Rapid Synthesis

Identifying the Features and Impacts of Community Health Centres

23 October 2020

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Rapid Synthesis:
Identifying the Features and Impacts of Community Health Centres
30-day response

23 October 2020

McMaster Health Forum

The McMaster Health Forum's goal is to generate action on the pressing health-system issues of our time, based on the best available research evidence and systematically elicited citizen values and stakeholder insights. We aim to strengthen health systems – locally, nationally, and internationally – and get the right programs, services and drugs to the people who need them.

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Timeline

Rapid syntheses can be requested in a three-, 10-, 30-, 60- or 90-business day timeframe. This synthesis was prepared over a 30-business-day timeframe. An overview of what can be provided and what cannot be provided in each of the different timelines is provided on the Forum's Rapid Response program webpage (www.mcmasterforum.org/find-evidence/rapid-response).

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Conflict of interest

Michael Wilson is a member of the board of directors at the South Riverdale Community Health Centre in Toronto, Canada, but it had no role in the development, conduct or publication of this rapid synthesis. The rest of the authors declare that they have no professional or commercial interests relevant to the rapid synthesis. The funder played no role in the identification, selection, assessment, synthesis or presentation of the research evidence profiled in the rapid synthesis.

Merit review

The rapid synthesis was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its scientific rigour and system relevance.

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KEY MESSAGES

Questions

- What are the key features of community health centres?
- What impacts have community health centres had on enhancing client experiences and improving health outcomes with manageable per capita costs and positive provider experiences?

Why the issue is important

- Community Health Centres (CHCs) deliver integrated primary care and social services and programs within communities who experience systemic barriers to care.
- CHCs can also address and provide support to underserved populations by coordinating efforts related to social determinants of health (e.g., housing, employment and nutrition).
- However, there is a need to better understand how CHCs can be effectively integrated into a coordinated delivery system.
- There is a need to identify features of CHCs, and the impact of CHCs on enhancing client experiences and improving health outcomes with manageable per capita costs and positive provider experiences.

What we found

- We identified three systematic reviews (which were assessed as being of low, medium, and high methodological quality) and 37 primary studies, which we supplemented with information from websites of relevant stakeholder organizations such as the Canadian Association of Community Health Centres.
- The Canadian Association of Community Health Centres indicates that "CHCs are multi-sector, not-for-profit organizations" that share five core attributes:
  1) providing team-based interprofessional primary care (involving clients, providers, allied health professionals, patient navigators, and others who connect health and social services in the community);
  2) integrating the provision of a diverse array of health and social services (including health-promotion programs, disease prevention and management, and services to address social determinants of health);
  3) being community centred (integrating community partnerships and community-elected governance within CHCs);
  4) addressing the social determinants of health (supporting clients to help address different needs such as access to housing, food security, education, and/or language barriers); and
  5) committing to health equity and social justice (advocating for systemic changes to reduce health disparities and providing culturally appropriate services).
- We found that CHCs enhanced patient experiences and increased satisfaction in the delivery of care, especially when there was a positive relationship between patients/clients and providers.
- CHCs helped address health-equity issues among underserved populations (e.g., LGBTQ+, Indigenous peoples, new immigrants, youth, and individuals with severe mental illness or physical conditions), and increased engagement with screening programs, cardiovascular-disease prevention, and management of chronic conditions such as diabetes.
- The literature indicated that CHCs are found to have lower costs of care and provide cost savings to health systems.
- A supportive work environment with shared values of advocacy and equity were described when discussing the perceptions of staff at CHCs, but there were mixed findings related to fairness in decision-making processes in CHCs, specifically for nurse practitioners and family physicians (e.g., in relation to decisions from administration about services and programs in CHCs).

QUESTION

- What are the key features of community health centres?
- What impacts have community health centres had on enhancing client experiences and improving health outcomes with manageable per capita costs and positive provider experiences?

WHY THE ISSUE IS IMPORTANT

Community Health Centres (CHCs) deliver integrated primary care and social services and programs, which includes addressing social determinants of health within the community. According to The Canadian Association of Community Health Centres, CHCs can promote patient-centred and multidisciplinary team-based care, reduce costs in other aspects of a health system such as hospital visits, and promote continuity of care.(1) CHCs can also address and provide support to underserved populations by coordinating efforts around housing, employment and nutrition.

However, there is a need to better understand how CHCs can be effectively integrated into a coordinated delivery system. Further evidence on the features and impact of CHCs on enhancing client experiences and improving health outcomes with manageable per capita costs and positive provider experiences are needed.

This rapid synthesis was requested by the B.C. Ministry of Health to help inform future policy development and expansion of funding related to improving access to high-quality, patient-centred, and community-centred primary-care services.

Box 2: Identification, selection and synthesis of research evidence

We identified research evidence (systematic reviews and primary studies) by searching (in August 2020) Health Systems Evidence (www.healthsystemsevidence.org) and PubMed. In Health Systems Evidence we searched for community health centre in the open search combined with search filters for sector (home and community care and primary care) and type of document (overviews of systematic reviews, systematic reviews of effects, systematic reviews addressing other types of questions and economic evaluations and costing studies. In PubMed, we used the Health Services Research queries to search for: 1) ("community health center" OR "community health centre") AND Canada using a broad, sensitive search for process assessments, outcomes assessments and qualitative research; and 2) "community health center" OR "community health centre" using a broad, sensitive search for outcomes assessments and limited to reviews and systematic reviews.

The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis.

For each systematic review we included in the synthesis, we documented the focus of the review, key findings, last year the literature was searched (as an indicator of how recently it was conducted), methodological quality using the AMSTAR quality appraisal tool (see the Appendix for more detail), and the proportion of the included studies that were conducted in Canada. For primary research (if included), we documented the focus of the study, methods used, a description of the sample, the jurisdiction(s) studied, key features of the intervention, and key findings. We then used this extracted information to develop a synthesis of the key findings from the included reviews and primary studies.

WHAT WE FOUND

We found three systematic reviews and 37 primary studies from our searches that were relevant to the questions, which we supplemented with information from websites of relevant stakeholder organizations such as the Canadian Association of Community Health Centres. We summarize the key findings from this evidence below. More details about the included systematic reviews are provided in Appendix 1 and primary studies in Appendix 2.

Key features of community health centres

The Canadian Association of Community Health Centres indicates that "CHCs are multi-sector, not-for-profit organizations" that share five core attributes: 1) providing team-based interprofessional primary care; 2) integrating the provision of a diverse array of health and social services; 3) being community centred; 4) addressing the social determinants of health; and 5) committing to health equity and social justice. We describe these attributes below along with examples of how they have been operationalized from the included

literature. Note that there are likely many more examples from specific CHCs in Canada and other countries, but in the context of a rapid synthesis we were only able to focus on drawing examples from the literature we identified. We also briefly discuss barriers to implement the CHC model based on findings in the identified literature.

Providing team-based interprofessional primary care

Team-based interprofessional primary care can involve clients, providers, allied health professionals, and patient navigators, and others who connect health and social services. Seven primary studies reported on different aspects related to the collaborative relationships within team-based care. Two primary studies described that a CHC model fosters a supportive and trusting environment for patient-provider relationships.(2; 3) Additionally, two primary studies described that a greater proportion of non-physician health providers (such as nurse practitioners, registered nurses) and allied health professionals were employed at CHCs than at other models of care.(4; 5) One study that assessed 21 CHCs in Ontario reported that 53%, 29%, and 18% of patients received care from physicians, nurse practitioners, or shared care, respectively. Patients who had complex conditions were often receiving care from physicians rather than other healthcare providers.(6) One study explained that system navigators were an integral part of a primary-care team as they can respond to both health and social-care needs. The study reported reduced emergency-department visits, in-patient stays, and length of stay due to the integration of system navigators.(7) Overall, three primary studies described interprofessional teams as a key feature to a CHC model.(2; 3; 8)

Integrating the provision of a diverse array of health and social services

CHCs provide and link clients with a diverse array of health and social services within the community, such as health-promotion programs and disease prevention. An older medium-quality systematic review that focused on quality-improvement initiatives among CHCs described a diverse array of screening, immunization, smoking-cessation programs, and services specific to chronic conditions (such as diabetes and asthma) as examples of primary healthcare services and programs in CHCs.(9) Two primary studies based in Ontario emphasized standardization of data and definitions, the ability to produce digital coordinated-care plans, and incorporation of data-management coordinators within CHCs as examples of components that increased the efficiency and effectiveness of primary-care delivery and the integration of other services.(2; 7) Specifically, one study described the EMR data-sharing partnership between Alliance for Healthier Communities and the Canadian Institute for Health Information. The authors reported that there was a better understanding of a patient's continuum of care (acute and primary care).(10)

In a recent study on the implementation of social prescribing in CHCs, the authors reported that providing patient-centred care, having dedicated staff and senior organizational commitment, incorporating a learning-health-system approach to data collection and utilization, and incorporating innovation were factors that led to the success of the program.(11)

