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Integration of Care in Northern Ontario: Patient Medical Homes, Rural Health Hubs and Evolving Ontario Health Teams

By: Dr. Sarah-Lynn Newbery and Josée Malette

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Literature Review Protocol

This literature review was conducted using the search engine Ovid. Sub-headings, such as patient-centred, comprehensive care, quality of care, continuity of care, were cross-referenced with the key terms - Patient-Centred Medical Home, Patient Medical Home, Health Hub, Local Health Hub and Rural Health Hub. Literature pieces were restricted to the past 15 years. No geographical restrictions were implemented.

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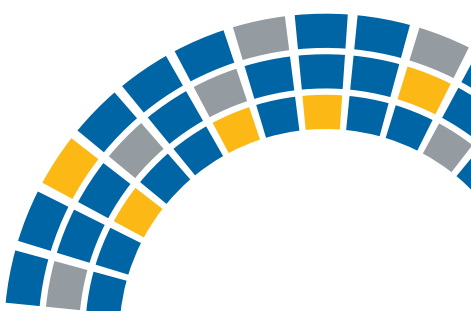


Executive Summary

Appropriateness and accessibility are two important elements in an effective health care system. Indeed, over the past several years in Ontario, an effort has been made at many levels to transform the health care system to enable a greater focus on the elements of improved patient experience, improved patient and population outcomes and, improved system value and efficiency. The need for better population-based planning and care delivery organized around meeting the needs of a whole population has become more urgent.

In addition to outlining the primary care landscape in Northern Ontario as well as Ontario more generally, the authors explore two different models of care delivery: Patient Medical Home and Rural Health Hub. The former concept focuses more on who will provide care and how that care will be provided and coordinated within the primary care sector, whereas the Rural Health Hub focuses on how those services will be governed, funded and organized in a local context and across the sectors that exist locally.

The commentary finds that both concepts of the Patient Medical Home and the Rural Health Hub are mutually supporting concepts in the rural environment. The Rural Health Hub model, with its focus on governance and funding alignment, may provide necessary support to enable efficient and better-coordinated delivery of comprehensive, patient centred care across settings inclusive of the patient medical home in primary care in the rural environment.

Rural Health Hubs and the Patient Medical Home: an Introduction

Over the past several years in Ontario, an effort has been made at many levels to transform the health care system to enable a greater focus on the elements of improved patient experience, improved patient and population outcomes and, improved system value and efficiency. The need for better population-based planning and care delivery organized around meeting the needs of a whole population has become more urgent. The work of creating tools to help shape the local health care system has been undertaken both in the hospital sector and the primary care sectors, and this work, in a rural context, has happened in parallel and with very similar underlying principles.

Over the last few years in Ontario's primary care sector, the conversation has evolved to focus on the Patient Medical Home (PMH). This concept highlights the delivery of patient-centred care which is delivered through an accessible and comprehensive set of services, in a coordinated form, with an identified "most responsible provider" within a team- based environment and with a focus on high-quality care.

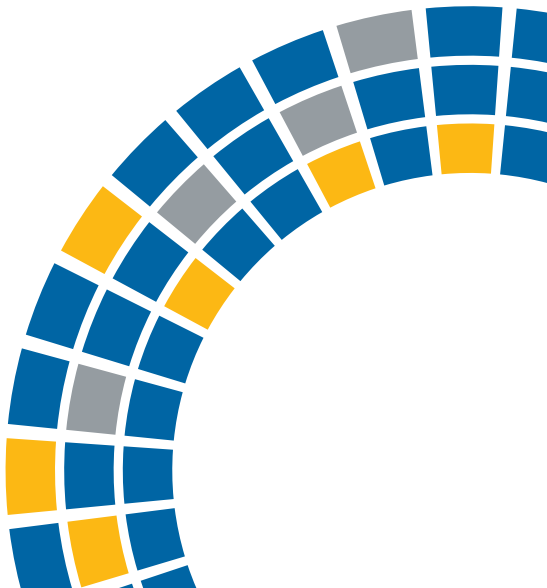
The Vision for the rural health hub (23) concept is about the integration of care beyond a single sector in a local context; it is best articulated as follows:

> *The creation of rural health hubs will encourage and enable local health care and social service providers such as hospitals, health centres and physicians in rural communities to work together to create a rural health hub tailored to their local community's needs in a way that enhances seamless, sustainable service integration and the effective delivery of person-centred, equitable, high-quality, timely health care, whether it is delivered locally or referred to a regional partner.*

The rural health hub and the PMH share a set of principles that ensure that the same goals are met for both the population and for individual patients. The concept of the PMH focuses more on who will provide care and how that care will be provided and coordinated within the primary care sector, whereas the Rural Health Hub focuses on how those services will be governed, funded and organized in a local context and across the sectors that exist locally.

In 2015, the Ministry of Health and Long Term Care released a report entitled "Patient Care Groups: A new model of population-based primary health care for Ontario" which laid out a population-based frame for care delivery and included the following key features: 1. Patient assignment so that no patients are "unattached"; 2. Organization and management of a local system of care; 3. Governance and accountability; 4. Funding, contract and, service delivery; 5. Health human resources, 6. Information technology, and 7. Coordination and collaboration among service providers. These key features support several of the principles and concepts of both the Patient Medical Home and the Rural Health hub, although the Patient Care Groups concept considered population clusters that are much larger than the typical rural Northern Ontario setting (45). In 2019 Patient Care Groups concept appears to be evolving toward the concept of "Ontario Health Teams".

The health care system is complex and managing change can be challenging for both health care providers and administrators, especially in small systems where the human resource to drive change is limited. In the rural context, there is value in identifying the points at which models of care delivery, like the Rural Health Hub and the Patient Medical Home, intersect, and are mutually supportive. This identification can simplify understanding, support the achievement of shared goals and vision, and ensure that energy and effort are aligned across sectors to create a more effective integrated care delivery system.



Background on Primary Care in Ontario

Primary care is the entry point to the health care system for many patients in Ontario. The structure of primary care in the province is not homogenous, as it includes a range of health care providers and funding models (1). Currently, approximately 13,500 family physicians and 3,080 Nurse Practitioners in Ontario are responsible for the primary care of over 14 million Ontarians (3–5).

Most Nurse Practitioners currently practice within a Family Health Team. However, independent Nurse Practitioners clinics have increased over the past few years as the provincial government continues to modify the scope of practice for these healthcare providers (6).

