2010; Hoff et al., 2012; Jackson et al., 2013; Neilson et al., 2014).

Further research is required to determine the long-term implications and benefits of implementing the health home model. With research and knowledge sharing serving as a core function of primary health care in Nova Scotia, there is an opportunity to contribute local research to this growing evidence base to ensure that positive outcomes are being achieved for Nova Scotians.

THE HEALTH NEIGHBOURHOOD: THE NEXT STEP

As health homes strengthen and stabilize, they expand into health neighbourhoods. The health neighbourhood model, adapted from CFPC's Patient's Medical Neighbourhood (CFPC, 2019; **Figure 4**) acknowledges, appreciates, and partners with the many resources and supports available outside of the immediate health home. The health home acts as a hub within the health neighbourhood.

Figure 4. Patient's Medical Neighbourhood (CFPC, 2019)

COLLABORATIVE FAMILY PRACTICE TEAMS: THE FOUNDATION OF THE HEALTH HOME

DEFINING COLLABORATIVE TEAMS

Based on a scan of the literature, there are varying ways to define different models of team-based primary care, including collaborative family practice teams, primary care clinics and more. In Nova Scotia, the following general definition has been adopted:

> *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.*

In 2015, team metrics (population to provider ratio) were developed based on available evidence, experience, and stakeholder input to describe the team required to provide accessible, coordinated, continuous, comprehensive, and community oriented primary care to a practice population, working within a health home model. Metrics are influenced by time, evolving models, new evidence and strategies, changes in policies and practice, and experience. In 2022, the original metrics were revised based on a review of recent literature that as well as an updated methodology that better reflects the evidence and local experience. The metrics are applied at the community cluster level as a ratio per **10,000** citizens:

As a ratio relative to a population of 10,000*, team metrics are:

- 5-6 Family Physicians**
- 1-2 Nurse Practitioners
- 3-4 Family Practice Nurses
- 1-2 Licensed Practice Nurses
- 2-4 Community Adaptive Team Members (e.g., Social Workers, Dietitians, Pharmacists, etc.)
- 7-8 Clerical support
- Leadership / management support (a range depending on governance model, size of team, and community and geographic need)

*Adaptation of these metrics may be necessary depending on specific characteristics of the practice population being served. One goal in determining metrics is to try to match the healthcare professionals' skills, experience, and expertise to meet the health needs of the community. Other factors to help determine team complement include input from patients, community members and stakeholders, data from EMRs, and available funding (CFPC, 2019).

** Reflective of family physician full-time equivalents providing office-based care and home visits only; additional full-time equivalents are needed to provide other services offered outside the health home, such as hospital care, long term care, intrapartum care, emergency care, etc. and are therefore considered additionally.

SUPPORTING EVIDENCE FOR TEAM-BASED CARE

Team based care is a core component of the health home model and strengthening it is a critical element of primary care transformation (Wagner et al., 2017; CFPC, 2011; Goldberg et al., 2013; Bodenheimer & Smith, 2013; CFPC, 2019). As cited in Wagner et al. (2017), practices without effective, high functioning teams experience challenges in implementing the core elements of the health home. A study of the top performing health systems by Baker & Denis (2011) identified ten themes that underlie the creation and sustainment of high performance in health care systems; having robust primary care teams at the centre of the health care system is one of the top ten themes of a high performing health care system (Baker & Dennis, 2011).

There is strong evidence to support a team-based approach in primary health care and its association with improved quality of care (Wagner et al., 2017; McMurchy, 2009), as well as feedback from newly graduated physicians about their preference to practice in collaborative team-based environments (Brcic, 2012). Acknowledging different skillsets and scopes of practice within teams, it is important for team members to not only understand each other's roles but also to ensure they regularly have access to each other's expertise, including that of the family physician (CFPC, 2019, p21). "Practices that draw on the expertise of a variety of team members are more likely to provide patients with the care they need and respond to community needs." (CFPC, 2019, p 21; original source - Schottenfeld et al, 2016)

Characterized as complex adaptive systems by Wagner et al. (2017), collaborative teams are associated with many benefits, including:

- Improved access: when health providers work in teams, they can provide same day/ next day, evening, and weekend appointments.
- Enhanced continuity of care, where patients see the same team of providers, developing a relationship over time and where information and care plans are shared seamlessly within the team, which is associated in improved health outcomes (relational, informational, management continuity).
- Enable coordinated and comprehensive care: when family doctors, nurse practitioners, family practice nurses, and other health professionals work together in a team, patients can be seen by the most appropriate health care provider for their health needs, from basic wellness check-ups to complex care to manage chronic conditions.
- Teams also result in community-oriented care, where the team continually works to meet the specific health needs of the patients of the practice and community.
- Increased patient satisfaction (both with their care and their provider) and improved patient experience.
- Improved provider satisfaction and less burnout / job exhaustion for physicians.
- Improved outcomes with respect to chronic disease management and complex patients.

(Wagner et al., 2017, Goldberg et al., 2013; Baker & Denis, 2011, McMurchy, 2009; Starfield et al., 2005).

Bodenheimer & Smith (2013) suggest that the addition and optimization of interprofessional team members to primary care practices that work with family physicians in team-based care models are a way to increase primary care capacity and help balance the "demand capacity gap" that is observed in many primary health care systems worldwide. Interprofessional team members, such as nurses, pharmacists, social workers, dietitians, physiotherapists, and others can deliver many wellness/preventative care services, chronic disease management, and other primary care services, distributing workload across the whole team. Strengthening the enablers, such as implementing supportive physician remuneration models, workforce development, and technology are essential. Expanding the role of all providers and supporting through competency-based learning models is essential to achieve a high performing team (Wagner et al., 2017). Finally, with patients and families as core members of the team, promoting patient empowerment and the role of patients and families in self-care also contributes to capacity optimization of the team (Bodenheimer & Smith, 2013; Bodenheimer et al., 2014).

Implementation of interprofessional team-based care models is associated with the ability to provide comprehensive care across the lifespan (Shi, 2012; McMurchy, 2009). McMurchy (2009) describes one of the hallmarks of comprehensive care: the extent and the range of services provided by primary care providers rather than via referrals to specialists. Interprofessional teams serve as an enabler for this, by facilitating the management of a variety of conditions in a primary care setting. Key examples include:

- Chronic disease management across a broad array of conditions (Wagner et al., 2017; Nasmith et al., 2010; McMurchy, 2009);
- Mild to moderate mental health and behavioural health conditions (Wagner et al., 2017; Shi, 2012); and
- Palliative approach to care (Shadd et al, 2013; Howard et al., 2017), to name a few.

ENABLERS TO SUPPORT TRANSFORMATION IN PRIMARY HEALTH CARE

Moving forward to strengthen the health home model in Nova Scotia is contingent upon the ability to continue to develop foundational enablers to support transformation. The importance of enabling factors, such as supportive payment models, electronic medical records, a quality and accountability platform, workforce development, supportive governance structures, along with other factors related to engagement and culture, are widely reported in the literature as essential factors for success (McMurchy, 2009; Kringos et al., 2010; CFPC, 2011; Bodenheimer & Smith, 2013). Having the enablers in place in a way that are aligned to support a collaborative, person-centered model of care delivery is a critical factor for moving forward. Lessons learned from other areas who have implemented the health home model, such as those summarized by Janamian et al. (2014) through systematic review, largely stem from the ability to have the enabling supports in place and these lessons will inform our local implementation. **Table 1** identifies the essential enablers for moving the primary health care system forward in Nova Scotia, based on review and synthesis of the literature.

