

Key Lessons Learned in the Strategic Implementation of the Primary Care Collaborative Memory Clinic Model: A Tale of Two Regions

Principales leçons à retenir de la mise en œuvre stratégique du modèle des cliniques collaboratives de la mémoire en soins primaires : l'histoire de deux régions



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Abstract

Background: Primary care collaborative memory clinics (PCCMCs) address existing challenges in dementia care by building capacity to meet the needs of persons living with dementia within primary care. This paper describes the strategic implementation of the PCCMC care model in two regions within Ontario.

Methods: Evaluation of this initiative included the completion of individual interviews ($N = 32$) with key informants to identify impacts associated with the PCCMCs and tracking of all referrals and assessments completed in the first nine months of clinic implementation.

Results: The qualitative analysis of interview transcripts generated five major themes: (1) earlier identification of dementia and intervention; (2) increased capacity for dementia care within primary care; (3) better patient and caregiver experience with care; (4) improved continuity, integration and coordination and improved care; and (5) system efficiencies. Across both regions, 925 patients were referred to PCCMCs, of which 631 (68%) had been assessed during the evaluation period.

Conclusions: Strategic, regional implementation of PCCMCs provides a significant opportunity to support better integrated and coordinated dementia care.

Résumé

Contexte : Les cliniques collaboratives de la mémoire en soins primaires (CCMSP) s'intéressent aux défis en matière de soins aux personnes atteintes de démence, et ce, en renforçant les capacités au sein des soins primaires afin de répondre aux besoins de ces personnes. Cet article décrit la mise en œuvre stratégique du modèle de soin des CCMSP dans deux régions de l'Ontario.

Méthode : L'évaluation de cette initiative comprenait la tenue d'entrevues individuelles ($N = 32$) auprès d'informateurs clés afin de déterminer l'impact des CCMSP ainsi que le suivi de tous les cas dirigés et des évaluations complétées durant les premiers neuf mois de la mise en œuvre des dites cliniques.

Résultats : L'analyse qualitative des transcriptions des entrevues a permis de dégager cinq grands thèmes : (1) diagnostic et intervention précoces; (2) capacité accrue des services primaires pour les soins aux personnes atteintes de démence; (3) une meilleure expérience patient-soignant; (4) meilleures continuité, intégration et coordination ainsi que des soins améliorés; et (5) rendement du système. Dans les deux régions, 925 patients ont été dirigés vers les CCMSP, dont 631 (68 %) ont été évalués au cours de la période étudiée.

Conclusions : La mise en œuvre stratégique régionale des CCMSP constitue une bonne occasion pour mieux intégrer et coordonner les soins aux personnes atteintes de démence.

Introduction

To address the well-documented challenges associated with managing dementia in primary care (Aminzadeh et al. 2012; Bradford et al. 2009; Pimlott et al. 2009), the primary care collaborative memory clinic (PCCMC) care model was created to increase capacity within

Key Lessons Learned in the Strategic Implementation of the Primary Care Collaborative Memory Clinic Model

primary care to assess and manage persons with memory concerns (Lee et al. 2010, 2017a). PCCMCs are family physician-led interprofessional teams that provide comprehensive evidence-informed assessments and person-centred care management plans for persons living with dementia and other memory disorders and for their family members. PCCMCs support referring family physicians to provide quality dementia care through a shared-care collaborative approach. The goal of this program is to build capacity and skills for primary care practitioners to better manage memory disorders within the family practice setting, efficiently streamlining appropriate referrals to specialist care for cases that are the most complex. Partnerships with local community services such as the Alzheimer Society ensure timely patient and caregiver access to education, support services and system navigation. More information about this care model is presented elsewhere (Lee et al. 2010, 2014b, 2017a).

The first PCCMC was created and implemented in 2006 in the Centre for Family Medicine Family Health Team, in Kitchener, Ontario, Canada, and following its success, an accredited training program was developed to support the establishment of new clinics in other primary care settings (Lee et al. 2013; McLeod et al. 2016). Currently, there are over 100 PCCMCs across Ontario (Lee et al. 2017a). The establishment of new clinics has primarily been based on the desire of individual practice settings to meet the dementia care needs of their unique patient populations with limited planning for coordination and integration with other local geriatric services for older adults. In some areas, this has resulted in the clinics working in isolation, rather than in concert, with other geriatric services.