Related to the COVID-19 pandemic, CHCs have taken extra measures to ensure a continuity of health and social services for their patients. One recent study reported that health organizations in Ontario (including CHCs) adjusted services, including: 1) redesigning physical environments to deliver in-person health and social care; 2) providing point-of-care support to homeless or precariously housed individuals; 3) providing wellness checks and real-time risk assessments by phone; 4) delivering virtual health-promotion programs; 5) extending team-based, population-health approaches to care and service delivery to a broad range of community members.(12)

Being community centred

CHCs can build partnerships and be governed by elected community members with the aim to identify specific care needs within a community. We identified limited studies within the literature that described the governance structure of CHCs. However, in a 2010 primary study that focused on comparing models of

primary care in Ontario, the authors reported that community governance (elected community members on the board of directors) was an integral component in the acceptance of a CHC model of care within the community.(8)

A 2019 study identified that CHCs incorporate nine of the 11 fundamental core dimensions of primary care: 1) applying a population-health approach; 2) integrating interdisciplinary teams; 3) providing care in a group practice setting; 4) coordinating with other sectors; 5) maintaining individual patient records and assessing utilization patterns and outcomes through available data infrastructure; 6) accepting alternative payment mechanisms (salaried payments for physicians, and population-adjusted global budgets for organizations); 7) engaging community (lay boards and community outreach); 8) measuring performance and quality improvement; and 9) involving community governance.(13)

Addressing the social determinants of health

CHCs support clients through an integrated approach to help address the social determinants of health (e.g., access to housing, food security, education, language barriers). A 2014 primary study that examined 11 CHCs in Ontario described successes and challenges related to implementing community initiatives that address upstream determinants of health. The majority of the CHCs were limited in staffing, where it is often one staff member with a diverse skillset to coordinate efforts and oversee management of community initiatives. Successful components to implementing community initiatives involve: 1) support from senior management; 2) sustainable funding sources; and 3) engagement with multiple partners (government, public-health units, educational institutions, advocacy groups, community). The study reported a range of successes such as increased education opportunities and employment among clients, and increased awareness among providers and policymakers of issues related to social determinants of health within their community.(14)

Committing to health equity and social justice

A community-focused approach can facilitate the opportunity to address health inequities and advocate for systemic changes to reduce health disparities within the community. Two primary studies described equity in the context of providing culturally competent care and services to specific populations within the community (such as people identifying as LGBTQ+, Indigenous peoples, people who use substances, new immigrants, rural communities, francophone and youth).(3; 15) In Ontario, populations utilizing CHC services include individuals from lower-income neighbourhoods, newcomers, those receiving social assistance, people with severe mental and physical health conditions, and those with higher levels of morbidity and comorbidity. In a study examining CHCs across Toronto, advocacy was reported to be an essential component of CHCs and was largely driven by organizational commitments to health equity. Challenges of community health centres advocacy include funding constraints, competing service-delivery priorities, lack of resources and non-profit restrictions.(16)

Further, a 2019 study examining the North End Community Health Centre in Nova Scotia reported that cultural safety and competencies were important features to the CHC, which were addressed by integrating diverse staff members, cultivating patient values such as autonomy and respect, and utilizing mobile clinics to increase accessibility.(3) Additionally, providers at the CHC shared strong values of activism and advocacy for reducing health disparities among their clients and community.

Barriers associated with CHCs

Three primary studies briefly described barriers to the CHC model of care. Examples of barriers included inadequate funding, stretched organizational capacity leading to burnout or poor retention among staff, lack of data tracking or sharing, lack of community arrangements to support social prescribing, and stress or conflict between health providers and the administrative staff due to unclear decision-making processes.(3; 11; 14; 17)

Impacts of community health centres on enhancing client experiences and improving health outcomes with manageable per capita costs and positive provider experiences

Enhanced patient experience

We found consistent evidence that CHCs enhance patient experience with a number of studies and reports describing positive client experiences and increased satisfaction regarding the delivery of care within this setting.(18-20) Positive experiences were also attributed to specific care models that have been implemented to help improve patient outcomes and engagement in CHCs, which include: the primary care-led model in the Rural Hastings Health Link in Ontario;(7) the Model of Health and Well-being, which describes guiding principles (high quality of health, equity, and community belonging) for integrating primary-care services in community-governed organizations in Canada;(21) and a relationship-based collaborative care model in Nova Scotia.(3) It is worth noting that establishing a positive rapport and patient-provider relationship can have a substantial impact on this part of the quadruple-aim metric, with one study noting that regular communication between both parties resulted in increased positive patient-experience outcomes.(19)

Improved health outcomes

A core focus of CHCs is on addressing health outcomes related to inequities due to systemic barriers such as poor access to healthcare and other social supports (3; 14; 20; 22-25). In acute-care settings, six primary studies found that accessing care at a CHC can reduce the number of emergency-department visits and hospitalizations among community members.(26-31) Further, two systematic reviews and four studies found that CHCs increase engagement with screening programs, including cancer screening, pap tests, and mammograms.(9; 15; 18; 28; 32; 33) Additionally, a 2020 study in Ontario reported overall improvements to mental health, self-management and interconnectedness and belonging after implementing social prescribing within CHCs.(11) CHCs have also been found to positively contribute to cardiovascular-disease prevention and the management of chronic conditions such as diabetes, in part due to recognition of the social determinants of health, and efforts to collaborate with allied health professionals and communities which provide access to more comprehensive care.(32-35)

Manageable costs

We found consistent evidence among the documents identified when describing costs and cost-effectiveness in relation to CHCs. One single study (36) and a report (18) on the use of CHCs among Medicare beneficiaries in the U.S. detailed lower costs of care and higher reported savings for CHCs when compared to other care settings. The authors concluded that the lower costs/savings may be a result of a combination of various factors, which may include CHCs participating in new financial and delivery arrangements (e.g., financial incentives for providers who achieve clinical-care targets) or providing comprehensive primary care and disease management that result in fewer referrals to specialized care. Additionally, there was consensus among a number of primary studies that investigated patient expenditure on health services that CHC clients typically have lower spending costs in a variety of healthcare settings, including primary care, ambulatory care, inpatient care, and emergency departments.(26; 29; 36; 37) With regards to cost of these services within CHCs, a U.S. audit study reported that uninsured patients often have lower appointment costs at Federally Qualified Health Centers than at non-Federally Qualified Health Centers.(38)

Positive provider experience

One primary study found that many CHC staff experience a positive work environment,(22) while four primary studies reported an emphasis on a shared vision of advocacy and equity.(2; 3; 14) The environment cultivated by many CHCs was identified as contributing to a collaborative energy among team members, which contributes to the delivery of community-focused care.(2; 5; 14; 22) Healthcare providers found social prescribing useful for enabling deeper integration between clinical care, interprofessional teams and social

support.(11) It is important to note that the experience of employment at CHCs is heterogenous, and the literature identified ways in which different types of staff members experience care provision. For instance, one primary study found that nurse practitioners and family physicians perceive less fairness when it came to decisions from administration related to the services and programs in CHCs. While the authors did not evaluate the association of CHC-process outcomes to health outcomes in the study, they generally described that providers may have greater job satisfaction and improved stress-related outcomes when they perceive fairness within CHC governance.(22)

Table 2: Summary of impacts of community health centres on enhancing client experience, improving health outcomes with manageable per capita costs, and positive provider experiences

Quadruple-aim outcomes	Key findings
Enhanced patient experience	**Key findings from systematic reviews** • No systematic reviews identified that address patient-experience outcomes in relation to CHCs **Key findings from single studies** • Enhanced patient-provider relationship was a critical component in the success of a relationship-based care model in CHCs (such as developing patient-provider boundaries, providing culturally appropriate resources, and/or ensuring timely access to care) (3) • A primary care-led model developed by Gateway Community Health Centre located in Ontario reported improved client experiences and increased patient satisfaction (7) • The "Model of Health and Well-Being" developed by primary-care providers working in CHCs in Ontario led to increased quality of care provided to communities (21) • CHC patients often reported positive experiences and enhanced satisfaction with the care they receive (18-20) • Increased patient-provider communication has been found to facilitate better patient-experience outcomes (19) • Patients receiving care in U.S. CHCs reported higher satisfaction with care and better access to primary care than the general low-income patient population, which demonstrated that CHCs can help reduce health disparities (20) • Clients who used supervised consumption services in Toronto-based CHCs reported improved access to other care and services such as wound care, counselling and dental care (39)
Improved health outcomes	**Key findings from systematic reviews** • CHCs improved the uptake of screening programs for cancer and diabetes among clients (32) • CHCs may improve disease-management programs with increased accessibility of care, inter-agency partnerships, awareness of the social determinants of health, training and education, and incorporation of virtual-care technology (33) o For example, the use of face-to-face, individualized or group-based education sessions in CHCs demonstrated positive health outcomes among patients managing diabetes (32) **Key findings from single studies** • CHCs improved access to culturally-appropriate care and services for marginalized populations including the LGBTQ+ community, Indigenous peoples, substance users, and newcomers to Canada (3; 14; 20; 22-25)

