ORIGINAL ARTICLE

Integration of care in Northern Ontario: Rural health hubs and the patient medical home concept

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Abstract

Introduction: Primary care reform in Ontario that provides accessible, comprehensive patient-centred care has been a work in progress for more than a decade. With the recent emergence of Ontario Health Teams and the conclusion of the Rural Health Hub (RHH) pilot project, insight into the philosophy, culture and expectations of rural and remote centres with regard to primary care delivery is required. The concept of the patient medical home (PMH) and the RHH offers frameworks that emphasise positive attributes towards quality care systems – continuity, accessibility, comprehensiveness and localisation of services and funding for system efficiency.

Methods: The application of these frameworks to rural and remote centres was explored via semi-directed face-to-face and phone interviews with physicians, patients and healthcare administrators at six rural centres in Northern Ontario.

Results: Continuity of care, local integration and healthcare culture reform were cited by participants as the most important aspects of optimisation of primary care in their environments.

Conclusion: These concepts support the RHH and PMH models and their further implementation as part of healthcare system transformation in Northern Ontario.

Keywords: Ontario health teams, patient medical home, primary care, rural and remote, rural health hub

Résumé

Introduction: La réforme des soins de première ligne en Ontario, qui entend fournir des soins axés sur les patients accessibles et complets, est en chantier depuis plus de dix ans. Avec la récente création des équipes de santé Ontario et la conclusion du projet pilote Carrefours santé en milieu rural, il nous faut une fenêtre sur la philosophie, la culture et les attentes des établissements des régions rurales et éloignées en matière de prestation des soins de première ligne. Les concepts de Centres de médecine de famille (CMF) et de Carrefours santé en milieu rural sont des infrastructures qui insistent sur les caractéristiques positives des systèmes de soins de qualité, soit la continuité, l'accessibilité, l'intégralité et la localisation des services et du financement afin d'assurer l'efficacité.

Méthodologie : L'application de ces cadres aux établissements des régions rurales et éloignées a été évaluée par l'entremise d'entrevues semi-structurées téléphoniques

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et en personne avec des médecins, patients et gestionnaires de santé de 6 établissements situés en milieu rural du Nord de l'Ontario.
Résultats : Les participants ont cité la continuité des soins, l'intégration locale et la réforme de la culture en santé comme les aspects les plus importants de l'optimisation des soins de première ligne dans leur environnement.
Conclusion : Ces concepts étayent les modèles de CMF et de Carrefours santé en milieu rural et leur élargissement dans le cadre de la transformation du système de soins de santé du Nord de l'Ontario.

Mots-clés : Soins de première ligne, centres de médecine de famille, carrefours santé en milieu rural, équipes de santé Ontario, régions rurales et éloignées

INTRODUCTION

Over the past several years in Ontario, an effort has been made to refocus the healthcare system on the elements of improved patient experience, improved patient and population outcomes and improved system value and efficiency. Included in these discussions are two concepts – rural health hubs (RHHs) and the patient medical home (PMH).

Conceived by the American Academy of Pediatrics, the PMH is a primary care delivery concept that focuses on providing comprehensive and longitudinal care that is coordinated, accessible, patient-centred and of high quality.[1-3] Both the College of Family Physicians of Canada and the Ontario College of Family Physicians have endorsed this primary care model as the future of Family Medicine in Canada.[4] In the US, this model has been shown to improve access to quality care, decrease emergency visits and hospitalisation rates, as well as increase patient and provider satisfaction.[5]

The RHH focuses on integration of services at a local small community level to provide comprehensive care across the healthcare environment that responds directly to community needs. At maturity, the RHH has a single-governance and single-funding envelope. [6] A pilot project on RHH implementation conducted in Northern Ontario[6-8] demonstrated the potential for reduction of administration costs, innovation of local resources to fill care gaps specific to the community and the opportunity to improve access and continuity for patients throughout the local healthcare system.[6,8,9]