Two regions in Ontario were interested in implementing the PCCMC care model using a strategic, systematic implementation plan, thereby facilitating region-wide planning and collaboration among various existing agencies and specialized services for older adults. In Ontario, local health integration networks (LHINs) are regional health authorities responsible for healthcare service planning and funding; the two regions involved in this project were the Central East LHIN (CELHIN) and the Champlain LHIN. The purpose of this paper is to describe the strategic implementation of the PCCMC model of care within these two regions in Ontario, describing their rationale for adopting a systematic approach to establishing clinics in their region and key lessons learned in the regional implementation of the clinics.

Strategic Implementation in Two Regions

Champlain LHIN

The Champlain LHIN is located in eastern Ontario, Canada, bordering Quebec, covering five sub-regions in and surrounding the nation's capital, Ottawa. Demographic and health service information for this region is presented in Table 1. The process of developing and implementing the clinics is summarized in Table 2. Both tables are available at longwoods.com/content/25938.

In 2012, the increasing number of persons in the Champlain region living with dementia was a key issue driving the region's interest in improving dementia care in primary care. Key organizations involved in dementia care (Champlain Dementia Network, the Regional Geriatric Program of Eastern Ontario [RGPEO], Geriatric Medicine and Alzheimer Societies of Ottawa and Renfrew County and Cornwall and District) began planning a regional approach to identifying sustainable, collaborative and capacity-building dementia care models in primary care. There was an interest in moving more specialist care as provided by geriatricians into the community while recognizing the lack of community infrastructure to support specialist care. The PCCMC model was identified as potentially meeting this need.

A planning and implementation team was created to guide this initiative. The RGPEO invested in an advanced practice nurse role to facilitate this process. Planning was informed by a review of the literature, review of the primary care landscape and leveraging lessons learned from existing dementia initiatives. Strategies to inform this process included discussions with practice administrators to determine the potential fit of the PCCMC model, a site visit to observe the Centre for Family Medicine memory clinic team in practice and presentations on the PCCMC model to invested primary care practices and key regional stakeholders. A funding proposal was submitted to the Champlain LHIN outlining a number of initiatives to support dementia care across the continuum. Three complementary capacity-building models, including the PCCMC model, were selected to meet the unique needs and resources available to the different primary care delivery structures in the region.

The Champlain LHIN provided three consecutive one-time/one-year funding envelopes to support the training of 15 PCCMCs in the region as well as ongoing funding for dedicated staff from the Alzheimer Society to participate in all PCCMCs (Table 2). The RGPEO committed, in kind, the services of an advanced practice nurse to lead the planning and coordination of the clinics and support capacity-building needs across clinics. An awareness-raising campaign was launched to inform primary care settings in the region about the potential opportunity to establish a PCCMC. A formal readiness assessment process was established to ensure that the PCCMC model was a good fit for interested practices. Fifteen sites were selected across the region representing urban and rural, academic and non-academic and Francophone and Anglophone practices. Because 13 of the 15 clinic settings were in team-based primary care structures (Family Health Teams and Community Health Centres), these clinics were able to recruit their own interprofessional team of healthcare providers (HCPs) to construct their PCCMC team, including nurse practitioners, registered nurses/practical nurses, pharmacists, social workers, health promoters and dietitians. Two of the PCCMC settings were Family Health Organizations; thus, in-kind partnerships with local community, hospital services and the RGPEO provided the social work, pharmacist and additional nursing resources required to complete their team. In-kind support from local Alzheimer Society staff was provided to all 15 PCCMC teams. To support the goal of implementing 15 PCCMCs in the region over three years, a plan was put

Key Lessons Learned in the Strategic Implementation of the Primary Care Collaborative Memory Clinic Model

in place to target the training of five clinic teams per year starting in February 2014, and by April 2016, all 15 clinics were established with 137 HCPs who had completed training. All of the clinics accepted referrals from within their practice settings, in total supporting 152 family physicians with a combined patient base of 167,923 (Table 2).