Family physicians provide their services through two primary models of funding – solo- setting or group-based. Solo physicians typically provide care using a "fee-for-service" model. This solo-setting model of care and funding was once the preferred delivery model for all family physicians. However, current trends in primary care favour a group-based model for family physician practice, of which there are four dominant types – see Table 1. (1)

Table 1. Family Physician Group-Based Enrollment Models of Primary Care Practice

Model	Description*
Family Health Groups (FHG)	Designed for at least three physicians, who agree to work together (not necessarily in the same office) to offer after-hours care in addition to regular working hours. These physicians are paid using an enhanced fee-for-service model.
Family Health Networks (FHN)	Similar structure as the Family Health Group, with a significant difference in remuneration type – these physicians are often paid using a blended capitation model. That is, they receive a base fee for all "rostered" patients and supplemental fee-for-service for specific procedures. FHN can apply to become associated with a team-based primary care environment, such as a Family Health Team (see Table 2).
Family Health Organizations (FHO)	The same as FHN, but the funding for their blended capitation model differs slightly. FHO can also apply to become part of a team-based primary care environment, such as a Family Health Team (see Table 2).
Rural Northern Group Physician Agreement (RNGPA)	This model predates FHN's, FHGs and FHO's, and is considered to be a specialized model. It was explicitly designed for small communities in Northern Ontario that have seven or fewer physicians. The contract is unique among other models in that it requests that physicians cover all services in the community, including the emergency department, inpatient, and primary care services. There is currently a total of 38 groups serving 35,000 patients in isolated Northern regions. RNPGA physicians can be associated with a Family Health Team (see Table 2).

*(7,8)

These group-based models have been supported by government funding envelopes designed in part to support better access, including to after-hours care during evenings and weekends. After-hours clinics are meant to enhance continuity with physician provider groups, as well as decrease the strain on hospital resources (i.e., emergency departments)(1). In general, group-based models with capitation funding (FHN, FHO) or block funding and sessional payments (RNPGA) also provide the funder with greater predictability when it comes to forecasting cost of care and therefore allow for more accurate resource planning.

In the past decade, team-based primary care environments have been created to align with increasing evidence that interprofessional teams deliver better patient-centred care and improve overall appropriate use of healthcare resources (9). As such, several physicians who practice within a group-based model have integrated into a team-based environment – either in a Family Health Team (FHT) or by being salaried through a Community Health Centre (CHC) or Community Family Health Team (CFHT). As outlined in Table 2, these interprofessional team environments were created to bring together family physicians, registered nurses, social workers, nurse practitioners, dietitians, and administrative support staff typically under one roof, to better coordinate comprehensive patient-centred care for a specified community or patient population (10).

Table 2. Team-Based Models of Primary Care Practice

Model	Description
Family Health Team (FHT)	A FHT is an organization that services patients with a wide range of health care providers such as physicians, registered nurses, social workers, dietitians, and more. Physicians affiliated with a FHT are remunerated using a capitation model (FHN, FHO, or RNPGA) – the physician receives a base payment for each enrolled patient. This base payment is adjusted based on age and sex. Additional fee-for-service income is obtained for specific procedures/consultations. (11) Governance may be by physicians, or mixed physician and community members. In some rural FHT instances, governance is by the hospital. There are currently 42 FHTs serving Northern communities (12). A "Community Family Health Team" offers the services of a family health team and are governed by community members. The community members direct policy and priorities for the CFHT. With this team-based model, physicians are generally salaried within the structure of the FHT. There are currently no CFHTs in northern rural communities. (13)
Community Health Centre (CHC)	A CHC, is a community governed not-for-profit health care organization, which employs a myriad of healthcare professionals. Physicians who work for a CHC are remunerated via a salaried payment model (14). Health promotion and community development programs are a large focus of CHCs. This type of Primary Care Model tends to target vulnerable populations when compared to FHTs (15). There are currently 20 CHCs in northern rural communities. (16)

In 2017, Ontario's Patients First Act put a very clear focus on the role of "primary care" as the foundation of all high performing health care systems (17). Several reviews have fueled the development of integrative primary care models (i.e., Patient Medical Home (PMH)) as well as service delivery models (i.e., Rural Health Hub (RHH)) to assist with coordination and integration of local services to maximize a patient-centred approach to care. These models and concepts are of importance to rural Northern Ontario communities, where resource and geographical constraints require innovative approaches to optimize local, high-quality, comprehensive patient-centered care.

Northern Ontario Primary Care Practice Scope

With an increasing level of geographic remoteness, the scope of practice for family physicians increases (19). Consequently, in rural Northern Ontario physicians are often expected to provide traditional primary care in the form of clinic visits and after-hours clinics, as well as secondary level care in hospital for their own patients and emergency care at the local community hospital.

Large geographic distances and cultural and linguistic differences inherent in serving the North's Indigenous and Francophone populations adds complexity to the care these physicians are expected to deliver (20,21). Additionally, Northern Ontario populations have higher morbidity (i.e., high diabetes rate, obesity), and poorer health habits (i.e., high rates of smoking and alcohol consumption) than their Southern counterparts and this is complicated by the population's unique social determinants of health (i.e., lower socioeconomic status) (22). Rural Northern Ontario family physicians are not only responsible for complex patients, but with factors such as limited access to specialist care, geographic remoteness, long travel distances, inclement weather conditions, and general isolation, their primary practice models are often different than their urban counterparts, as they are modified to address local reality (23).

Primary Care Quality Metrics

Health Quality Ontario (HQO) is an agency of the Ontario Ministry of Health and Long- Term Care (MOHLTC) and has the responsibility of providing information on the state of healthcare in Ontario to inform recommendations about policy decisions. In 2014, HQO released the results of the Primary Care Performance Measurement (PCPM) committee, which identified nine domains of primary care to be evaluated to reflect the nine attributes of a high-performing healthcare system. The PCPM framework domains highlight aspects of primary care that are of importance at the community, regional and provincial levels, to ensure that primary care planning, management, and quality improvement is informed (24). The PCPM framework (Appendix A) focuses on using indicators that measure:

- Access;
- Patient-centredness;
- Integration;
- Effectiveness;
- Focus on Population Health;
- Efficiency;
- Safety;
- Appropriate Resources;
- Equity – using a variety of economic, demographic and social variables;

Within these domains, practice- and system-level metrics have been identified to evaluate primary practices all across Ontario (24). As these are also metrics of high performing health care systems, these elements apply similarly to the Rural Health Hub concept.

The most recent HQO report on "Ontario's Quality in Primary Care," released in 2014, revealed that the North West (NW) and North East (NE) regions of Ontario often score lower than the provincial average for various quality metrics (25). These results were again highlighted in the 2018 yearly review of Ontario's healthcare system, where the NW Local Health Integration Network (LHIN) region ranked at or near the bottom in almost every measured metric in primary care (26).

Many issues must be considered in order to understand the relative poor performance of the NW LHIN in comparison to other regions. Issues such as historical and ongoing significant physician resource shortages, the baseline lower health and socioeconomic status of the population, and the complexity of care delivery across vast geography likely all contribute to the relatively poorer performance. The realities of care in rural and remote regions of Northern Ontario differ vastly from Southern urban regions and are not necessarily accounted for in comparison of Ontario's regions using the PCPM framework quality indicators. As one example, northern regions fall below the provincial average for 7-day patient follow-up after a hospitalization. However, in the rural and remote North, the reality is that the primary care physician in the community is also very likely to be the same physician who provided inpatient care to a patient which lowers the likely benefit of the 7-day post-discharge visit.