Table 1: Enablers to support and sustain the primary health care system **(continued on next page)**

ENABLERS	CHARACTERISTICS
Governance & Leadership	• Vision and Health Goals; Priorities and Strategic directions • Policy and strategy aligned to promote equity in access to primary care services • Strategic systems/services for family practice and primary health care • Ongoing development & implementation Primary care management structures that support ongoing service development, monitoring & accountability • Quality management infrastructure • Leadership models, including co-leadership • Flexible governance arrangements • Integration of primary health care in the health care system • Planning and leadership aligned to local geographies (geographic framework)
Economic Conditions	• Health care funding and expenditure and primary care funding and expenditures • Employment arrangement • Remuneration for workforce aligned with models of care • Funding formulas that represent the populations & geographies • Investment in and reallocation of funding to primary health care • Funding structures to promote value, improve quality, & provide incentives for outcomes
Workforce	• Current and future projected profile of primary health care workforce • Professionals working to full scope of professional license • Education, mentoring, and retention • Academic and post graduate development of primary health care disciplines • Future development of the PHC workforce based on clinical and PHC competencies
Engagement Platform	• Engagement models and strategies adapted for all partner groups, i.e., citizens, family physicians, private providers, community partners • Targeted engagement with health care system partners (e.g., mental health and addictions, continuing care, public health, acute care and specialty partners, etc.),

	• Build capacity and competencies among team members to support ongoing engagement
Quality, Safety, & Risk	• Evidence based care standards • Measurement and evaluation frameworks and reporting • Quality improvement focus and culture of continuous quality improvement in all streams of work
Infrastructure	• Information technology (e.g., electronic medical records) • Information management processes • One Patient One Record • Physical spaces and policies that support collaborative care
Accountability	• Accountability agreements • Establishment of priorities • Ability & commitment to continually understand the populations we serve & adapt to meet the needs of the population
Culture	• Person & family centered • Supportive work environment for physicians • Interprofessional teams • Population health and determinants of health focus • Engagement in change management approaches • Provider and patient engagement / citizen and family

(Edwards et al., 2017; adapted from McMurchy, 2009; Kringos et al., 2010)

Development of collaborative teams as mature health homes requires significant development time to create strong working relationships with family physicians and communities as well as ongoing co-leadership support and management once the teams are established. Working with collaborative teams to achieve the core elements of the health home through development and implementation of practice plans that address access, comprehensive services, ongoing quality and evaluation, optimal use of electronic medical records (EMR), etc., requires dedicated resources.

Local research on the barriers and enablers to collaborative team implementation (Martin-Misener et al, 2020) suggests leaders and decision makers in Primary Health Care should focus on the following:

- Ensure funding models link to collaboration indicators,
- Ensure physical spaces not only enable co-location of teams but also enhance communication and collaboration,
- Ensure support for governance and leadership within teams,
- Ensure technology is available, effective, and is used for decision-making, and
- Ensure policies are in place to enable all members of the inter-professional team to work to their full scope of practice

Supporting a foundation of teamwork is essential to building an enabling workforce and stronger, more effective collaborative teams. Brown et al (2021) provides a framework of interprofessional teamwork in primary health care **(Figure 5**). The framework identifies six inter-connected and inter-dependent elements of teamwork that form the foundation for the essential pillars of leadership, team building, and scope of practice. Community and provider readiness is a critical factor that impacts the likelihood of success when implementing collaborative family practice teams and health homes in communities (Wise et al., 2011). The ability to plan and be flexible and adaptable to balance risks associated with sustainability and access to primary care with readiness, and prioritize resources accordingly, will be important for success in Nova Scotia.

Figure 5. Interprofessional collaborative teamwork in primary health care (Brown et al., 2021)

CONCLUSION

Strong primary health care systems contribute to overall health system performance and the health of the population (Starfield et al., 2005; Shi, 2012; Freidburg et al., 2010; Kringos et al., 2013; McMurchy, 2009; CFPC, 2019). The primary health care system in Nova Scotia requires investment in order to realize the benefits and outcomes observed in other jurisdictions where a strong primary health care systems orientation exists. The model to organize primary care delivery in Nova Scotia is the health home, whereby interprofessional collaborative family practice teams provide person- and family-centered primary care across the lifespan, from birth to death, and further act as a central coordinating hub within a broader health neighbourhood. Establishing a strong primary health care foundation, built on a quality platform, will serve as an enabling step to facilitate overall health system transformation.

*Working with our communities and our providers as partners throughout the journey, we must focus on a strong foundation of **quality** to support sustainable transformation.*

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