RHH and PMH are mutually supportive in their mission to address the 'triple aim' of improved patient experiences, improved population outcomes and improved system efficiency. The concept of PMH focuses on who will provide care and how that care is coordinated and delivered within the primary care sector, whereas the RHH focuses on how those services are governed, funded and organised within the broader local healthcare system infrastructure.[5,6] The practicality of the model's application, and the value attributed to these concepts within existing rural and remote centres, is not well defined. Furthermore, with the advent of the new Ontario Health Teams which aim to create a connected patient-centred and coordinated healthcare team across a large population,[10] further research is needed to understand the culture, philosophy and expectations of rural centres in the healthcare reform context. In this study, individual and group discussions were undertaken at centres across Ontario to explore the barriers and limitations to quality care and the characteristics of an ideal healthcare system where they pertain to the PMH and RHH framework.

METHODS

The project was approved by Lakehead University's Research and Ethics Board (Romeo #1466506). Individual and group-based interviews, lasting no more than 60 min, were conducted across various rural and remote centres participating in the RHH pilot in Northern and Eastern Ontario. Interviews were completed face-to-face and via telephone. An e-mail to gauge participation interest was sent across the regions to Hospital CEOs, Family Health Team Directors and Patient Advisory Council Directors with instructions to forward the study information to any interested participants, including patients, hospital employees, as well as local physicians. A monetary incentive was provided for physicians,

as recruitment of this subgroup was difficult. Any and all interested participants were interviewed.

Interviews were conducted by a single individual who used a semi-structured interview style with initial set of discussion questions followed by clarifying statements specific to the preceding dialogue. Both free-listing and ranking techniques were used to remove subjective interpretation of the data. The questions were developed to stimulate discussion on the different elements of the PMH and the RHH concepts and to assess their applicability within different communities. Barriers and enablers of quality care were also elicited. Each interview was recorded and transcribed before a thematic analysis[11] was completed, as aided by the use of qualitative data computer software (NVivo, QSR International, LLC. (2019). NVivo (Version 12) [software] Offices: Burlington, MA, USA).

Transcriptions initially underwent a narrative analysis, wherein testimonies for each specific question were assessed to identify a 'global theme'. These global themes were assigned as first-pass codes, which were subsequently assigned to specific sentences when re-reading all the testimonies. Subsets of secondary themes, within these global themes, were created, and the testimonies were re-read, tagging sentences associated with these sub-themes. Once all testimonies were tagged with both global and secondary themes, the themes were weighted based on their recurrence across communities and interview group types, to identify the top three recurring themes and their associated sub-themes. These were then compared to the RHH and PMH frameworks. Outlier trends were also identified, and demographic information was applied to help understand their context.

RESULTS AND DISCUSSION

A total of 12 participants (4 patients, 1 physician and 7 individuals in managerial positions within local healthcare settings) from six rural and remote cities/towns in Northern and Eastern Ontario (Arnprior, Kenora, Marathon, Dryden, Espanola and Halliburton) participated in the study.

Continuity of care, local integration and healthcare culture reform were cited by participants as the most important aspects of optimisation of primary care within local rural and remote environments. These overarching themes were present in the discussions with all participants. Non-significant differences in recurring themes and opinions differed between patient, administrative staff and physicians who were interviewed. These themes correlate with striking resemblance to pillars of the PMH and the RHH frameworks, as discussed below.

Continuity of care

The PMH has core functions of comprehensive care, patient-centred care, accessibility and continuity of care.[4] Providing fully integrated continuity of care within a community requires that the following four elements of care, as highlighted by participants, be addressed: culture, environments, relationships and healthcare system. The majority of interviewees also identified 'system navigation', or the ability to navigate through the healthcare system, as the factor with the most influence on continuity and coordination of care.

Culture

The culture of an organisation is a reflection of its mission, vision and values. These organisational characteristics orient and define the services provided by an organisation and the way in which they are delivered. As such, organisations with similar cultures and goals have the opportunity to not only provide complimentary services within the global local healthcare system but also provide them in such a way that emphasises a similar delivery model.