There is a need to ensure that meaningful measurement in family medicine and primary care does not disadvantage rural communities and the clinicians who serve those communities when the metrics are considered against other regions. The domains of health care quality noted in the PCPM framework are valuable regardless of the degree of rurality; however, the metrics chosen to determine quality of care in each of the framework domains requires careful consideration if they are to meaningfully measure care in rural and remote health care settings.

Patient-Centred Medical Home (PCMH)/Patient Medical Home (PMH)

**Note that the Patient-Centred Medical Home (PCMH) and Patient Medical Home (PMH) terms will be used interchangeably throughout the text.*

The Patient-Centred Medical Home (PCMH) was originally conceived of by the American Academy of Pediatrics and subsequently adopted in the United States by the American Academy of Family Physicians. It refers to a primary care delivery concept that focuses on providing comprehensive and longitudinal care, instead of the visit-focused and fee-for-service model that has been widely used over the past several decades (35).

The PCMH, also referred to as the Patient Medical Home (PMH), is defined by the American Agency for Healthcare Research and Quality as having five-core principles (36,37):

1. Patient-Centered;
2. Comprehensive Care;
3. Coordinated Care;
4. Accessible Services; and
5. Quality and Safety

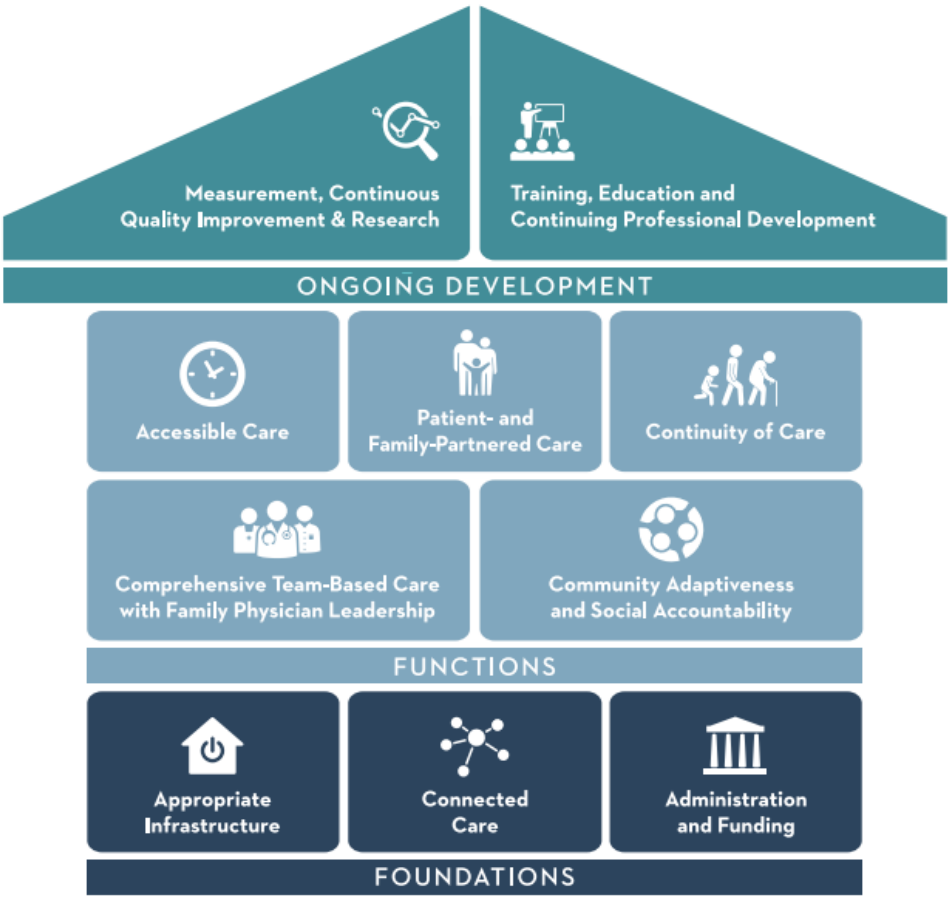
Each of the above standards, most of which are highly consistent with the goals of the rural health hub model, include several elements that are evaluated for recognition (accreditation). However, there is a "must-pass" element for each that needs to be achieved to receive recognition. Regardless of PCMH being formally implemented using the standards outlined above, the majority of practicing physicians are applying PCMH philosophy where possible within their practices (37). As the vision of PCMH is to put the needs of the patients and the community at the centre of care, the PCMH team can be varied dependent on the community.

PCMH in Canada: The Patient Medical Home

Both the College of Family Physicians of Canada and the Ontario College of Family Physicians have aimed to introduce and define the Patient Medical Home or PMH. In 2011, the College of Family Physicians of Canada (CFPC) identified the PMH as the future of family practice in Canada, as the framework reinforces the four pillars of Family Medicine and reflects and responds to needs of Canadian communities (9).

The vision of the PMH has recently been revised, and the visual in figure 1 helps to describe the foundational elements, the functional elements and the opportunities for sustainability and development.