To provide ongoing regional support to the PCCMCs, the advanced practice nurse works with teams to identify and address concerns that arise with clinic implementation, develops processes to facilitate geriatrician support, identifies processes for integration with Specialized Geriatric Services to facilitate seamless transitions for patients and supports learning needs through coordination of continuing education events. Over time, the number of geriatricians providing support to PCCMCs in this region has increased from four to seven. Because the role of specialists within this care model represented a new way of working with family physicians, a collaborative framework was developed to highlight strategies to foster specialist integration into the clinic team and to optimize specialist collaboration and support for the memory clinic team, with the ultimate goal of optimizing the care of patients and families.

Central East LHIN

The CELHIN includes urban and rural areas in central east Ontario. Demographic and health service information for this region is presented in Table 1. The system of care for older adults living with frailty is coordinated and implemented through the Seniors Care Network, a network of health service programs and organizations that collaborate to deliver Specialized Geriatric Services in this region.

“Grass-roots level” interest was initiated by several physicians who approached the Seniors Care Network to explore opportunities for implementation of PCCMCs in this region. Leveraging existing resources and expertise in dementia care in the region, a planning group was formed consisting of representatives from the local Alzheimer Society chapter, Seniors Care Network and various Specialized Geriatric Service providers.

Funding was provided by the LHIN for the memory clinic training program, which was attended by not only the health professionals who would be working in the memory clinics, as is usually the case, but also health professionals in all of the relevant dementia care-related services in the region. The training was proposed as an educational opportunity and served to facilitate “buy-in” for the introduction of PCCMCs from all relevant community programs by fostering a common understanding of the scope and role of PCCMCs. This common understanding helped to overcome the initial resistance to the introduction of this new service, which was primarily related to lack of understanding of the capacity and complementary role of PCCMCs within the continuum of care for seniors.

As all of the PCCMCs were being established in practice settings without access to the required interprofessional HCPs, a shared interprofessional “mobile team” was created to support the PCCMCs. In-kind contributions of space and staff were made by the Alzheimer Society and PCCMC family practice settings. The mobile team consists of two

registered practical nurses, additionally trained in mental health, addictions and dementia as Behavioural Supports Ontario (BSO) program staff; two social workers; and two occupational therapists. (BSO is a province-wide program aimed at providing care for older adults exhibiting, or who are at risk of exhibiting, responsive behaviour [e.g., aggression, wandering, physical resistance, agitation] related to cognitive impairment due to mental health problems, addictions, dementia or other neurological conditions [Gutmanis et al. 2015].) Many of these HCPs were recruited from existing local community geriatric services, which helped to integrate all relevant dementia care programs into the PCCMC care model. These included the Alzheimer Society First Link program (McAiney et al. 2012), the BSO program and local Geriatric Assessment and Intervention Network teams (Seniors Care Network 2015). Integration of team members from these programs facilitated access to various community services and improved communication and coordination of care through PCCMCs. To help foster relationships between interprofessional HCPs and physicians who had not previously worked together with an interprofessional team, and to support the logistical requirements of mobile clinical work, which included home visits, the PCCMC program manager role was created. This program manager supports implementation across participating primary care practices and connects via a formalized committee structure to specialized geriatric services to collaborate in planning, coordination and regional quality improvement initiatives, aligning local and regional services.

In total, 70 individuals completed the memory clinic training program in March 2016, 33 representing primary care and 37 representing the Specialized Geriatric Service programs coordinated by the Seniors Care Network and Alzheimer Society staff. Following completion of the training program, four new PCCMCs were created. Three of the clinics are supported by the mobile team, and one clinic created its own interprofessional team supplemented with HCPs from the Seniors Care Network's local Geriatric Assessment and Intervention Network team. All four clinics have an assigned geriatrician to provide consultative support; these geriatricians attended the memory clinic training program. Two of the clinics accept referrals for patients rostered within their practice settings, whereas the other two additionally accept referrals from outside of their practice setting. In total, these clinics support a very large number of medical practices in the regions (Table 2).

