

THE COLLEGE OF
FAMILY PHYSICIANS
OF CANADA

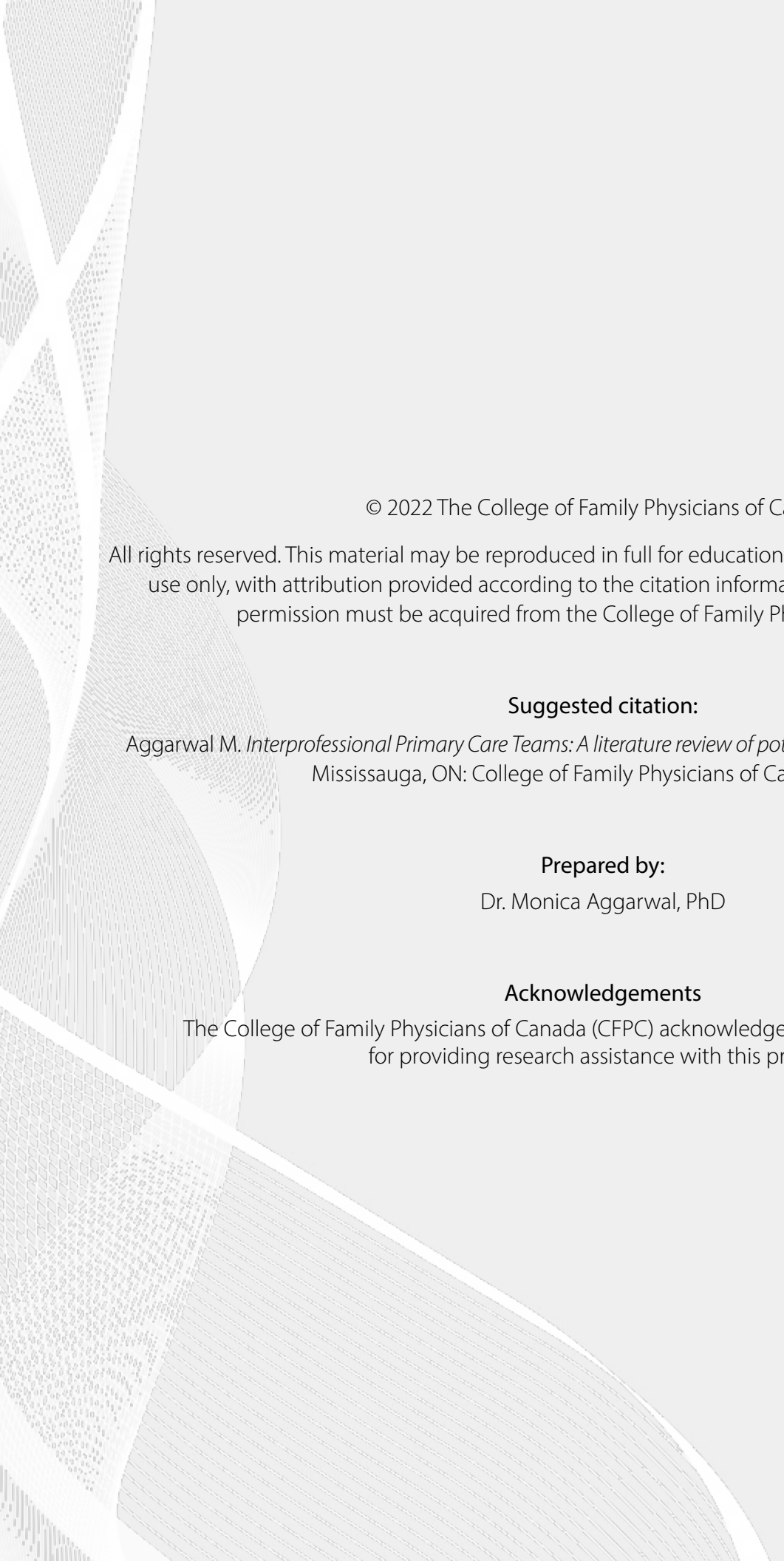


LE COLLÈGE DES
MÉDECINS DE FAMILLE
DU CANADA

Interprofessional Primary Care Teams:

A literature review of potential international best practices





© 2022 The College of Family Physicians of Canada

All rights reserved. This material may be reproduced in full for educational, personal, and non-commercial use only, with attribution provided according to the citation information below. For all other uses permission must be acquired from the College of Family Physicians of Canada.