Figure 1. Patient Medical Home - CFPC



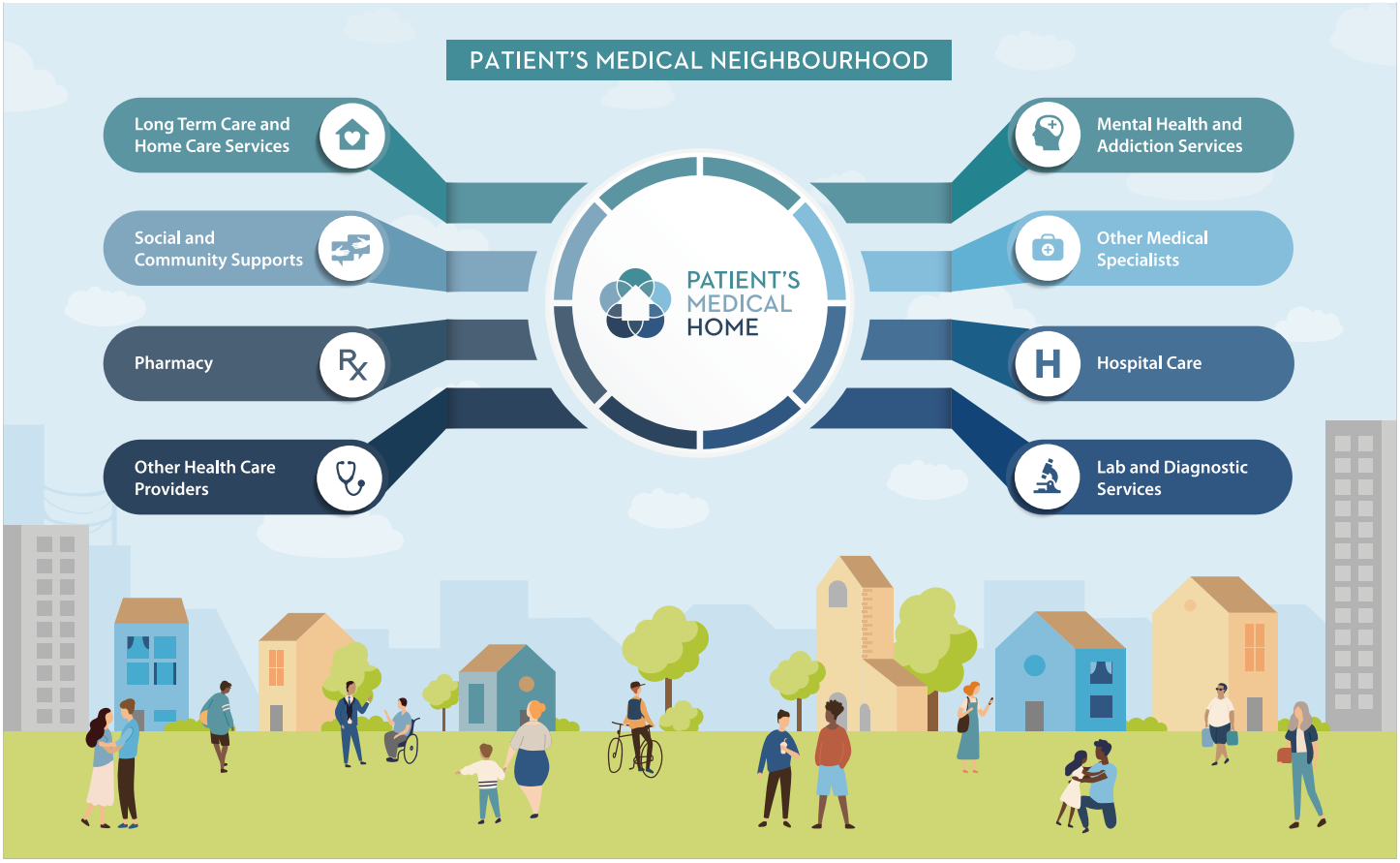
Source: *2019. The College of Family Physicians of Canada. "A New Vision for Canada. Family Practice - The Patient's Medical Home 2019". Available online at https://acfp.ca/wp-content/uploads/2019/03/PMH_VISION2019_ENG_FINAL.pdf.*

To support implementation of the PMH framework, the CFPC has created an online self- assessment tool to help determine where a specific practice is located on the spectrum of PMH implementation into their practice (9).

Although no formal implementation strategy for the PMH has been developed for Ontario, both British-Columbia and Alberta have adapted the PMH framework into implementable models. Appendix B outlines the current PMH model for British Columbia, (40) while Appendix C outlines the concept for Ontario.

Recognizing that in order to optimize care for patients, there must be a meaningful integration of care between the primary care setting or patient medical home and the rest of the system, the notion of the "Patient Medical Neighbourhood" has been developed to articulate the way in which patients may experience care through a variety of services and settings, all of which must connect back to their central point of care – their primary care Patient Medical Home (see Figure 2).

Figure 2. The Patient Medical Home Neighbourhood



Source: *2019. The College of Family Physicians of Canada. "A New Vision for Canada. Family Practice - The Patient's Medical Home 2019".*

Patient Medical Home Implementation in a Rural Environment – lessons from the US:

In 2008 and 2011, studies by American researcher Rittenhouse, evaluated national data to determine the implementation level of PCMH throughout the country dependent on the size of the practice (41,42). The studies discovered that small and medium-sized practices were behind their larger counterparts in their level of implementation PCMH standards. The average medical practice composed of 4.5 family physicians presented with an average of 21.7 per cent of PCMH standards implemented (41). Capital investment and technical assistance (i.e., EMR introduction) were seen to be the biggest hurdles to receiving full PCMH points, although geographical location of the practices (i.e., rural or urban) were not specified to identify for rural-specific factors (41,42).

A cross-sectional thesis study on ***How rurality influences PCMH Integration in a large integrated healthcare system***, identified that rural practice areas had specific challenges for the implementation of PCMH in comparison to urban counterparts. Confounding issues such as patient demographics (i.e., age, comorbidities, SES), organizational structure (i.e., availability of resources) and community factors (i.e., unemployment rate, nearest tertiary center), were specifically targeted to identify which had the highest degree of influence on PCMH implementation. Patient demographics for individuals in rural areas are important to consider, as these rural individuals are more likely to be elderly, experience poverty, have increased chronic disease rates and engage in poor health behaviours (i.e., smoking) (43). Rural clinics tended to score higher in areas such as patient-centered care, care coordination, shared-decision making, and team-based care, while urban clinics had a higher degree of care continuity (44). The poorer index for care continuity received by rural clinics has been hypothesized to be due to the necessity to refer patients to other communities and institutions for more specialized care (44). Comparatively, the rich index scores in the areas of care coordination, team-based care, and patient-based care are easily explained by the general nature of rural communities, as described below (40):

- **Team-Based Care:** Due to the usually small populations found in rural communities, healthcare providers, including allied professionals can easily get to know each other (40);
- **Care Coordination:** With the ability for greater team-based care, coordination of care is improved. Furthermore, the notion of primary care within a rural environment is not limited to the "clinic". Rather the care environments are often well-integrated with acute and community care services, allowing for better care coordination between services (40);
- **Patient-Based Care:** As the root of patient-centered care is the patient-physician relationship, caregivers in rural communities are uniquely placed to create strong patient- physician relationship. As the physicians most likely live in the area, they can understand the social situation of their patients and implement appropriate preventive care measures when required. Additionally, within a small rural community, patients are more aware of where to receive health services which can make them feel as though services are more tailored for them (40);

Clinic organizational structure was identified as the character having the highest degree of influence on PCMH implementation (44). Consequently, rural centers are seen to have an advantage in terms of being able to easily modify infrastructure to accommodate for the PCMH (44). This statement is supported by an evaluation of rural healthcare practices in conjunction with PMH implementation in British-Columbia in 2014, which highlighted the fact that "many small rural communities are ahead of the curve and doing this work very well, out of necessity" (40).

Patient Medical Home Benefits

A 2017 literature review conducted by the Alberta College of Family Physicians of more than 115 articles discussing the Patient Medical Home (PMH), corroborated many of the benefits surrounding the primary care model which had been hypothesized in its humble beginnings. Of importance were the following results:

- **Emergency Room Visits and Hospitalization Rates:** 51/61 studies which evaluated PMH impact on Emergency Room visits and Hospitalizations for patients with chronic disease demonstrated a decrease in rates for both. A total of 9/11 studies also reported a decrease in specialist utilization as a direct result of PMH implementation (43);

- **Access to Care:** 7/8 studies demonstrated improved access to care, as self-reported by patients (43);

- **Quality of Care:** 19/24 studies demonstrated an improvement in quality of care that is reflective of the degree to which PMH was implemented. In particular, preventive care service delivery rates were increased (18/24 studies) (43);

- **Satisfaction Rates:** Both patients (19/22 studies) and staff (4/6 studies) seemed to have increased satisfaction with the implementation of PMH (43). However, some studies indicate that although quality of care is increased, patient experience is not necessariy enhanced (38);

- **Cost Savings:** 27/34 studies identified overall operation cost savings, especially for those patients who have multiple chronic diseases. Additionally, four studies identified increased cost savings the longer the PMH was in operation. As such, the initial high front cost for infrastructure modifications is often recoverable relatively quickly, and provides a good return on investment (43);

It is important to note that the results of the literature review above are drawn from primarily American studies (43). Although comparable, there are some implementation aspects that differ in Canada (see PCMH in Canada) which could affect the replication of the above- mentioned results within Ontario. However, these differences cannot be made more clear until PMH is fully implemented in Ontario clinics, and outcomes are rigorously evaluated.