Evaluation Methods

Up to 16 months following the establishment of their PCCMCs (10–12 months in the CELHIN; 12–16 months in the Champlain LHIN), all team members, initiative leads and partners were invited to participate in individual telephone interviews to gather their perceptions regarding how dementia care in the region has changed as a result of the PCCMCs (e.g., What do you think are key impacts of the memory clinics on the system of care for persons with dementia in your region? In what ways has the care for persons with dementia in the region improved with the development of the memory clinics?). A total of 32 interviews

Key Lessons Learned in the Strategic Implementation of the Primary Care Collaborative Memory Clinic Model

were completed (CELHIN, $N = 13$; Champlain LHIN, $N = 19$). Across both regions, interviews were completed with physicians ($N = 11$), allied health professionals ($N = 12$) and initiative leaders/partners ($N = 9$). Interviews ranged in length from 14 to 51 minutes (average = 27 minutes).

Interviews were completed by one author (L.M.H.) to ensure consistency, digitally recorded and transcribed. Within each region, saturation was achieved (little or no new information was gathered from the latest interviews). Transcripts were analyzed using a qualitative naturalistic inquiry approach to develop an understanding of impacts at both patient and health system levels (Lincoln and Guba 1985). Transcripts were analyzed by one author (L.M.H.) and then reviewed by a research assistant to confirm reliability in the emerging themes; this process required several iterations to achieve greater clarity in the final themes generated.

Team members from each clinic tracked all referrals and assessments completed in the first nine months of clinic implementation, collecting information on number of referrals, urgency status (urgent, non-urgent), number of patients assessed, number awaiting assessment and number of assessed patients who were referred to specialists for further consultation. Wait time for assessment was calculated as the difference between the date of referral and date of assessment. A key outcome indicator for this initiative is the number of established clinics that continued to operate nine months following launch.

This study was approved by the Hamilton Integrated Research Ethics Board, McMaster University.

Results

In the Champlain LHIN, 14 of 15 clinics continue to operate in the longer term (some up to four years). One clinic chose to suspend acceptance of new referrals, though they continue to see patients already assessed for follow-up; a number of reasons influenced this decision, including the low number of referrals, a younger demographic within the practice setting and quick access to specialist consultation. In the CELHIN, all four established clinics continued to operate in the longer term (two years).

Across both regions, 925 patients were referred to PCCMCs, of which 631 (68%) were assessed and 209 (23%) were awaiting assessment (Table 3). Across both regions, the average wait time for assessment was one month (1.2 months; $SD = 1.4$ months); 87% ($N = 548$) of the patients were assessed within three months of referrals, whereas 38% ($N = 242$) were assessed within a month of referral. Across both regions, 12% of the patients assessed were subsequently referred for specialist consultation.

TABLE 3. Primary and secondary outcomes by referral status

| Tracked data | Percentage (#) | |
|---|--------------------------------------|------------------------------------|
| | Central East LHIN (N = 4 clinics) | Champlain LHIN (N = 15 clinics) |
| Total number of referrals | 409 | 516 |
| Number of urgent referrals* | 11 (2.7%) | 23 (4.5%) |
| Number of patients assessed* | 273 (66.6%) | 358 (69.4%) |
| Number of patients awaiting assessment* | 111 (127.1%) | 98 (19.0%) |
| Wait time for assessment** (months), mean, standard deviation | 1.1 (1.3) | 1.2 (1.4) |
| Referrals for specialist consultation*** | 30 (11.0%) | 48 (13.4%) |

* Percentage is based on the total number of referrals in each region.

** Calculated as the difference between the date of referral and date of assessment.

*** Percentage is based on the total number of patients assessed in each region.

Regarding impacts associated with the PCCMCs, the qualitative analysis of interview transcripts generated five major themes: (1) earlier identification and intervention; (2) increased capacity for dementia care in primary care; (3) better patient and caregiver experience with care; (4) improved continuity, integration and coordination and care; and (5) system efficiencies. These themes were common across both regions. Table 4, available at longwoods.com/content/25938, presents a description of these themes with illustrative quotes.