The majority of hospital administrators identified cultures across organisations as the key to ensuring continuity of care throughout the healthcare system. *'Having that constant… culture, with the patient at the centre, is really important',* stated one participant, as it not only allows the patient to understand the boundaries and expectations of the system but also provides greater opportunity for collaboration and team-based care between local organisations. Participants, however, largely identified that to have such a culture *'… is really difficult when dealing with multiple organizations and agencies, because the cultures are all a little bit different'*. Patient participants emphasised the need for a shared culture amongst all local healthcare programmes to increase the accountability of certain programmes which they perceived not to be patient-centred.

System: Patient navigation

In support of patient centredness, 100% of the respondents identified patient navigation as the most influential factor in good continuity of care. Organisation of the local healthcare system to provide seamless transitions between environments – for example – back to primary care and adjunctive programmes following a hospital admission – was identified by 11 of the 12 participants as the key to the provision of the best continuity of care. The way in which these transitions are coordinated varies, as it is dependent on the availability of resources at the local level. However, ultimately, *'… the patient shouldn't have to understand what [the] organizational structure looks like behind the scenes'*. The process of transitions between environments should be seamless, and administrative burden for patients should be minimised. Throughout discussions, interviewees outlined local innovative solutions to address patient navigation at the local healthcare system level.

As one example, some interviewees described the employment of Registered Nurse (RNs) in the primary care setting. These nurses attend discharge planning rounds in the hospital setting and coordinate appointments for the patient to the various required healthcare providers. This eliminates the need for the patient to have to coordinate their own appointments. Other communities developed simple single referral forms for their local mental health programmes to ensure that patients received the appropriate services they need. Instead of healthcare providers having to send multiple referrals to all programmes to see *'which one sticks'*, the use of the single referral form allows coordination and cooperation among mental health agencies to determine which organisation the client would most benefit from. Patients are therefore able to gain access to the care they need more rapidly than the previous model wherein physicians had to follow up with multiple organisations to find a service willing to accept their patients.

Other communities have integrated all, or many, of their healthcare organisations into one or two buildings with a common entrance and office staff. This provides a 'one-stop location' for patients to receive information or have their questions answered. The benefit of such local system changes is best highlighted by the frustration expressed by one of the participants with regard to the current system: *'If I show up to the ER with anxiety, and my emergent issue is taken care of at the hospital, I shouldn't now have to worry about booking a follow-up appointment with my primary care physician or my counsellor – it should just happen'*. This quote illustrates the need for the development of appropriate transitions between care environments via system changes that optimise and simplify patient navigation within the healthcare system and improves system efficiency. These examples also illustrate the need for well-coordinated team-based care to provide comprehensive quality care.

Environment: Emergency medical records

It is inevitable that a patient will receive care in multiple environments throughout their lifetime. From emergency departments to physician offices or in-patient wards, coordinating seamless continuity of care throughout these environments is difficult. This reality is best illustrated in the emergency department where a physician meets a patient for the first time and is often unable to access information concerning the patient's past medical history, medications currently taken or any current care plans in place. The PMH framework outlines the need for shared electronic medical record (EMR) systems as an optimisation of informational continuity of care when patients are accessing different care environments. [4] One participant stated that *'continuity of care is a system wherein the healthcare provider can access the information they need to provide the best care and appropriate care to the patient'*, while another stated, *'I think continuity ideally is people that are on the same EMR so that we can access the same information and minimize the amount of times a patient needs to repeat their story'*. All participants agreed on the need for such a system, but opinions varied as to the application or development of such a system. A total of 7 of the 12 participants indicated the need to have a province-wide system based on an identifier assigned to a person at birth. Although none of the centres interviewed had a fully integrated EMR system, 5 of 6 sites provided access to the primary care EMR to their emergency physicians as part of the 'RHH' of care. This was overwhelmingly thought to be a positive attribute of some of the

already successful local integrations within the 6 centres interviewed.