Rural Health Hubs

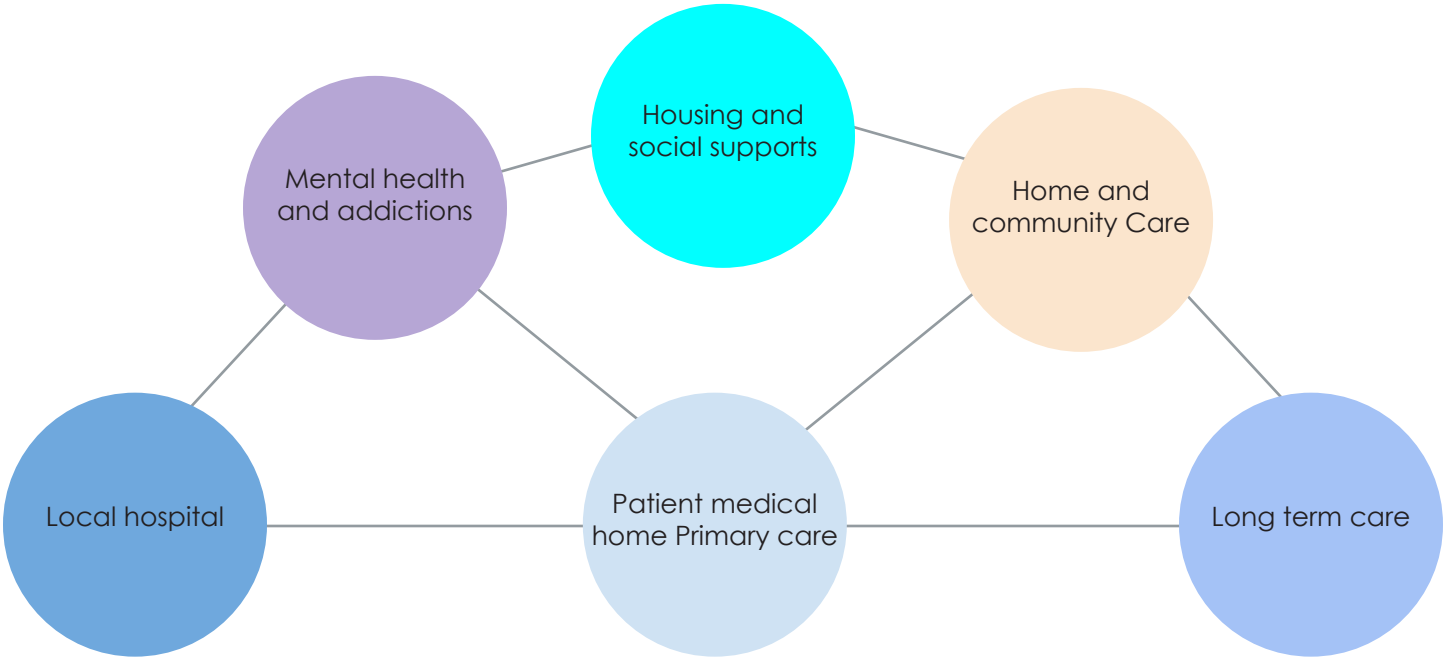
A Rural Health Hub can be simply defined as "the integration of local services into a single governance structure with a single funding envelope" (27). Local services include primary care, hospital, long term care, mental health, and addictions and home and community care. More formally, the Ontario Hospital Association (OHA) described a Rural Health Hub as follows:

> *"A local integrated health service delivery model where most, if not all sectors of the health system are formally linked in order to improve patient access, and a single funding envelope is provided to a fundholder organization to manage the health of the local population."*

The OHA has identified that the goal of these health hubs is to provide improved patient- centered care, through the coordination of services and healthcare providers, to best address the needs of a specified population (27). Although a single governance structure was not originally seen as a requirement, in the OHA's final health hub report, it was recommended that either a single governance structure for all health services (i.e., the hospital board) or a collaborative governance structure between providers be established.

In Northwestern Ontario, the LHIN has established a working service distribution model referred to as "Local Health Hubs" as part of their Health Services Blueprint. The 14 communities within the NW LHIN jurisdiction which have a local community hospital were identified as a "local health hub" in 2014, as the presence of a hospital was seen as a key sector around which integration needed to occur. These hubs are responsible for coordinating and planning services based on the unique needs of their community through an collaboration of the appropriate local stakeholders (28). Although these local health hubs are founded with the same premise as the Health Hub Model previously defined, the NW LHIN local health hubs do not fully integrate funding and governance - rather they propose to innovatively use current funding silo's while managing different budgets and accountability agreements (27,29). As such, they are not considered to be a fully Integrated Health Hub.

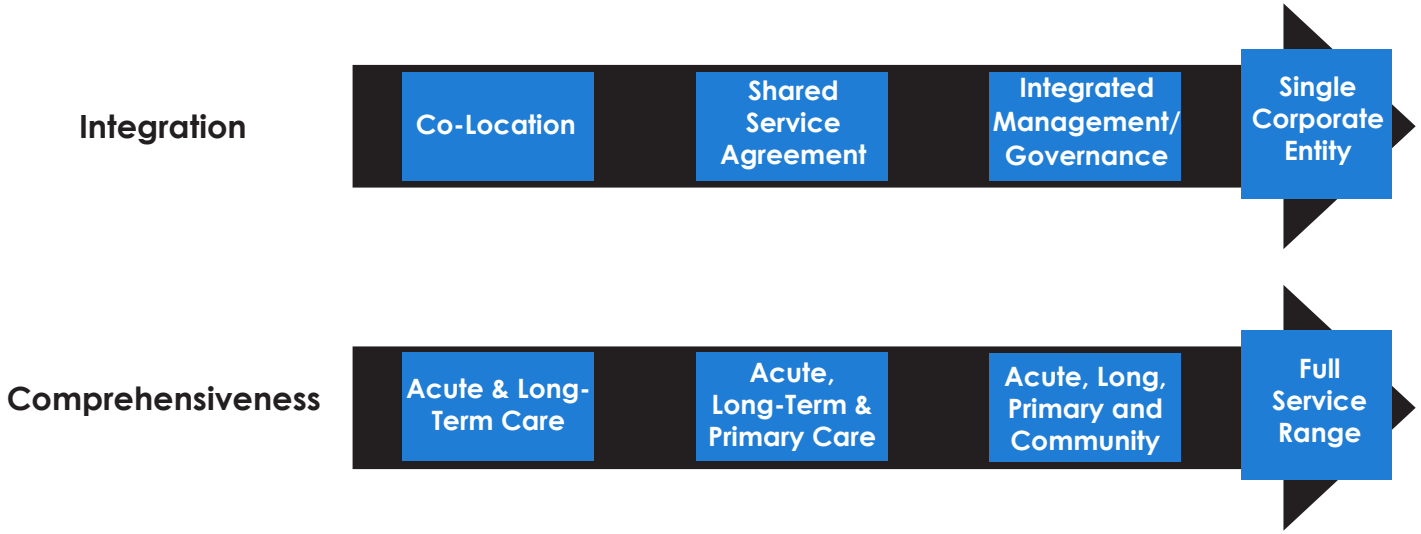
Figure 3. Elements of the Rural Health Hub