Discussion

The PCCMC implementation experiences in the CELHIN and the Champlain LHIN highlight the value of a strategic system-wide approach to implementation, which allowed for the integration of the model within the system of existing services for older adults across sectors, ensuring alignment with regional strategic plans and visions for seniors' healthcare. The process built on, complemented and enhanced the strengths of the region's current service offerings and contexts and expedited assessments, while also avoiding competition and duplication with existing established services. For example, in the CELHIN, the planning committee provides a practical forum for identifying the best service to be the lead, or primary, service provider for particular patients based on unique patient needs. The different services build on the work of each other so that if a patient is transferred between services, they avoid repeating assessments completed by the previous service.

Strategic implementation also allowed each region to capitalize and make efficient use of existing staff, programs and strategies for seniors and dementia care. These improved efficiencies have the potential to result in cost savings to the system. Across both regions, a number of factors supported improved integration of dementia care services. In the Champlain LHIN, assigning several geriatricians to support PCCMCs fostered a strong sense of specialist support of this initiative and positive relationships between primary care and specialist care, establishing the foundation for true collaboration. In the CELHIN, the

Key Lessons Learned in the Strategic Implementation of the Primary Care Collaborative Memory Clinic Model

creation of a mobile team with team members drawn from various existing regional programs served to improve integration and coordination of care with other services. Participation of the PCCMCs in the regional operations committee has strengthened and entrenched this service within the system of Specialized Geriatric Services. In both the Champlain LHIN and the CELHIN, the role of the clinic coordinator was critical to the successful strategic implementation of PCCMCs. Integration of HCPs from the existing geriatric services in both LHINs also proved to further support and develop the clinical capacity of the PCCMC. A growing body of literature on integrated care provides evidence that collaboration between healthcare professionals can be enhanced through development of a structure for team work, sharing of team resources and organizational supports (administration, facilities) and mechanisms for communication and coordination (San Martin-Rodriguez et al. 2005). Interprofessional team-based care, with ongoing care coordination, communication and information sharing among all care providers, is the mainstay of person-centred care (American Geriatrics Society Expert Panel on Person-Centered Care 2016) and has been identified as essential for integrated care (Gonzalez-Ortiz et al. 2018). Community-based integrated systems of care for older adults have demonstrated improved quality, coordination and continuity of care and health outcomes for older adults (Bernabei et al. 1998; Johri et al. 2003; McAdam 2008). Engagement of local services in service planning and implementation is important to the success of new health innovations. In this instance, the bringing together of key players from various community programs (Alzheimer Society, BSO, Specialized Geriatric Services) supported by clinic coordinators contributed to better system navigation, integration and care coordination. Consistent with the findings of other studies (Lee et al. 2014a), collaboration and communication across multiple organizations and programs in the Champlain LHIN and the CELHIN facilitated improved access to community services and better, more seamless transitions between services for patients and caregivers. Effective implementation of new health innovations to affect system change has been demonstrated to require consideration of facilitating factors at micro (individual), meso (organizational) and macro (community and system) levels and how these levels interact and collaborate to affect change (Chaudoir et al. 2013; Durlak and DuPre 2008; Wandersman et al. 2008). The findings from this study demonstrated that both regions were able to affect change at all levels to improve dementia care. Consistent with the literature on effective practice change, the memory clinic training program has demonstrated its ability to facilitate practice improvements through multiple and best teaching practices (Lee et al. 2013, 2014c) and drawing on principles of effective program planning (Caffarella 2002; Kern et al. 2009). These training strategies have included case-based learning, feedback and practice and mentorship opportunities (Bell 2002; Bero et al. 1998); access to guideline-based interventions (Colon-Emeric et al. 2004); and access to expert resources and ongoing support (Stolee et al. 2015). Facilitating factors within practice settings that have enabled practice change and memory clinic implementation have included selection of highly motivated team members (Mazmanian and Davis 2002), access to enabling resources such as clinical support tools (Bloom 2005;

Mazmanian et al. 2009) and clinic flow templates (Berwick 2003), organization and management support (Bradley et al. 2003; Broad 2005; Stolee et al. 2005), and support and commitment from identified champions, physicians and interprofessional team members (Resnick et al. 2004). At a system level, clinic implementation in both regions was facilitated by cross-sector and service collaborative partnerships; these types of partnerships have been identified as important to the effectiveness of interventions that affect health system changes (Mitchell et al. 2015; Mitchell and Shortell 2000; Nicholson et al. 2013) and particularly important to the development of a comprehensive system of care for dementia (Hogan et al. 2008; Patterson et al. 2001).