Quadruple-aim outcomes	Key findings
	• Integrated models of care in CHCs that include dental care, sexual and reproductive health, and mental health, have been found to further promote the provision of comprehensive primary care to marginalized groups (40) • Access to CHC services have been found to improve engagement with health screening, including cancer screening, pap tests, and mammograms among a broad range of clients at CHCs (2; 15; 18; 28) • CHCs have been found to reduce avoidable visits to hospital emergency departments and to reduce hospitalizations (26-31) • Patients reported overall improvements to mental health, a greater capacity to self-manage their health, decreased loneliness and an increased sense of connectedness and belonging after the implementation of social prescribing in CHCs in Ontario (11) • Chronic disease-prevention programs at CHCs that integrated peer support and networks were found to improve mental health outcomes such as increased motivation, knowledge and empowerment, and decreased social isolation (35) • The care delivery, organization, and payment structure of CHCs are attributed to higher quality of care related to cardiovascular-disease prevention and diabetes when compared to fee-for-service practices (34)
Manageable costs	**Key findings from systematic reviews** • No findings identified **Key findings from single studies** • CHCs reported lower care-related costs and higher savings when compared to other settings of care provision (e.g., office-based physician settings),(18; 36) which has been attributed to a combination of practice style, quality of care, number of specialist and diagnostic referrals, and individual socio-economic characteristics (36) • Patients that received care in CHCs in the U.S. generally reported lower expenditures on primary care, outpatient care, inpatient care and emergency department services, and prescriptions when compared to non-CHC users in the general population (26; 29; 36; 37) • Increased CHC funding facilitated the increase of access to care among low-income patients (27) • Uninsured patients in the U.S. were found to have lower initial appointment costs at Federally Qualified Health Centers (US$60) when compared to non-Federally Qualified Health Centers (US$123) (38)
Positive provider experience	**Key findings from systematic reviews** • No systematic reviews identified that address provider-experience outcomes in relation to CHCs **Key findings from single studies** • Staff members generally described a positive work environment in CHCs (22) • CHC care providers shared a common value of activism and advocacy, and a vision of health equity encourages collaboration (2; 3; 14) • Incorporating a system navigator into a CHC team-based model improved patient experience and patient-provider relationships (7; 22) • The CHC model of care allowed for more comprehensive and community-oriented care provision by an allied health team (5; 8) • Healthcare providers at CHCs found social prescribing useful for improving patient well-being, decreasing repeat healthcare visits, and enabling deeper integration between clinical care, interprofessional teams and social support (11)

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APPENDICES

The following tables provide detailed information about the systematic reviews and primary studies identified in the rapid synthesis. The ensuing information was extracted from the following sources:

- systematic reviews - the focus of the review, key findings, last year the literature was searched and the proportion of studies conducted in Canada; and
- primary studies - the focus of the study, methods used, study sample, jurisdiction studied, key features of the intervention and the study findings (based on the outcomes reported in the study).

For the appendix table providing details about the systematic reviews, the fourth column presents a rating of the overall quality of each review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered "high scores." A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8).

All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

Appendix 1: Summary of findings from systematic reviews about key features or impacts of community health centres

Question addressed	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
Key features of community health centres	Examining the current findings pertaining to quality improvement in Community Health Centers	The primary objective of this systematic review was to summarize all the available literature findings on quality improvement (QI) in Community Health Centers (CHCs) and highlight future research areas that must be considered within this setting. The reviewers classified QI as any intervention that modified existing elements within an organization, which in turn helped to increase healthcare provisions. This review identified and evaluated the quality of 18 studies. From those, 14 were observational studies (10 cross-sectional and four with case-control or cohort features), while the remaining four consisted of randomized study designs. Of the interventions mentioned within these studies, 11 targeted screening practices, five targeted chronic conditions (such as diabetes and asthma), four targeted immunization delivery, and three targeted smoking. The interventions employed 14 different QI tactics, all of which were targeted towards either the CHC or the providers, patients and employees of the facility. Some of these included focusing on staff members with condition-specific education, utilizing checklists, and providing feedback for staff. The findings from the review suggest that CHC QI interventions are effective in targeting diabetes and cancer-screening processes in the short run. However, the interventions for smoking and immunizations did not have conclusive findings due to their heterogeneities. In addition, QI interventions that provided technical or financial support, or used six or more tactics, were more successful. The authors suggest that future research studies should prioritize addressing relevant QI topics, including but not limited to: finding the most appropriate CHC QI model; the applicability of QI interventions in improving the quality of care of clients; and the use of incentives to help promote QI activities in this setting.	2005	7/11 (AMSTAR rating from McMaster Health Forum)	0/18
Impacts of community health centres on enhancing client	Reviewing diabetes management policies and programs in Community Health Center settings	The focus of this review was to highlight previous policies that have shaped diabetes management in Community Health Centers (CHCs), provide a description of the policies and programs currently in place, and suggest directions for future diabetes management within this context.	2020	3/11 (AMSTAR rating from	Not reported

experiences and improving health outcomes with manageable per capita costs and positive provider experiences		This paper provides a conceptual framework to better help understand diabetes management within this setting. There are five policy and program domains that contribute and affect the management of diabetes at the following three levels: CHC support organizations; CHCs; and a patient-provider level. The five domains of policies and programs include: 1) coverage requirements (e.g., private insurance, Medicare, and Medicaid/CHIP); 2) prescription discounts (e.g., the 340B prescription program and Medicaid); 3) quality reporting and quality incentives (e.g., reporting through Uniform Data System); 4) healthy behaviour incentives (e.g., performing health risk assessments); and 5) team-based care (e.g., diabetes self-management education and support, and community health workers). Future strategies that can help with diabetes management include increasing the accessibility of novel antidiabetic medication (e.g., glucagon-like peptide-1 and sodium-glucose cotransporter 2 inhibitors), forming new interagency partnerships, raising awareness on the social determinants of health, the use of group-based medical appointments for training and education, and incorporating virtual care technologies (e.g., mHealth and telehealth).		McMaster Health Forum)	
	Examining the characteristics and effects of Community Health Centre-based interventions on individuals living with diabetes	The primary aim of this systematic review was to examine the characteristics and effects of Community Health Centre (CHC) based interventions on diabetic patients. This review included a total of 29 articles; the studies consisted of both randomized control trial (n=17) and quasi-experimental (n=10) study designs. Of those included, 21 studies targeted Type 2 diabetes, while only four targeted both Type 1 and Type 2 diabetes. As it relates to the characteristics of the most frequently employed interventions, these included: individualized education sessions (n=12); telephone-based communication (n=5); and group-based education sessions (n=4). The most commonly measured patient outcomes within these studies included HbA1C levels (n=22); diabetes knowledge (n=13); and cholesterol levels (n=11). Across the studies, there was heterogeneity as it related to the individual delivering the intervention. The most frequent interventionists included registered nurses (n=8); dietitians (n=6); medical assistants (n=5); community health workers (n=4); physicians (n=3); pharmacists (n=3); nurse practitioners (n=3); and peer educators (n=2). The findings from the review support the use of face-to-face, individualized or group-based education sessions coupled with a follow-up reminder from a care provider, nutritionist or community health worker. This intervention served as an effective technique as it significantly helped to improve the HbA1C levels in diabetic	2018	8/11 (AMSTAR rating from McMaster Health Forum)	0/29

		patients, whereas, phone-based interventions alone did not demonstrate any significant effect on the patients. While several key messages have been derived from the review, it is worth noting that many of the included studies lacked methodological rigour (e.g., seven of the quasi-experimental studies did not have a control group and a large number of the randomized control trials did not discuss blinding).			

Appendix 2: Summary of findings from primary studies about key features or impacts of community health centres

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
Key features of community health centres	Examining the features of relationship-based care at a community health centre in Halifax, N.S.	*Publication date:* 2019 *Jurisdiction studied:* Halifax, N.S. *Methods used:* Qualitative data collection including participant observation, semi-structured interviews, discussions, and policy-document analysis	20 healthcare providers employed currently or in the past at the North End Community Health Centre in Halifax, N.S.	Qualitative research engaging health providers at the North End Community Health Centre in Halifax, N.S.	The study examined the features of relationship-based care that contribute to primary-care delivery, specifically examining the North End Community Health Centre (NECHC) in Halifax, N.S. In examining the elements of care that NECHC providers utilize, four main themes were identified: 1) An activist provider identity; 2) cultural safety in care provision; 3) provider-patient relationships; and, 4) provider-provider relationships. In terms of the activist provider identity, this study found that providers at the community health centre shared values of community activism and advocacy. These qualities were found to be valued by the community health centre, with many physicians identifying as "different" from many healthcare providers. The community health centre in Halifax was created to provide care to African Nova Scotians, and that care has extended to a variety of communities including people identifying as LGBTQ+, Mi'kmaq, street involved, people using substances, and newcomers to the country. As such, cultural safety was found to be an essential component of care provision. This was facilitated by factors including the use of mobile clinics, staff diversity, respect and patient autonomy.