An integrated Rural Health Hub is responsible for the local delivery of a wide range of care services including primary, acute, in-patient, mental health, public health, rehabilitation, palliative, long-term as well as home and community care. Furthermore, community partnerships with local social services and various allied health professionals (i.e., physiotherapist, dietitian) are necessary to ensure a comprehensive range of services (27). To facilitate the collaborative governance and the coordinated effort of these services, a healthcare facility or health centre is identified as the "hub sponsor" and fund holder (27).

However, it is clear that "Each rural health hub will be locally defined and tailored to the community". Consequently, a Rural Health Hub is defined as an innovative, flexible service delivery model which provides coordinated access to care dependent on local needs and incorporates to varying degrees the elements of the fully Integrated Rural Health Hub. (23)

Figure 4. Continuum of integration of organizations and comprehensiveness of services in Rural Health Hub



Benefits and Barriers

The 2013 report by the OHA, which proposed health hubs as a viable local integration strategy for rural communities (27), highlighted expected benefits for patients and the system, as seen in Table 3*. These benefits are not isolated to patients, local system planning, and governance, but may also lead to benefits in terms of administrative efficiencies (29). Hub partner organizations may also benefit from increased access to education opportunities, as well as better recruitment and retention (29).

Table 3. Advantages of an integrated Health Hub for patients and the system*

System	Patients
Elimination of incompatible funding silos	Better response to patient needs
Reduction of administrative costs associated with accountability agreements	Improved access and transition between care environments
Follows system trends towards population-based funding	Shared electronic records and intake process
Greater ability for quality improvement planning	Comprehensive support and coordinated care planning for complex patients

*(27,29)

The implementation of an integrated health hub model is not without its barriers, and some of these are outlined below (23,29):

- Lack of a rural health policy framework that supports the integrated rural health hub model;
- Lack of a coordinated approach between governments (provincial and municipal) (in relation to the provision of health care services and funding for rural communities);
- Reluctance from various stakeholders to participate;
- Community health providers perceived the model as hospital-based;
- Complexity of policy integration for varied service providers; and
- Lack of local health care providers in rural and remote communities.

Notwithstanding the barriers, the developed Rural Hub Framework supports the achievement of the following three principles from the implementation of an integrated rural health hub – (1) person-centred and high-quality care (2) enhanced collaboration and efficiencies (3) accountability (23).

Implementation and Evaluation

The aforementioned integrated health hub model is based on the successful implementation of similar "Rural Health Networks" in the United States (27). Furthermore, as evidenced by the success stories published by OHA in 2013, many small hospitals in Ontario have developed innovative links between their hospitals, and primary and mental health care providers to create "sustainable health care systems, through innovative local solutions" (23,31).

However, the degree of integration (formalization of health service provider linkages) and comprehensiveness (range of services) with which the principles of the Health Hub model are implemented varies between communities (27,31). Consequently, the 2014 follow-up report by the OHA **Case for Implementing Fully Integrated Rural Health Hubs**, identified eight rural communities to participate in the Integrated Rural Health Hub pilot project (29). The identified hospitals for the pilot project working group and their associated Primary Care funding models are outlined in Table 4.

Table 4. Ontario Integrated Rural Health Hub pilot project targeted communities and associated current Primary Care Funding Model

Identified Hospitals	Primary Care Funding Model for physicians
Arnprior Regional Health	FHO*
North Shore Health Centre (previously Blind River District Health Centre)	FHO* (Huron Shores)
Dryden Regional Health Centre	FHO*
Espanola Regional Hospital and Health Centre	FHO*
Haliburton Highlands Health Services	FHO*
Manitouwadge General Hospital	RNPGA
Riverside Health Care	FHO*
Sioux Lookout Meno Ya Win Health Centre	FHG (Hugh Allen)**

*(8)

**(32)

The identified pilot project sites were assisted in their endeavours to implement an Integrated Health Hub with the use of the OHA's Rural Health Hub Implementation Guide (30), and the Rural Health Hubs Framework for Ontario released by the Multi-Sector Rural Health- Hub Advisory Committee .

The Canadian Centre for Health Economics (CCHE), has developed a framework that can be used to evaluate the economic feasibility of the Rural Health Hubs. The framework outlines how the rural health hubs will be evaluated for efficiency and productivity gain on three levels – technical, scale, and allocative. (34)

- **Technical:** will measure the production of the rural health hub, by analyzing the number of services/ outputs that are produced given a set of inputs, and will compare to an identified reasonable number of outputs;

- **Scale:** will measure the unit cost of services in the hopes that a larger scale operation leads to lower per unit costs of output; and

- **Allocative:** will aim to define if the total output of the rural health hub and its measurable variables are increased without modifying the funding input. This will determine if the use of a single funding model to appropriately allocate funds to the services required by the population is beneficial.

As the pilot project was recommended to last 36 months and was initiated in 2016, the results of any type of evaluation have yet to be published (29) but are anticipated in 2019.

Ontario Health Teams

In 2019, the Ministry of Health and Long-Term care introduced the concept of Ontario Health Teams. In many ways, these are rural health hubs writ large, and meant to support integrated care delivery for a larger population than most of Northern Ontario's rural health hubs serve.

All care delivery from a patient perspective is local, and in the Northern Ontario context, integration of services across a broad geography is unlikely to impact local care delivery. The goals of integrated care from a patient perspective are to integrate the experience of care around a patient. The goal of integrating structures from a system perspective, is, to a large extent, about system savings and sustainability.

In the context of Northern Ontario then, if the focus is on improving the experience of care, improving health outcomes and through that, decreasing cost, the most important unit of integration across sectors will likely be at the local hub level. Mergers within sectors that decrease the numbers of agencies and service providers in a given context may help to meaningfully simplify system navigation and make the work of integration across sectors locally easier for patients, health care providers and organizations alike.

Northern Ontario Health Teams comprised of a network of locally integrated health hubs may prove to be a helpful way of building on the value of the development of local patient medical homes as the foundation of the primary care sector, integrated in a local health hub context to deliver care in a locally integrated way for patients, while at the same time enabling the anticipated benefits of Ontario Health Teams.