Communities of practice (CoP), groups of individuals with shared interests, represent a significant opportunity for healthcare improvements (Endsley et al. 2005; Ranmuthugala et al. 2011; Wenger et al. 2002) and can break down silos of care. Regional implementation supported the development of CoP by having local teams train and attend “Booster Days” together, which are annual refresher days that provide an opportunity for PCCMC clinicians to network and learn from one another, further supporting cross-service and cross-sector collaboration (Lee et al. 2017b). Relationships between clinic coordinators and local teams as well as the PCCMC model being endorsed as part of a regional dementia strategy served to foster the CoP connectedness. As mentioned above, strategic regional implementation can facilitate greater opportunities for integration and alignment with existing regional programs particularly when establishing clinics on a large scale. This is important for sustainability and further development, efficient use of limited system resources and potential inclusion of PCCMCs in other health system initiatives, such as coordinated intake systems for specialized geriatric services, as was the case in at least two regions in the province.

In both regions, the majority of patients (>67%) referred to the PCCMCs were assessed during the evaluation period. Although the number of patients awaiting assessment in Champlain at the end of the evaluation period likely had wait times for assessment consistent with those who were assessed, wait times for awaiting assessment ($N = 111$ for assessment across four clinics) in the CELHIN were likely longer. This reflects a steady increase in referrals over time as the capacity of the memory clinics to assess and manage memory concerns became better understood and as some referrals to specialists were redirected to the memory clinic. On occasion, some of the clinics would hold an extra clinic per month to manage the increasing wait list and reduce wait time to assessment.

Across both regions, the rate of referrals to specialists (12%) is consistent with ideal models of chronic disease management where the majority of care for chronic conditions is managed within primary care (Scott 2008) and only the most complex of cases are referred for specialist management; this 12% referral rate represents a substantive reduction from the estimated rate of referral of up to 82% to geriatric specialists for memory concerns in typical family practice (Pimlott et al. 2006). Given this rate of referral to specialists, it could be estimated that the PCCMCs across both regions have the potential to avert 758 referrals (82%

Key Lessons Learned in the Strategic Implementation of the Primary Care Collaborative Memory Clinic Model

of 925 referrals to PCCMC) that would otherwise have been made to specialists. Anecdotal evidence, collected in the key informant interviews (Table 4), has also suggested system efficiencies related to reduced emergency department visits due to early identification and intervention and proactive approaches to care that prevent crises that can lead to use of acute care and institutionalization. While outcomes related to improved patient care, reduced rates of referrals to specialists and potentially reduced emergency department visits are consistent with those of PCCMCs across the province (Lee et al. 2010, 2017a), the strategic implementation processes in the Champlain LHIN and the CELHIN appeared to contribute to other outcomes such as improved integration and coordination with services and sectors across the regions.

While specialists integrated into the PCCMC care model in these regions have been geriatricians, there is growing recognition that geriatric psychiatrists and cognitive neurologists have unique and important roles to play in dementia care. An initiative is currently underway to establish and evaluate a triad of specialist support for memory clinics (geriatricians, geriatric psychiatrists and cognitive neurologists); this will provide greater opportunities for integration and coordination with specialist services and for capacity building among the PCCMCs.