Relationships?

In addition to a shared EMR, the PMH vision suggests that the same physician or care-team provides care that transcends environmental boundaries.[4] In rural health hubs, it is often the same physician who will be providing office-based primary care, emergency care, and in-hospital care. The role of the physician working in multiple environments was identified by 7 respondents as beneficial. When asked, 'Who is the most responsible person for your health?', apart from the identification of the patient as the decision-maker, respondents identified the family physicians as the 'quarterback' of the team.

'Having that continuity of family physician that follows you through the system is incredibly important because they know your health history, your medical history, they know some of the more important health challenges that you are dealing with, and certainly in terms of the particular acute episode, that is all put into context for them more quickly then if you were seen by someone who doesn't know you at all, and has to get all the information gathered'.

Although identified as the 'quarterback' of the team, many respondents felt that physicians shoulder large burdens that could be delegated to colleagues on the team to optimise their personal quality of life. Five of the interviewees stated that if the other previously discussed factors were addressed, such as a shared EMR system, improved patient system navigation and alignment of local healthcare cultures, the role of the physician could remain the most responsible provider (MRP) while care is more broadly shared.

The interviews identified continuity of care as a principal target for reform of existing primary care delivery. A total of 8 respondents agreed that the pillar of continuity of care within the PMH framework is best optimised when the issues are addressed of a common EMR system, a single healthcare provider throughout care environments, improved transitions between care environments and patient navigation of the system, as well as a system culture focusing on patient-centred care.

Local integration – System

As already defined, an RHH is, at maturity, 'the integration of local services into a single-governance structure with a single-funding envelope'.[6] The Ontario Hospital Association has identified that this model optimises patient-centred care via the coordination of local services to reflect the needs of the community and the provision of full-service comprehensive care, including acute and long-term care, primary care, hospital-based care and community programming.[6] A large majority of interviewees highlighted that they preferred to receive care in their community, rather than travel elsewhere. However, they were very understanding of the realities of living in a rural environment. The opinion that *'having one service would streamline the process'* was echoed in 100% of the respondents when asked if the implementation of an RHH would be beneficial. Without prompting or discussion of advantages of RHH models, 10 of the 12 respondents identified the need for system integration to improve the delivery of healthcare. They identified the need for a central communication platform, funding flexibility and centralised access to information as the key priorities for system integration and overall improved patient care.

All respondents agreed that to improve local care, it was necessary to have a local decision-making committee, composed of representatives from various healthcare organisations and patient representation, to provide input on service requirements in the community. These types of platforms were listed as essential to brainstorming innovative ideas for provision of care, to ensure that cultures between organisations could be aligned towards a similar goal and to improve on communication and cooperation between organisations. These communication platforms were identified by 3 communities as an ideal space for the development of formal agreements between organisations for the development of new or existing initiatives. Three of the administrative respondents listed that a large barrier to the development of these communication platforms was the human resources required for their implementation and maintenance.

Further, to the need for a decision-making committee, the need for a fully integrated system was also highlighted by 7 respondents.

'There shouldn't be this many organizations. In a small town there should be one organization that coordinates the healthcare services for the community. There is no reason to be more than one building even for services'.

System: Funding

All 8 administrative and physician respondents identified funding silos as a limiting factor to improving system efficiency and attempting to integrate locally. Collective agreements and funding specific to only certain activities are prohibitive to the development of new initiatives that are community driven. Funding silos limits ability to maximise the use of human resources to fill community needs. Allocation of a single sum of money to a community, with full control over distribution of resources, would allow communities to be innovative with their funds. It allows them *'the flexibility to move the staff to where they are needed the most'*. It provides them with the opportunity to take community and front line staff suggestions to optimise delivery or develop requested services. Barriers to the use of the single funding envelope were identified as the need to first create a fully integrated system under a single-governance or create a totally integrated system where primary, hospital, community and long-term care are governed by one administration capable of monetary allocations. The coordination of many local organisations with various collective agreements and slightly different missions and visions makes this process extremely difficult to realise. The use of an overarching committee with representation from various organisations was listed by 8 respondents as a suitable alternative. One respondent highlighted that the use of an overarching committee is nonetheless beneficial to communities.