Summary

The patient medical home concept delineates key elements of patient-related primary care service provision for a practice population – the who and the what of care including: patient- centredness, timely access to care, coordination of care, comprehensiveness of care, and continuity with an MRP in a team-based environment – and outlines several enablers of care including governance and connected care across the system. The Rural Health Hub model focuses less on what the services will be but rather, how services can be optimized across local agencies through collaboration, funding alignment, and governance in order to ensure efficient service delivery for patients and the community. Both the PMH and the Rural Health Hub are about local delivery of care to a defined population.

The concepts of the PMH and the Rural Health Hub are mutually supporting concepts in the rural environment. In Northern Ontario's rural communities, the role of the family physician transcends institutional boundaries and encompasses a scope of practice that is broadly comprehensive including acute (including emergency room), palliative, chronic, as well as clinic- and hospital-based care. Often these physicians are at "[…] the sole site of care in the community, and they feel that they are a medical home [for their patients]" (37). Family physicians in these rural environments function to integrate care across sectors in the rural community. The Rural Health Hub model, with its focus on governance and funding alignment, may provide necessary support to enable efficient and better-coordinated delivery of comprehensive, patient centred care across settings inclusive of the patient medical home in primary care in the rural environment. It was indeed this element of structural enablers that was identified as a significant barrier to full implementation of the PMH concept in the rural environment in the studies noted and described in the preceding section, from the US.

Both the Rural Health Hub model and the Patient Medical Home concept, which have developed in parallel to each other in Ontario, focus on the development of patient centred and local population-based models of care that highlight both comprehensiveness and coordination of care. Together, the two models address the "triple aim" goals of improved patient experience, improved population outcomes, and system efficiency (decreased per capita costs of care).

Ontario Health Team evolution presents an opportunity to pursue further development of the rural health hub, allowing for more focussed support for locally integrated care in a context that may enable better primary care, better integration of local services across sectors and more efficient care across sectors through a network of rural health hubs in the Northern Ontario geography.

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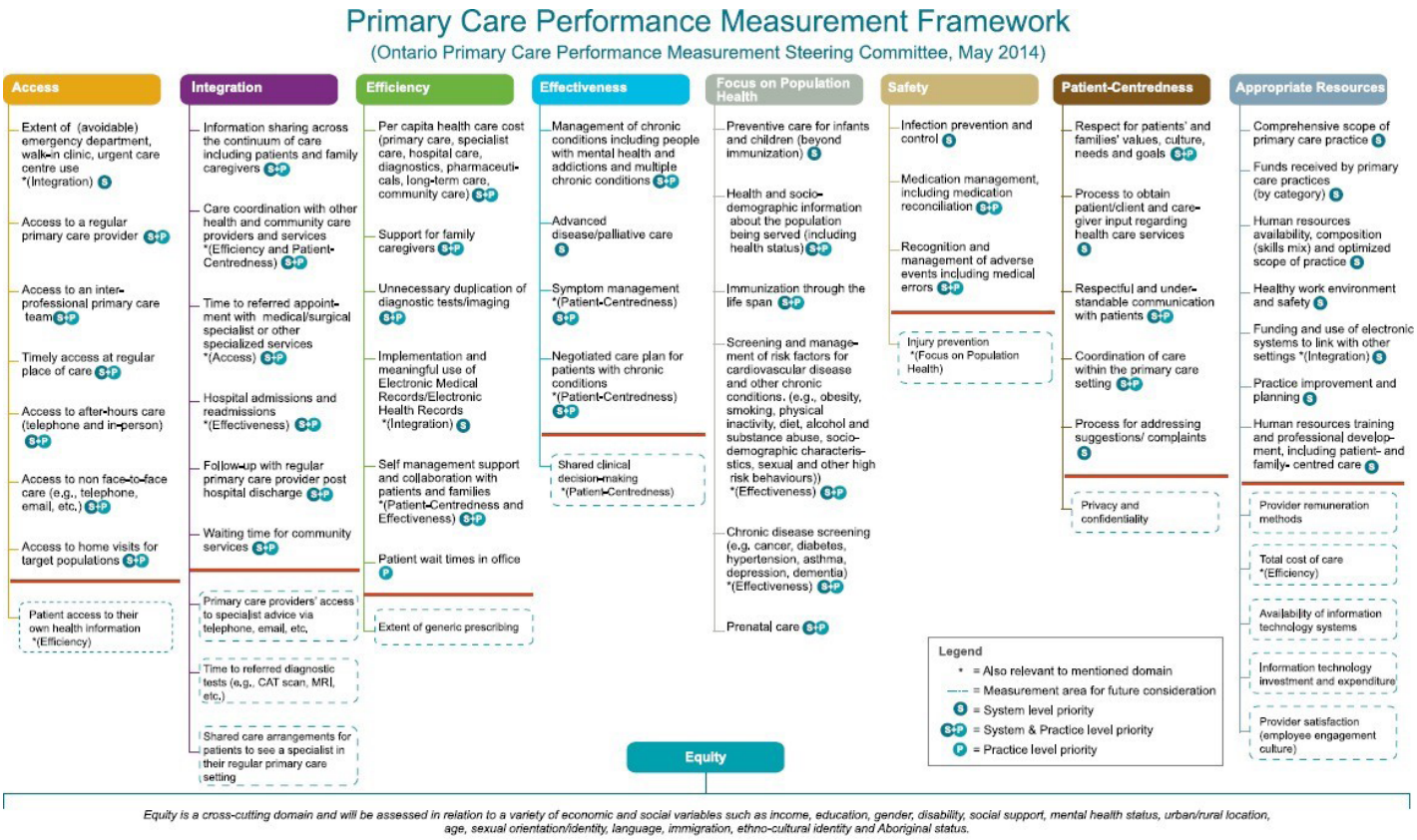
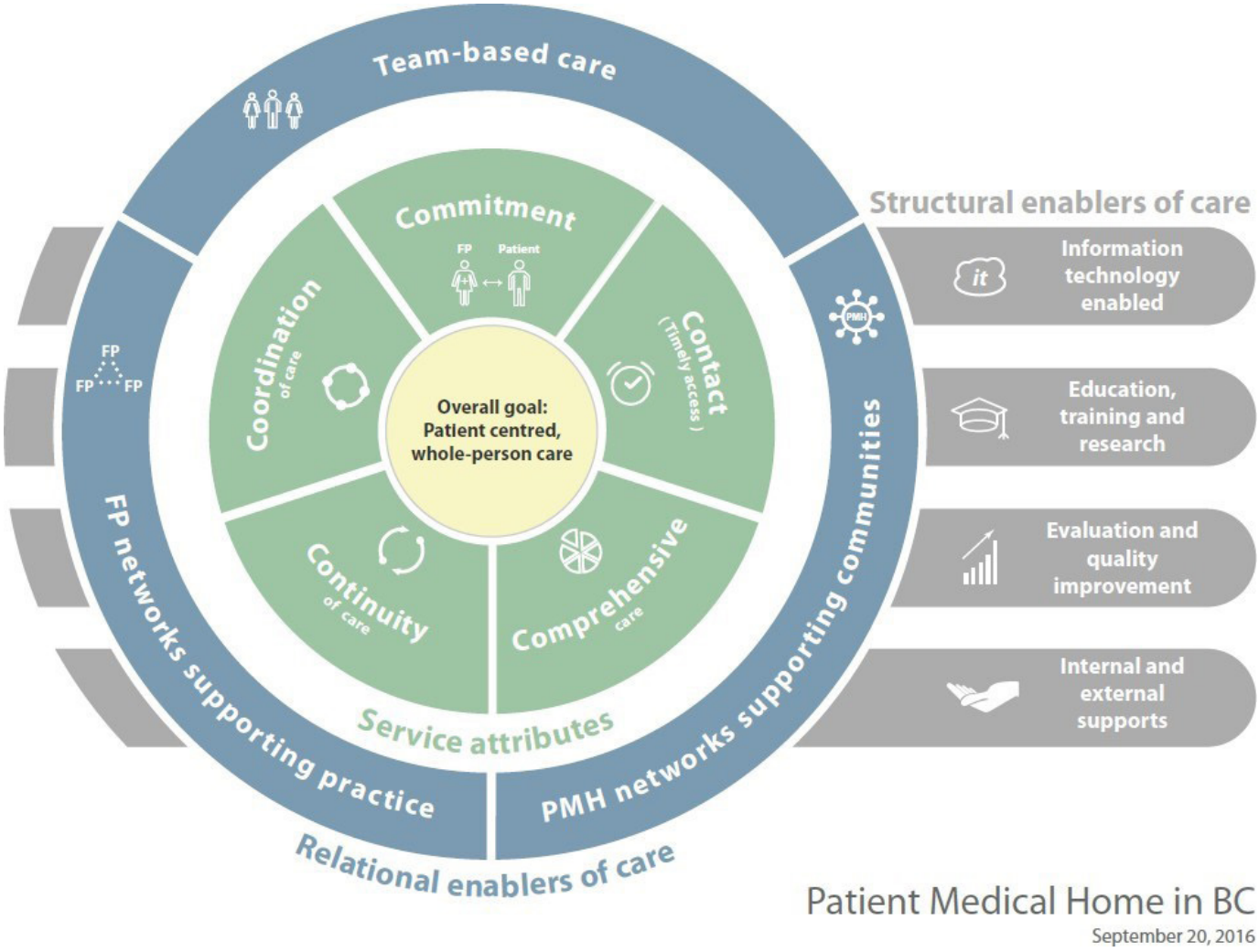
Appendix