A number of key lessons were learned in the regional implementation of PCCMCs. Across regions, there was strong organizational buy-in for the PCCMC model and readiness for change, particularly as measured in the Champlain LHIN, both of which have been identified as key factors impacting successful implementation of new innovations (Dijkstra et al. 2006; Scott et al. 2003). Both regions also had well-established Specialized Geriatric Services for older adults, and implementation of PCCMCs provided a greater recognition among these services of the capacity that exists in primary care for quality dementia care. Designated PCCMC coordinators in each region were important to facilitating, strengthening and sustaining the PCCMC initiative. This vital role was credited with driving and overseeing all stages of planning, development and ongoing implementation; serving as the PCCMC “point person” to whom all inquiries could be directed; and reinforcing system efficiencies with continuous quality improvement efforts aimed at refining, evolving and growing the PCCMC initiative. Access to standardized training and continuing education was viewed as critical to implementing the PCCMC model, and in the CELHIN, inclusion of professionals working in other services served to increase understanding of the role of primary care in dementia care, which in turn increased buy-in for the model and supported collaborative efforts across sectors. Moreover, inclusion of specialists in the training served to solidify support for the model, as they better understood the role of the PCCMC within the system of dementia care in the region and increased their understanding of the learning needs of the PCCMC teams, further contributing to collaboration between primary care and specialists.

Implementation of the PCCMCs within both regions was not without challenges. Space needs and administrative support for the clinics were underestimated. Policies and procedures for privacy and clinical documentation needed to be developed for mobile

interprofessional teams to practice in locations where they were not employees. In both regions, team members who were not employees of the organization hosting the memory clinic were required to sign confidentiality agreements to access and document in the electronic medical record. In many instances, these team members had to learn multiple documentation systems as these were not consistent across all clinic settings. Within two practice settings

in the Champlain LHIN, a memorandum of understanding regarding the roles of non-employees working within the clinics was developed and is signed on an annual basis. In the Champlain LHIN, further development of the collaboration between the specialist and primary care will continue to evolve in supporting an upstream approach to early detection and intervention. The issue of sustainability of the clinics has been an ongoing challenge that includes not only the need for a sustainable operational funding model but also the training and recruitment of new PCCMC team members to manage clinic expansion and staff turnover.

From a funding perspective, a regional approach to implementation can assure accountability for achieving deliverables pertinent to the delivery of dementia care, support equitable access to health services, enable economies of scale when considering training costs and foster coordination among clinics and integration with existing specialist services through the allocation of dedicated clinical resource personnel. A strategic approach to implementing PCCMCs organizes services at a system level and can promote sustainability, which is particularly relevant as Ontario engages in building a cohesive dementia care strategy.

The usual system of care for dementia has been criticized for its limited integration and coordination between various medical, social and community services (Bruce and Paterson 2000; Samsi and Manthorpe 2014; Tan et al. 2014). Efforts to improve care coordination have typically been aimed at the patient level with the use of individual case management models (Bass et al. 2015; Khanassov and Vedel 2016), with less attention paid to coordination and integration across health sectors. The PCCMC care model aims to address these limitations by implementing interprofessional team-based care management that is rooted in primary care but linked to specialist care and services. The PCCMCs continue to evolve with the structured integration of geriatric medicine, geriatric psychiatry and cognitive neurology to further develop collaborative working relationships and improve care capacity and integration.

There are a number of limitations to the evaluation of memory clinic implementation. Interviews were conducted with clinic team members and leaders; the perspectives of practice setting management and health system leaders are not known. Interview questions focused on the identification of practice improvements and impacts associated with the clinics, which may have biased the findings. Measurement of outcomes and impacts were primarily based on anecdotal evidence. Further research is needed to better delineate the health system and efficiencies afforded by the PCCMCs, namely, the impact of early identification and intervention by the PCCMCs on utilization and cost of health services, specifically emergency

Key Lessons Learned in the Strategic Implementation of the Primary Care Collaborative Memory Clinic Model

department visits, hospital admissions and long-term care placements, and how better integrated and coordinated care can impact health service utilization and health outcomes. More research, with rigorous methodologies, such as case-controlled, time-series methods, and multiple case-study designs, is needed to further our understanding in this area.

Conclusion

This paper offers insight into a coordinated and systematic approach to implementing the PCCMC model region-wide. Strategic, regional implementation of PCCMCs provides a significant opportunity to support better integrated and coordinated dementia care across services and sectors. In two regions in Ontario, regional implementation has fostered a higher level of collaboration between PCCMCs, Specialized Geriatric Services and community services, and thereby led to a stronger CoP than would otherwise be possible. Lessons learned from this initiative can inform the implementation of other primary-care-based initiatives for complex chronic conditions of older adults.

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