'All of these small agencies do not have the time to develop their own quality improvement plan, but they may have one tiny piece of information on one of the community indicators that we are all working together on as a community. By joining the table, we can all contribute a little to effect a large amount of change and feel like we are part of the solution'.

As a step along the maturity continuum of the RHH, this solution, of an overarching committee, offers the opportunity of timely implementation of new initiatives as it eliminates certain bureaucratic requirements of a merger between organisations while supporting opportunity to collaborate intentionally and formally on shared goals.

Healthcare culture reform

To be considered a fully integrated RHH, it is necessary to amalgamate services into one organisation that shares a common managerial and front-of-house staff (i.e. receptionist, accounting). This level of integration is hindered by the competitive nature of the healthcare system and was an issue identified by all 8 of the non-patient respondents. The current use of various collective agreements and funding silos has created a culture within many organisations that cooperation with others equates to a potential decline in patients and subsequent cuts to funding. Individuals are fearful of change because they fear that will mean termination of funding and job opportunities.

Health service integration planning and bargaining integration also require significant human resource hours which are limited in small settings where individuals within administration are responsible for multiple roles within the community. As such, five respondents, called for a need for the government to mandate local integration since *'having different envelopes, different reporting structures or being accountable to different areas in government are huge barriers'*. If the government mandated local integration and modified funding and reporting to a single governing organisation, it would help alleviate the long-term human resource burden, provide control to the community to identify their local needs and ultimately optimise care for patients. It would force local communities to maximise their current funding appropriately with community specific innovative solutions, before having to request more funding.

Furthermore, the possibility of changing government reporting expectations and the volume of reporting for funding received were highlighted as a reform for healthcare processes. *'Let's cut out the 17 different reporting structures. We need to work on efficiency. There is too much reporting for too many things going to too many different places'*. Four respondents highlighted the need to focus on quality measures specific to each community. This could measure the progress of local integration and the introduction of new programs or initiatives. An example of a proposed healthcare measure included a *'focus on measuring the years lived with good quality of life of the citizens in the community and track the changes, post-implementation, of system integration'*, stated one administrator.

Limitations

The impact of this study is limited by the sample size. The results discussed are heavily influenced by the impressions and opinions of participants who occupy managerial roles in their communities, such as being Director of the Family Health Team, the Hospital CEO or similar role. More representative conclusions would have been elicited if a greater number of patients and physicians could have been recruited for the study. Furthermore, throughout the study, at no point were conflicts of interest discussed with participants with regard to their possible involvement in government committees, Ontario LHIN positions and/or their involvement in the Ontario Rural Health Pilot Project. Consequently, confounding factors such as vested interest in the form of involvement with government operations or specialised projects were not accounted for in the analysis of the results.

CONCLUSION

The interviews conducted highlighted the importance of continuity of care, local integration and action on behalf of the government to transform healthcare in rural and remote environments. The majority of the respondents identified many attributes of the RHH and PMH models as attributes of a local healthcare system worth pursuing. These include shared EMR systems, shared governance, improved patient navigation by team-based coordination of care and healthcare organisation cultures focused on the patient.

As Ontario Health Teams evolve, the importance of local cultures of care, the ability to receive care as close to home as possible and the importance of well integrated team-based care must be borne in mind. Ontario Health Teams evolving in rural areas may be wise to facilitate the development of local rural health hubs in which the primary care sector embraces the core functions of the PMH. The aim would be to create networks of local hubs of care rather than risk disrupting the relationships and local flow of care in small communities.

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