Appendix A: Ontario Primary Care Performance Measurement Framework



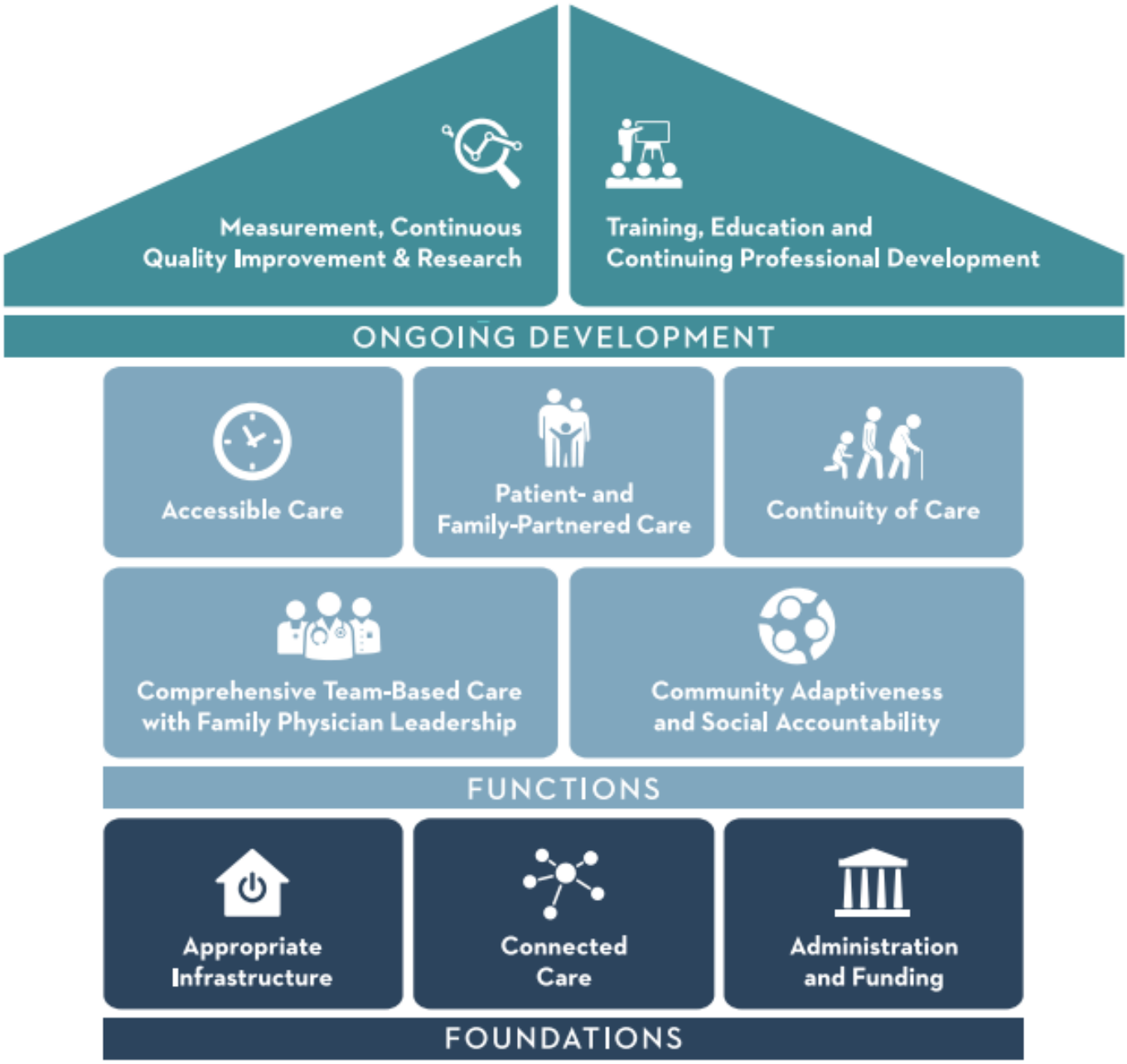
Source: 2014. Health Quality Ontario. "A Primary Care Performance Measurement Framework for Ontario".
Figure 4. Available online at http://www.hqontario.ca/portals/0/Documents/pr/pc-performance-measurement-report-en.pdf

Appendix B: British-Columbia's Patient Medical Home Model



Source: 2016. Patient Medical Home.
Figure 5. Available online at https://www.divisionsbc.ca/shuswap-north-okanagan/sno-impact/patient-medical-home

Appendix C: Ontario College of Family Physicians PMH concept



Source: 2019. The College of Family Physicians of Canada.
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