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					Provider-patient relationships were found to be grounded in the idea that power and knowledge are socially situated. Features found to be important to relationship-building included boundaries, language, a relaxed concept of time, harm reduction, and community involvement. Three key elements of provider-provider relationships were identified in this research: the reframing of the traditional medical hierarchy, provider trust, and intentional engagement with conflict. In summary, the NECHC was found to be an illustration of collaboration and relationship-based care. Inadequate funding, burnout, wait times and the stress of administration were found to be barriers to functioning.
	Examining the factors contributing to the success of quality improvement among CHCs in Toronto, ON	*Publication date:* 2019 *Jurisdiction studied:* Toronto, ON *Methods used:* Case study	Equity analysis of the West End Quality Improvement Collaboration, which includes six community health centres in Toronto's west end	Case study examining factors contributing to the success of the West End Quality Improvement Collaboration	The West End Quality Improvement Collaboration examined the functioning of six community health centres (CHCs) in Toronto's west end. There were a number of key goals to this project, including the improvement of CHC performance, quality improvement, and the development of a shared change-management culture. The first phase of this initiative saw a focus on improving cancer-screening rates at CHCs. During this phase, health centres developed screening-process maps, examined current practices, and collaborated with other CHCs to develop a future plan. The second phase of the initiative focused on access to primary care; a similar process of identifying gaps and planning for future change was undertaken by each CHC. This process is currently ongoing. Key factors found to enable collaboration were data quality (in order for CHCs to have a shared understanding of data reporting) and health equity (in order for CHCs to adequately serve populations

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					experiencing barriers to care). Further, expertise, standardization of data and definitions, a culture of knowledge sharing, effective collaboration, and leadership were also found to contribute to success in the West End Quality Improvement Collaboration.
	Examining the efforts of Community Health Centres and Community Initiatives to address upstream determinants of health in Ontario	*Publication date:* 2014 *Jurisdiction studied:* Ontario *Methods used:* Qualitative interviews	10 Community Health Centre (CHC) staff from 11 Community Initiatives across Ontario	Qualitative interviews with CHC staff members in Ontario, examining the efforts of Community Initiatives to address upstream determinants of health	This study examined the scope, resources, partnerships, successes and challenges among Community Initiatives across Ontario. Community Health Centres in Ontario strive to deliver services to underserved communities, through consideration of the social determinants of health and community development. The current research examined CHC goals, partnerships, successes and challenges. Many Community Initiatives shared the short-term goal of recruiting participants and building social networks. This study found that while many CHCs aim to reduce health inequities, few Community Initiatives explicitly target issues of employment and literacy. This was found to be a potential limitation of area-based initiatives. Community Initiatives were found to be staffed by versatile individuals, with broad partnerships across partner agencies. A key challenge was found to be the recruitment and retention of these partners, as well as community members. Successes included access to education, employment, income, and recognition of rights among marginalized communities. However, the challenge of inadequate funding was pervasive, as support from parent CHCs and the Local Health Integration Networks was key to improving population health.
	Examining organizational structures of a	*Publication date:* 2013 *Jurisdiction studied:* Canada	This study evaluates the expansion of services of an existing community health	The community health centre received new funds to facilitate the expansion of a	The interviews revealed several key themes related to the board's role in expansion: responsibility/governance, decision-making, strategy, knowledge/experience,

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
	community health centre	*Methods used:* Case Study	centre in a large Canadian urban centre. Board members of the community health centre were interviewed to solicit their views on the experience of expansion. Twelve people were invited to complete interviews and six ended up participating. Data were analyzed using discourse analysis.	socially determined health model. The new funds increased the centre's budget by roughly one third.	internal relationships, information/communication, documentation, and closure. With respect to responsibility/governance, the importance of separating the roles of the board and the operational arms of the organization was highlighted. There was disagreement among board members regarding how well the board took responsibility for the expansion, but there was general agreement that the operational arm did well. With respect to decision-making, there was general agreement that the board's typically informal process for decision-making was inadequate in the case of the expansion; there was an identified need for a more systematic process for decision-making. Furthermore, there was general support that the organization's vision and mission statement supported expansion, but that this could be up to interpretation. Finally, board members noted desiring more time to make their decision. With respect to strategy, it was noted that being approached with the offer for expansion made it difficult for the board to be objective and engage in proper due diligence when making the decision which created tensions. With respect to knowledge/experience, time and board skills were identified as barriers to strategic planning. It was noted that future board recruitment should seek to address skill gaps. Furthermore, board members were noted to have limited understanding of organizational issues and operations. With respect to interpersonal relationships, it was noted the expansion process led to clashes between board members and may have amplified existing tensions.

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					With respect to information/communication, several board members felt there was inadequate communication and that there may be a need for better record keeping and document sharing. With respect to documentation, there was concern that the entire process was inadequately documented, leading to lost organizational knowledge, and no debrief was conducted.
	Examining the organizational attributes of primary-care teams in Eastern Ontario	*Publication date:* 2018 *Jurisdiction studied:* Eastern Ontario, Canada *Methods used:* Cross-sectional survey	Eight Family Health Teams (FHTs) with 21 different practice locations and three Community Health Centers (CHCs) comprising four different practice locations	A cross-sectional survey was carried out to describe the nature and organizational attributes of primary-care teams	The main objective of this study was to further examine the organizational attributes of primary-care teams. A significant focus was placed on assessing team composition, nursing roles, and chronic disease-management strategies as the primary measured outcomes. The findings from the study suggest that: both nurse practitioners and registered nurses were the most frequent non-physician providers; the role of nurse practitioners and registered nurses often overlapped (though registered practical nurses had fewer roles); a greater proportion of non-physician providers were employed at CHCs as opposed to FHTs; and more chronic disease-management services, such as hypertension, depression, and Alzheimer's disease practices, were offered at FHTs as compared with CHCs. It is worth highlighting that a potential limitation of this study may be the accuracy of the nursing roles mentioned as they were not directly reported from the nurses themselves. Additionally, the authors suggest incorporating data surrounding the roles of healthcare providers in nurse practitioner-led clinics in future studies.
	Examining Community Health Centre clients accessing care	*Publication date:* 2020	21,783 Community Health Centre (CHC) and 1,673, 200 non-CHC clients aged 21	A population-based cohort study was conducted to better understand the CHC	The main focus of this study was to identify Community Health Centre (CHC) clients who accessed healthcare services for mental health and/or substance-use-related

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
	services for mental health and substance-use disorders	*Jurisdiction studied:* Ontario, Canada *Methods used:* Population-based cohort study	to 105 years with a previous use of healthcare services for mental health and/or substance use related disorders	clients who are receiving care for mental health and substance-use disorders	disorders and compare this population group's characteristics with non-CHC users. Within the study, CHC clients were further subdivided into two categories: 1) PPCHC, which represented priority-population clients based in urban areas who faced mental health and addictions challenges and homelessness; and 2) NPPCHC, which corresponded to a population group that had trouble accessing healthcare services, but did not experience residential instability or mental health and addictions challenges. The primary outcomes measured in the study were outpatient visits, specialists' visits, emergency-department visits, and hospital admissions. Overall, the findings from the study indicate that when compared to the reference group, CHC users (PPCHC and NPPCHC) often experienced increased reports of medical comorbidities, residential instability, psychiatric care, and emergency-department visits. As such, the authors encourage finding specific interventions that can help meet the complex and intensive needs of this population group.
	Examining the primary care-led model in the Rural Hastings Health	*Publication date:* 2020 *Jurisdiction studied:* Ontario, Canada *Methods used:* Case study	Rural Hastings Health Link and Gateway Community Health Centre	Case study involving the examination of the primary care-led model developed by Gateway Community Health Centre	This paper describes a primary care-led model developed by Gateway Community Health Centre (GCHC), a leading organization within the Rural Hastings Health Link (RHHL). This model was built on four main priority interventions: 1) supporting an integrated-system thinking; 2) incorporating system navigators who can help respond to the medical and social needs of patients in primary-care settings; 3) producing an accessible and sharable digital coordinated care plan; and 4) incorporating data-management coordinators within the team setting.

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					Upon integrating system navigators into the primary-care team, decreases in emergency-department visits by 90%, inpatient stays by 80%, and length of stay by 74%, were observed. There have been numerous reported benefits of this model, including improved patient health outcomes, better client experiences and increased satisfaction, a more viable health-system structure, and fostering a more supportive environment that helps to build patient-provider trust.
	Examining primary-care organizational models and the factors that enable them to provide comprehensive care services	*Publication date:* 2010 *Jurisdiction studied:* Ontario, Canada *Methods used:* cross-sectional mixed methods study	137 primary-care practices and 363 health providers	Cross-sectional surveys and qualitative interviews were conducted to further understand primary-care organization models	The central focus of this study was to investigate organizational models in primary-care settings. Specifically, this paper aimed to: 1) evaluate if comprehensive care services varied among four delivery models; and 2) identify which organizational factors could help deliver more comprehensive primary-care services. The four organizational models included: 1) fee-for-service (FFS); 2) family health networks (FHNs); sealth service organizations (HSOs); and community health Centres (CHCs). The findings of the study were consistent with the qualitative interviews conducted and suggested that out of the four organizational models, CHCs offered the most comprehensive care services (e.g., birth control, nutritional, and mental health counselling). With respect to the factors that related to the delivery of more comprehensive care, this included: a greater proportion of allied health professionals and family physicians; facilities located at distances greater than 10 km from the nearest hospital; and facilities located in rural settings.

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					However, the authors do note several limitations in their study, including the inability to assess the quality of the services provided, and the equal weight given to all the services during the generation of a comprehensive score.
	Examining the focus on community orientation among different models of primary care	*Publication date:* 2010 *Jurisdiction studied:* Ontario *Methods used:* Cross-sectional surveys and qualitative case studies	137 primary-care practices involving 363 primary-care providers.	A cross-sectional survey and qualitative interviews were conducted to assess community oriented activities among primary-care practice models and providers	The goal of this study was to determine which of Ontario's organizational models best supported primary care in being community oriented. Four organizational models were evaluated: fee-for-service practices, community health centres (CHCs), family health networks, and health service organizations. Community-oriented primary care was considered to be a model of care that considers the role of the community in an individual's health. Quantitative evaluation demonstrated that community orientation was higher in CHCs as compared to other models. Intrinsic to this finding is the fact that the Ministry of Health and Long-Term Care funds CHCs to perform community activities. Funding in other settings, including fee-for-service and capitation, does not appear to support community activities. Further, these activities may be outside the scope of primary-care physicians as they have other activities to complete in their formal workday. The qualitative findings of this survey demonstrated the importance of external support for physicians prior to performing community-oriented activities. Features such as community governance and an interprofessional team are intrinsic to the CHC model and may contribute to its success in community orientation. While most providers participating in this study considered themselves to be community oriented, there was significant variation among practice organizations.

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
	Examining the creation of a Model of Health and Well-being for the improvement of primary-healthcare provision	*Publication date:* 2018 *Jurisdiction studied:* Ontario *Methods used:* Literature review and stakeholder consultations	Health-sector leaders, healthcare professionals, community developers and promoters of health	A literature review and consultation with primary-care organizations and key stakeholders were conducted to create the Model of Health and Well-being	The paper describes the development of a "Model of Health and Well-being" among primary-healthcare providers in Ontario. This model was developed by primary-healthcare providers in Ontario in order to improve the quality of care provided to communities. The model involves eight key attributes: 1) accessibility; 2) population needs; 3) accountability and efficiency; 4) interprofessional integration and coordination; 5) community governance; 6) determinants of health; 7) community development; and 8) anti-oppression and culturally safety. The Model of Health and Well-being was born from the concept that communities face a variety of barriers to care, and need access to services that respond to the unique factors that have an impact on well-being. Primary-healthcare models that address upstream determinants of health and deliver interprofessional care have experienced positive outcomes, including management of chronic disease, resource use, and screening rates. This model is a framework for competent care that may be adapted based on the environment and need.
	Examining populations served by Community Health Centres across Ontario	*Publication date:* 2015 *Jurisdiction studied:* Ontario *Methods used:* Non-empirical paper	106 community health centres (CHCs) in Ontario	A population-based descriptive analysis examining the population of clients in each CHC across Ontario, and the associated data on demographics, case mix, and healthcare utilization	The current Chartbook examines Ontario CHCs based on the population that they serve. Six key categories were considered: 1) demographic patterns; 2) emergency-department visit data; 3) hospitalization data; 4) specialist and primary-care visits; 5) cancer screening; and 6) overall patterns. CHCs were considered based on the population they targeted, including the at-risk urban community, urban and rural communities, francophone communities, newcomers, and other communities such as youth. A number of key messages were derived from this stratification and analysis. With regards to the focus of

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					this synthesis, a number of findings demonstrate the role that Ontario CHCs play in providing longitudinal primary care. Emergency-department visits and avoidable hospitalizations were higher among CHC populations when compared with the Ontario average. All cancer-screening rates were higher among Ontario CHCs when compared with the provincial total. Further details of healthcare access among populations can be accessed through the report.
	Examining Community Health Centres in Canada and the United States	*Publication date:* 2018 *Jurisdiction studied:* Canada and the United States *Methods used:* Cross-sectional survey	5 Canadian provinces and 14 U.S. states	A cross-sectional survey examining trends related to the services and populations served by CHCs in Canada and the United States	The current paper examines the results of a survey completed by a sample of CHCs in both Canada and the United States examining their services and populations, with a special emphasis on response to the opioid crisis. A number of key data points are presented in this report. CHCs reported providing targeted services for a wide range of populations, including the LGBTQ community, people experiencing homelessness, commercial sex workers, and people without health insurance. The most common direct services provided by CHCs were primary care, both at the CHC location and through home visits, dental care, sexual and reproductive health, and mental health counselling. Further data can be accessed in the report.
	Examining services provided and populations served by Community Health Centres in the United States	*Publication date:* 2020 *Jurisdiction studied:* United States *Methods used:* Non-empirical paper	Community health centres across the United States	A report presenting populations served and services provided by CHCs in the United States.	The National Association of Community Health Centers compiled a Community Health Center Chartbook to examine populations served by these health centres. The goal of CHCs in the United States is to provide accessible care to underserved populations, regardless of ability to pay. Twenty-nine million people access care through CHCs in the United States. The current Chartbook presents information on the range of populations and services served by CHCs. Six main themes were addressed in this report: 1) populations served by CHCs; 2) expansion of care; 3)

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					reducing health disparities; 4) cost-effectiveness of care; 5) health centre staffing and services; and, 6) challenges in meeting needs. In terms of the ways in which CHCs promote longitudinal primary care, health centres predominantly serve people who are uninsured/publicly insured, suffer from chronic diseases, and are members of racial minority groups. People who attend health centres achieve higher rates of hypertension and diabetes control when compared to the national average, are more satisfied with care, and are more likely to engage in screening such as pap smears and mammograms.
	British Columbia Association of Community Health Centres – Position Paper and Recommendations	*Publication date:* 2017 *Jurisdiction studied:* British Columbia *Methods used:* Position paper and recommendations	CHCs in British Columbia	A position paper presenting information about CHCs and their priorities in British Columbia, as well as recommendations for implementation	This paper presents recommendations on community health centres from the British Columbia Association of Community Health Centres (BCACHC). CHCs play an essential role in meeting health priorities set out by the B.C. Ministry of Health, including patient-centred care, coordinated primary care, and inter-professional teams. CHCs address social determinants of health by integrating primary-care services with broader-reaching health-promotion programs and services. This paper positions CHCs as providing key high-value solutions to healthcare priorities in British Columbia, including: 1) reduced avoidable visits to hospital emergency departments; 2) improved accessibility of health and social services; and 3) enhanced mental health and addictions programs. There is a wealth of research across North America demonstrating the impact of CHCs on reducing emergency-room visits. For instance, national research from the United States has demonstrated that CHCs can prevent more than 25% of emergency-department visits. Local examples from Canada demonstrate the important services that CHCs can provide, including wound care,

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					addressing the effects of poverty, food insecurity, and precarious housing. The expansion of CHCs in rural communities is essential to accessibility of care. CHCs play an essential role in rural communities, as they support practise of interprofessional teams, distribute care across teams, and maximize the impact of care providers. Thus, they play a key role in recruitment and retention of professionals. The importance of mental health and addictions is explicitly recognized by the BC Ministry of Health's Communicable Disease Prevention, Harm Reduction, and Mental Health Promotion branch. The opioid crisis has brought further attention to this essential care. CHCs offer a place in which families and patients can access supportive care. While CHCs must contend for siloed funding, they are able to provide enhanced care in comparison to "clinical care only" teams, who may have different priorities and/or funding models. The vision of BCACH is to continue supporting and establishing community-governed community health centres. Central to this vision is the establishment of adequate and equitable funding, in order to create sustainable organizations.
	Examining the effects of implementing social prescribing within CHCs	*Publication date:* 2020 *Jurisdiction studied:* Ontario *Methods used:* Mixed-methods implementation evaluation and recommendations	Community health centres in Ontario	A mixed-methods implementation evaluation examining how social prescribing was implemented, patients' and providers' perspectives of the initiative, its effect on patients' health, and its impact on systems	This paper examined how social prescribing was implemented and its effects on patients, providers and healthcare systems. During the time frame of the evaluation, more than 1,100 patients across 11 CHCs were provided a total of 3,300 social prescriptions. This paper resulted in three main findings: 1) patients reported overall improvements to their mental health, a greater capacity to self-manage their health, decreased loneliness and an increased sense of connectedness and

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
				within healthcare organizations	belonging; 2) healthcare providers found social prescribing useful for improving patient well-being and for decreasing repeat healthcare visits; and 3) social prescribing enabled deeper integration between clinical care, interprofessional teams and social support. Additionally, the paper identified challenges, lessons learned and key enabling factors of implementing social prescribing. Identified challenges included lack of dedicated staff capacity, stretched organizational capacity, barriers in data tracking, and lack of community infrastructure to support social prescriptions. It was learned that person-centred ways of working, dedicated staff and organizational commitment, a learning-health-system approach to data collection and utilization, and clear social prescribing terminology were among the essential components to a successful social prescribing program. Enabling factors were identified to include the spirit of innovation and persistence, and provincial coordination support. The paper recommended that policymakers, funders and Ontario Health Teams invest in primary healthcare and social supports, and that healthcare, cross-sectorial and social-support organizations build and strengthen local partnerships, embrace culture change and develop strategies for data collection and use. The paper also recommended that researchers and academic institutions contribute screening and evaluation tools, conduct data analysis and provide research support to health and social-support organizations.
	Examining mitigation strategies for clients accessing services at CHCs during COVID-19	*Publication date:* 2020 *Jurisdiction studied:* Ontario *Methods used:* Interviews and thematic analysis	Interviews with executive or clinical directors from more than 70 organizations in Ontario	Interviews and thematic analysis examining concerns and innovative strategies employed by organizations to ensure that	This paper described how the Alliance for Healthier Communities leveraged its service-delivery model and used system-thinking principles to ensure that their communities received the required care and services during the COVID-19 pandemic.

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
				communities most at risk continued to receive services and support during the COVID-19 pandemic	The interviews and thematic analysis revealed five major concerns: 1) ensuring access and equity of access to essential primary-care services; 2) addressing basic needs and safety; 3) conducting wellness checks; 4) promoting social engagement and maintaining access to health-promotion programs; and 5) identifying and connecting with isolated and at-risk individuals. The Alliance for Healthier Communities addressed the identified concerns by: 1) redesigning physical environments to deliver in-person health and social care; 2) providing point-of-care support to homeless or precariously housed individuals; 3) providing wellness checks and real-time risk assessments by phone; 4) delivering virtual health-promotion programs; and 5) extending team-based, population-health approaches to care and service delivery to broad community members. Lessons from this project could be adapted to other regions or models of care to ensure support for populations most at risk from COVID-19 and subsequent service restrictions.
	Evaluating primary-care reform in Ontario	*Publication date:* 2019 *Jurisdiction studied:* Ontario *Methods used:* Literature review and quantitative analysis of Ontario Ministry of Health and Long-Term Care data	General practitioners in Ontario	A paper presented fundamental core dimensions of primary-care reform, and the degree of general-practitioner participation in primary-care-reform models in Ontario	This paper identified 11 fundamental core dimensions of primary-care reform: 1) population-health approach; 2) group practice setting; 3) interprofessional teams; 4) alternative payment mechanisms; 5) patient enrolment; 6) patients and community engagement; 7) 27/4 access to care; 8) information technology; 9) system coordination and integration; 10) continuous performance management and quality improvement; and 11) collective governance and leadership. Ontario has implemented, since the 1970s, various primary-care-reform models. These models have included different combinations of the 11 core dimensions of primary-care reform. Notably, community health centres, which emerged in the early 1970s, are still

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					operating today and include the 11 core dimensions listed above. The impact of the primary-care-reform models was estimated by counting the number of participating general practitioners in Ontario in 2008 and 2018. It was found that community health centres accounted for less than a fifth (16.1% in 2008 and 19.6% in 2018) of general practitioners in Ontario, with no significant change since 2008. In summary, the assessment of Ontario's models of care demonstrated that there has been no significant change in the organization and delivery of primary care since 2008. The conceptual framework developed in this paper could be used to assist decision-makers in evaluating the pace of change in the primary-care sector, such as community health centres.
	Examining the role of CHCs related to health equity advocacy efforts	*Publication date:* 2019 *Jurisdiction studied:* Toronto, Ontario *Methods used:* Qualitative grounded theory and interviews	11 community health centre executive directors or chief executive officers	A qualitative analysis examining advocacy done by community health centres to advance health equity, the conditions required for community health centres to do advocacy, and promising strategies that enable advocacy at community health centres	This paper examined advocacy completed by community health centres in Toronto, Ontario to advance health equity, as well as the conditions required for community health centres to complete advocacy and strategies that may enable advocacy at community health centres. Through interviews completed at community health centres across Toronto, this paper found that advocacy is an essential component of community health centres' work and is largely driven by organizational commitments to health equity. Challenges of community health centres' advocacy include funding constraints, competing service delivery priorities, lack of resources and non-profit restrictions. Addressing these challenges may provide the opportunity to improve the capacity of community health centres and respond to health inequities.

Question addressed	Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
					In summary, directing efforts towards strengthening the policy, research and capacity of community health centres may improve the ability to advocate for policies that lead to improved health outcomes.
	Examining the difference between Ontario primary care models and impact on emergency-department use	*Publication date:* 2012 *Jurisdiction studied:* Ontario *Methods used:* Quantitative analysis of electronic record data and healthcare administrative data	Patients enrolled in community health centres, family health groups, family health networks, family health organizations, or family health teams in Ontario	A quantitative analysis examining the differences between Ontario's primary-care models, with a focus on who they serve and how often the patients go to the emergency department	This paper examined electronic-record data and routinely collected healthcare administrative data to examine socio-demographic composition, morbidity and comorbidity, and emergency-department use by patients who received care from different primary-care models in Ontario. Community health centres were found to serve patients from lower-income neighbourhoods, had higher proportions of newcomers and those on social assistance, had more severe mental illness and physical health conditions, and had higher morbidity and comorbidity. Populations served by community health centres had lower than anticipated emergency-department visits. The other models of care, which included family health groups, family health networks, family health organizations and family health teams, had socio-demographic and morbidity profiles similar to those of Ontario as a whole. However, family health networks and family health teams had higher than anticipated emergency-department visits. Populations that did not belong to one of the models of care studied were more likely to be male, younger, use the health system less often, and had lower morbidity and comorbidity than populations enrolled in the models of care studied. These populations had more emergency-department visits than expected. In summary, this paper found that different models of primary care served different populations and are associated with different outcomes. Further research should be directed towards understanding the reasons for

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					these outcomes, and developing targeted strategies to improve the outcomes for affected populations.
	Examining the role of nurse practitioners and family physicians in community health centres	*Publication date:* 2014 *Jurisdiction studied:* Ontario *Methods used:* Cross-sectional study	21 community health centres, which included 44,849 patients, 53 family physicians and 41 nurse practitioners	A cross-sectional study, which included a survey and administrative data, examined the socio-demographic characteristics and medical profiles of patients who were treated in different models of practice, and clinicians' use of time	Patients were attributed to a model of practice, family physician care, nurse practitioner care or shared care, based on the proportion of visits they received during the study period. This study found that 53%, 29% and 18% of patients received care from physicians, nurse practitioners or shared care, respectively. Patients who received care from a nurse practitioner were more likely to be younger and female. Patients who received care from physicians were more likely to have more complex medical conditions and have more annual visits. Patients who received shared care had intermediate profiles. More off-site care and walk-in visits were performed by nurse practitioners. Family physicians and nurse practitioners spent similar amounts of time performing various job duties. In summary, this study found that different models-of-care delivery served different populations of patients. Future research should examine the study aim in larger, less restrictive settings, and work to better understand the nurse practitioner and physician role in shared models of care to provide better care to all patients.
	Examining the patient journey through the continuum of care by using structured and linkable emergency medical record data	*Publication date:* 2020 *Jurisdiction studied:* Ontario, Canada *Methods used:* Case study	The sharing of electronic medical-record data of 569,318 patients from 73 community health centres with the Canadian Institute for Health Information	A case study highlighting how emergency medical data can be used to follow the patient through the continuum of care	This paper had three primary objectives: 1) to highlight the processes that facilitated the Alliance for Healthier Communities in collecting electronic medical record (EMR) data; 2) to describe the partnership between the Alliance for Healthier Communities and the Canadian Institute for Health Information; and 3) to use chronic obstructive pulmonary disease (COPD) as a case study and illustrate the importance of connecting EMR data with administrative acute-care data.

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					The paper detailed that there were 13,023 primary-care patients with COPD from April 2015 to March 2018; the average age of these patients was 64. By connecting the different data sets together, the authors were able to better understand the complexity of primary care as well as learn more about the primary-care services delivered, and the interactions between patients and the acute-care system. The paper noted that a total of 74.1% of these patients had a minimum of one emergency-department visit and 34.4% had a minimum of one acute-care hospitalization during this time frame. Additionally, the authors noted that 16.2% of the emergency-department visits led to hospital admissions. With respect to patient discharges, 81.6% of these patients were allowed to be discharged, with 80% receiving follow-ups within the first month.
Impacts of community health centres on enhancing client experiences and improving health outcomes with manageable per capita costs and positive provider experiences	Explore self-management practices among Black-Caribbean immigrants with Type 2 diabetes	*Publication date:* 2014 *Jurisdiction studied:* Toronto, Canada *Methods used:* Cross-sectional study	This study included Black-Caribbean immigrants and Canadian-born people aged 35 to 64 with Type 2 diabetes. Participants were recruited using convenient sampling techniques from community health centres, diabetes education centres, hospital-based diabetes clinics, the Canadian Diabetes Association, immigrant-serving organizations, community events, and local businesses.	Data were collected via a questionnaire to examine self-management practices, health-service use, and information seeking for diabetes care.	With respect to the sources of diabetes care and information, those in the Black-Caribbean community were significantly more likely to report receiving care from community health centres than their Canadian-born counterparts (45.8% versus 18.5% p=0.003). The authors suggest that the generally higher level of positive self-care behaviours among those in the Black-Caribbean immigrant community may be in part due to their higher level of engagement with community health centres.

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			A total of 102 participants were recruited, 48 Black-Caribbean immigrants and 54 Canadian born.		
	Staff perceptions of community health centre team function in Ontario	*Publication date:* 2017 *Jurisdiction studied:* Ontario *Methods used:* Cross-sectional online survey	Staff of 75 CHCs in Ontario	Study examining team climate, organizational justice, and organizational citizenship behaviour among staff working in CHCs	This paper examined 75 CHCs in Ontario to examine perceptions about team functioning. This study employed a scale called the Team Climate Inventory, with sub-scales examining vision, task orientation, support for innovation, and safety, as well as the Organizational Justice Scale and the Organizational Citizenship Behaviour Scale. These scales were used to examine how teams function in in CHCs. The findings indicate that staff at CHCs shared a view of their organization's vision, and found that their teams worked collaboratively. Nurse practitioners and family physicians did find that there was less fairness in decision-making. Family physicians working with CHCs in Ontario are salaried, and there may be bureaucratic controls that limit physician autonomy in this setting. The cause of nurse practitioner scores may be similar to physicians, furthered by inequities in salary.
	Examining the distribution of community health resources among populations in Canada	*Publication date:* Not stated *Jurisdiction studied:* Canada *Methods used:* Population needs-based data analysis	Data from 141 community planning areas across Canada	Study examining the resource allocation among populations requiring access to CHCs and AHACs in Canada	This study identified CHCs and Aboriginal Health Access Centers (AHACs) in Ontario, with a focus on their equitable distribution. CHCs and AHACs aim to serve the health needs of population groups, including the Five Strategies (Aboriginal, Francophone, Urban, Southern-rural, and Northern-remote). This study created a priority population and examined how resources could support the needs of these priority populations. This population totalled 2.7 million, and the number of people currently being served was calculated with postal codes (clients

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					without postal codes were distributed among CHCs and AHACs). Through this model, current service gaps were identified. Six key recommendations were derived from this data. First, expanded access is needed to reach all populations, particularly those who experience barriers in urban areas and those who live in rural or under-serviced areas. Second, enhanced data collection should be conducted to reduce inequities. Third, an equity-focused, population-needs-based method should be used to allocate resources. Fourth, CHC/AHAC administrative data should be included in Ontario health-planning data. Fifth, the under-representation of Indigenous groups must be noted and addressed in population data. Sixth, CHCs and AHACs must be able to access local health-planning data in order to plan and advocate with/for communities.
	Modelling the impact of increased funding to health centers on access to care	*Publication date:* 2013 *Jurisdiction studied:* United States *Methods used:* Person-level models of access and utilization	The expansion of the Health Center Growth Initiative in 2007 increased the program's budget from $1.3 billion to $2 billion and supported 1,236 new or expanded health centres. Furthermore, the expansion of this program came with a focus on providing oral and mental health care in addition to primary care. This study sought to use data from this expansion to examine whether an expansion	The Health Center Growth Initiative supported federally funded health centres that provide primary care, oral health, and behavioural health services in underserved areas. Community health centres are among these and rely heavily on federal funding to provide primary care. For the sake of this study community health centres were considered as the only centres providing care for the low-income population (and thus	The effect of an additional US$10 per person of funding to health centres on health access indicators for low-income people with private, public, and no health insurance, was analyzed. In a model without market fixed effects, additional funding was found to have a significant, positive impact on the probability of having a usual source of care for all adults, those with no insurance, and those with public insurance. For those with no insurance, increased funding was also associated with having at least one office visit in the past year. For those with public insurance, there was a significant association between increased funding and a decreased probability of using an emergency department, and a decreased probability of delaying care due to cost. There were no significant effects for people with private insurance. In a model with fixed effects, increased funding was associated with the probability of having an office visit for all adults, those with no insurance, and those with

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			in funding has an impact on the likelihood that low-income adults have a source of usual care, various types of care visits, and unmet care needs. The sample was limited to adults aged 19 to 64 with a family income at or below 200% of the federal poverty line. The Dartmouth Atlas hospital referral regions (of which there are roughly 300 in the United States) were used to define healthcare markets.	the impact of expanding community health centre funding was examined).	public insurance. Increased funding was associated with an increased probability of having a general doctor visit in the past year for those with public insurance. Increased funding was associated with an increased probability of delaying care for all adults, those with no insurance, and those with private insurance. Finally, a reduction in unmet need for dental care was found for those with private insurance. In the period preceding the Health Center Growth Initiative, there was declining access to care among low-income people. In the healthcare markets with the greatest increased in health-centre funding, these declines were more strongly mitigated against than in the markets with the smallest growth in health-centre funding.
	Assessing availability of care for patients with differing levels of insurance coverage at FQHCs	*Publication date:* 2014 *Jurisdiction studied:* United States *Methods used:* Experimental simulated patient (audit) study	Federally Qualified Health Centers are community health clinics that receive federal funding to provide care for underserved populations and include many features of community health centres. These centres are generally located in underserved areas, providing sliding scales of payment for uninsured patients,	This study compared the ability of a Medicaid patient and a patient with no insurance to schedule a primary-care appointment at a Federally Qualified Health Center versus a non-Federally Qualified Health Center. The simulated patient study was conducted in 10 states.	Among the calls placed to Federally Qualified Health Centers, 84% of patients with private insurance, 80% with Medicaid, and 53% with no insurance were able to schedule an appointment. For those with no insurance, a patient was defined as being able to schedule an appointment if there was an offer of an appointment costing $75 or less. Among the calls placed to non-Federally Qualified Health Centers, 85% of patients with private insurance, 56% with Medicaid, and 14% with no insurance were able to schedule an appointment. Across all 10 states in the sample, there was a higher appointment rate for Medicaid patients at Federally

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			and have competence in caring for marginalized populations.		Qualified Health Centers when compared to non-qualified clinics. For uninsured patients, the median initial appointment costs at Federally Qualified Health Centers was US$60 compared to US$123 at non-Federally Qualified Health Centers. The median waiting time (number of days between call and appointment) was lower (by two to three days) at non-Federally Qualified Health Centers than at Federally Qualified Health Centers for both Medicaid patients and those with private insurance.
	Examining low-income patients' experiences with and access to primary care at federally supported health centers and other settings	*Publication date:* 2013 *Jurisdiction studied:* United States *Methods used:* Cross-sectional study	Federally supported health centres are located in underserved communities, provide primary care and support access to primary-care services, and provide services based on patients' ability to pay. These centres have long been part of the United States' strategy for providing accessible and affordable healthcare. Health centres can provide primary care, dental care and mental health care, among other services. These centers also tend to serve low-	This study sought to describe low-income patients' access to and experiences with primary care at health centres and in general in the nation. Furthermore, this study sought to identify disparities between health centre patients and low-income patients nationally. The data for this study came from the 2009 Health Center Patient Survey and the 2009 Medical Expenditure Panel Survey.	Health centre patients were found to be more ethnically diverse than the general U.S. sample. Health centre patients were also found to be more likely to have no insurance or public insurance. Furthermore, females, people who do not speak English, and those with limited education made up a higher proportion of health centre patients compared to the general sample. When compared only to low-income patient in the national survey, health centre patients were more likely to be unmarried, unemployed, have a lower level of education, and be in fair or poor health. With respect to access to care and satisfaction with care, health centre patients were slightly less likely to report having a usual source of care than the U.S. low-income population. However, health centre patients were more likely to report having a physician's office as their source of usual care, and were more satisfied with the hours of operation and overall care received when compared to the overall low-income population. With respect to insurance coverage, there were smaller differences in having a source of usual care between uninsured, publicly insured, and privately insured patients when compared to the U.S. low-income patient

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			income and minority communities.		population. Across other measures of access to care, the differences between patients with varying levels of insurance coverage were smaller when compared to the national sample. Multivariate logistic regressions showed that uninsured health centre patients has significantly lower odds of being satisfied with their care when compared to privately insured patients. For the national sample, there were more significant disparities in access to care between racial/ethnic groups and across patients with varying levels of insurance coverage.
	Comparing healthcare utilization and spending for Medicaid patients who use federally qualified health centers with those who receive care in other settings	*Publication date:* 2016 *Jurisdiction studied:* United States *Methods used:* Cross-sectional study	Federally qualified health centres provide care to over 20 million patients in medically underserved areas and are funded, in part, by grants from the federal government. On top of providing primary-care services, these health centres must also provide non-clinical enabling services such as transportation and case management. Additionally, these centres must have patients serve as at least half of the members on their governing boards.	This sought to compare healthcare utilization and spending of Medicaid patients that use health centres versus other venues for primary care. In addition, other outpatient care use, prescription drugs, emergency-department use, and inpatient care was examined. Data was collected about fee-for-service Medicaid enrollees in 13 states in 2009. Data for 144,076 health centre patients and 894,898 non-health centre patients were used.	Patients who received most of their care from health centres were found to have fewer visits to and less spending going towards primary care, other outpatient care, emergency departments, and inpatient care, when compared to non-health centre patients. The health centre patients also spent less on prescription drugs. Although health centre patients generally had lower use and spending, patients who primarily used (non-health centre) physician offices were found to have lower levels of spending on primary care, fewer emergency-department visits, and less emergency-department spending. Lower levels of service use and spending for health centre patients was generally found across all 13 states with some minor exceptions, however, each state administers their Medicaid program independently. The authors note that if health centres provide a comparable level of care, they may be a more efficient way of delivering primary care. They also note that their results may be because health centre patients may be accessing a different healthcare referral network. Finally they note that patient characteristics that they are unable to observe may drive the differences observed.

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	Comparing total costs for Medicare patients who receive care from federally funded health centers with other care settings	*Publication date:* 2016 *Jurisdiction studied:* United States *Methods used:* Cross-sectional study	Federally funded health centres are often seen as the core of the primary-care safety net. These health centres provide care for underserved populations, including those on Medicaid, Medicare, and those with no insurance. Federally funded health centres are paid differently than physician offices and outpatient clinics for the services they provide to Medicare patients. At health centres, Medicare services are funded on a per-visit basis as opposed to a fee-for-service basis in other settings.	This study sought to use data from 2009 to compare the total annual costs of care for Medicare patients who receive care at health centres with Medicare patients who receive primary care at physicians' offices or outpatient clinics. Total costs (for primary and non-primary care) are used to examine potential substitutions between levels of care. Medicare Part A and B claims from specific primary-care service areas in 14 states in 2009 were used in this analysis. This sample included 3,161,084 patients (patients with certain conditions and those with no healthcare contacts were excluded).	Only a sample proportion of Medicare patients received care at health centres (4% of primary-care days). The non-aged Medicare recipients (those with disabilities) used health centres more, with 14% of those primary-care days coming from health centres. The median aged Medicare beneficiary had total costs of roughly US$2,800. The median non-aged Medicare beneficiary had total costs of roughly US$2,600. For the median-aged and non-aged Medicare beneficiary, total care costs were lower for health centre patients than those receiving care in other settings. Total costs for health centre patients were roughly 10% lower than costs for physician-office patients, and 30% lower than outpatient-clinic patients. However, the median patient using physicians' offices had a lower level of primary-care costs. The cost savings for health centre patients came largely from lower non-primary-care costs. The authors note that the reason for lower costs for patients using health centres cannot be ascertained. It is possible that the difference can stem from some combination of practice style, quality of care, lesser referral to specialists and diagnostics, and individual socio-economic characteristics.
	Assessing health-care utilization among patients at FQHCs compared to other primary-care settings	*Publication date:* 2014 *Jurisdiction studied:* United States *Methods used:* Economic evaluation	Aged ≥18 years, with ≥1 clinic (office or hospital-based) visit, and who lived ≤20 miles from a health centre (federal section 330) identified from the Medical	Patient-reported healthcare utilization (i.e., office visits, hospital-based outpatient visits, prescriptions filled, ER visits, hospitalizations) and	Patients in health centres (HC) had fewer office visits and hospitalizations compared to non-HC patients. The authors reported a statistically significant likelihood of breast cancer screening than non-HC patients. Similarly, after adjusted analyses, uninsured HC patients demonstrated lower healthcare utilization and higher chances of receiving dietary advice and breast cancer screening. The findings are not generalizable to all HCs

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			Expenditure Panel Survey (2004-2008)	preventive care (i.e., dietary advice, influenza vaccination, hypertension screening, hyperlipidemia screening, cancer screening)	(especially without federal funding). The authors conclude that HCs provide value to the health system.
	Assessing cost savings related to CHCs	*Publication date:* 2012 *Jurisdiction studied:* United States *Methods used:* Economic evaluation	22,552 individuals from 2006 Medical Expenditure Panel Survey including children and adults	Outcomes included total expenditures (e.g., inpatient, emergency department, outpatient, prescription drugs, ambulatory, hospital emergency department, hospital inpatient)	The study found about 2% of the 2006 population sample received primary care from CHCs. Among these patients, they had lower total medical expenditures (US$3,500) than non-CHC users (US$4,594), in addition to lower expenditures for ambulatory care and hospital inpatient services. This results in a 24% cost-savings reduction. However, the authors reported that the cost savings were due to price per unit of primary-care services instead of utilization differences. The authors concluded that primary-care services at CHCs can reduce medical expenditures, and CHCs can provide good-quality care for low-income populations.
	Examining quality of care for Medicaid patients receiving care at FQHCs	*Publication date:* 2011 *Jurisdiction studied:* United States *Methods used:* Economic evaluation	179,749 Colorado Medicaid clients with two or more visits (clinic or office) in 2007-2008, of which 21% used one of 15 community health centrrs	Outcomes included emergency-department visits, inpatient hospitalizations, hospital readmission within 90 days of discharge, and preventable hospital admissions	Medicaid patients receiving care from CHCs had lower preventable hospital admissions as well as admissions for acute conditions than other patients. Additionally, Medicaid patients were less likely to receive additional care at a hospital if they were receiving care at CHCs. Overall, the authors concluded that CHCs reduced the likelihood for patients to utilize higher costs of care (e.g., emergency department visits, hospital admissions and re-admissions). The authors concluded that further investment in CHCs may lead to further reductions in costs related to care.
	Examining the quality of care experienced at CHCs	*Publication date:* 2013 *Jurisdiction studied:* United States	4,562 patients from health centres from a 2009 Health Center Patient Survey	10 measures of patient experiences with health centres, including accessibility, communication,	Patients receiving care at health centres (HCs) reported positive experiences especially with provider-patient communication during visits and access to providers. The authors reported fewer racial and insurance-related disparities; however uninsured patients accessing HCs

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		Methods used: Cross-sectional study		comprehensiveness, and coordination of care	reported less favourable experiences related to comprehensiveness and coordination. However, the study did not examine health outcomes.
	Examining the effectiveness of HANS KAI in improving participant health outcomes	*Publication date:* 2018 *Jurisdiction studied:* Winnipeg, Manitoba *Methods used:* Mixed methods study	77 participants between the ages of 20 and 72 across nine interventional groups in the Inkster community of Winnipeg	Sessions were completed once a month in groups of eight to 15, where participants socialized with each other, engaged in physical activity, monitored their health, and promoted healthy lifestyle options	The primary focus of this study was to investigate if the HANS KAI intervention could be incorporated into an urban setting and yield positive effects on the health and well-being of participants. This intervention utilized peer support and support networks to shine light on chronic disease-prevention behaviours. Primary outcomes were assessed through the use of questionnaires and individual interviews at the start, and subsequently at the six-, 12- and 24-month mark of the program. The findings from this study reported statistically significant improvements in participants' mental health outcomes. Additionally, this intervention has been associated with numerous other benefits, including: increased motivation, knowledge, and empowerment; and decreased social isolation. A total of 66% of the participants included within the study also reported behavioural changes upon undertaking this intervention. While this study suggests that HANS KAI may be an effective health-promotion intervention, the authors note that there are a few limitations to this study, including: analyzing only a sole jurisdiction; the minimal engagement of male participants; and limited sample size.
	Examining client experiences with integrated supervised consumption services	*Publication date:* 2019 *Jurisdiction studied:* Toronto, ON *Methods used:* Qualitative methods (ethnographic observation, interviews)	24 people who inject drugs (PWID) using the supervised consumption services (SCS) were interviewed at two CHCs in downtown Toronto	Qualitative methods, including ethnographic observation and semi-structured interviews, were employed to examine client experiences using SCS integrated in CHCs	The current study examined client experiences using SCS that are integrated in two CHCs in downtown Toronto. The integration of these services was found to have benefits and limitations. Benefits of this integration included the ability to access other services, such as healthcare and nutrition. CHCs were described as places of opportunity, where clients could make connections to other services and amenities.

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					Other services included wound care, HCV treatment, counselling, and dental care. A number of limitations were also identified by clients. Issues of anonymity and privacy were frequently discussed. Issues relating to the spatial organization of the space also arose. The operating hours of the SCS conformed to the hours of the CHCs, leaving participants to use somewhere else outside of business hours. Many clients stated that the service should be open 24 hours daily. This study contributed to the broader literature examining the role that implementation context plays in public-health interventions. A variety of factors impact access and utilization of SCS at CHCs, and these barriers exist in the context of larger socio-cultural contexts that must also be considered.
	Comparison of primary-care models in the prevention of cardiovascular disease - a cross sectional study	*Publication date:* 2011 *Jurisdiction studied:* Ontario *Methods used:* Cross-sectional study using RCT data	82 primary-care practices from three delivery models: 1) fee-for-service; 2) blended-capitation; and 3) community health centres	Data from a large randomized controlled trial was assessed to examine patient adherence to care for the management of cardiovascular disease. Adherence to care was defined by 10 evidence-based guidelines that were predefined, including blood pressure control, smoking-cessation drugs, and kidney function.	This study examined the preventive care being provided by a range of family practices in Ontario, to assess whether different models provide different qualities of care. Of the 82 primary-care practices assessed, 12 were CHCs. The monitoring of hemoglobin A1c, a measurement to track blood sugar over time, was highest among patients attending CHCs. Regular monitoring of this value is key to diabetes care. This result is consistent with previous literature demonstrating high-quality diabetes care at CHCs, when compared to fee-for-service practices. The payment structure, organization, and care delivery of CHCs are likely key factors contributing to the quality of this care. Smoking cessation and weight management were both found to be highest quality in the blended-capitation models.

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