Suggested citation:

Aggarwal M. *Interprofessional Primary Care Teams: A literature review of potential international best practices*. Mississauga, ON: College of Family Physicians of Canada; 2022.

Prepared by:

Dr. Monica Aggarwal, PhD

Acknowledgements

The College of Family Physicians of Canada (CFPC) acknowledges Kristina Kokorelias, PhD, for providing research assistance with this project.

Table of Contents

1. Executive Summary.....	1
2. Introduction	4
3. Methodology.....	6
4. United States	8
4.1 Oak Street Health.....	8
4.2 Cityblock	9
4.3 Clinica Family Health Services	10
4.4 Multnomah County Health Department Primary Care Clinics	12
4.5 Clinic Ole.....	14
4.6 Park Nicollet Health Services	15
4.7 Group Health, Olympia Medical Center	16
4.8 Sebastopol Community Health Center	16
4.9 La Clinica de la Raza, Transit Village site, Family Medicine Department.....	17
4.10 West Los Angeles Veterans Affairs Primary Care Clinic.....	18
4.11 Vermont Blueprint for Health.....	19
4.12 Department of Veterans Affairs Patient-Aligned Care Teams (PACT)	20
4.13 Hospice of the Bluegrass	21
4.14 El Rio Community Health Center.....	22
4.15 Crozer-Keystone Family Medicine Residency, Center for Family Health.....	22
4.16 University of Massachusetts Medical School–Baystate Internal Medicine Residency High Street Health Center– Adult Medicine.....	24
4.17 University of North Carolina Family Medicine Residency, UNC Family Medicine Center	25
4.18 The Air Force Medical Home Advantage.....	26
4.19 BRIGHTEN (Bridging Resources of an Interdisciplinary Geriatric Health Team via Electronic Networking)	27
4.20 Mike O’Callaghan Federal Medical Center.....	28
4.21 Cincinnati Children’s Hospital/Cincinnati Children’s Family- and Patient-Centered Rounds	29
5. Sweden	30
5.1 Sweden’s Team Based Care Model.....	30
6. Nepal.....	31
6.1 Frontline Health Workers/ Nepal Health Sector Program (NHSP)	31
7. Singapore.....	32
7.1 Public-Private Chronic Disease Management Shared Care Programme (“Shaped Care Programme”)	32
8. Hong Kong	33
8.1 General Outpatient Clinics	33
9. Australia	35
9.1 CHC (Community Health Centre).....	35
9.2 Western Sydney Integrated Care Program (WSICP).....	35
9.3 Top of license - team model.....	37
10. Lessons Learned	38
11. References.....	40



1. Executive Summary

High-performing primary care is widely recognized as the foundation of an effective and efficient health care system. Countries with a robust primary care sector achieve superior health outcomes at lower costs. Over the past two decades, Canadian provinces and territories have introduced primary care reform initiatives that focus on strengthening the infrastructure for primary care and establishing funding and payment models that promote performance improvement. Despite this progress, the performance of Canadian primary care trails that of many other high-income countries in access to regular doctors or places of care, timely access to care, development of interprofessional teams, and communication across health care settings.

Implementing interprofessional teams is a key feature of high-performing primary care systems. In Canada, several jurisdictions have introduced a team-based model, all of which vary significantly in terms of their structure, physician reimbursement scheme, the types of primary care providers, governance mechanisms, the funding mechanism for primary care providers, enrolment of patients, the scope of services, the nature of the population being served, and the adoption of a population-based approach to planning and delivering care. Despite significant investments in building interprofessional teams, there is limited evidence



that current team models are producing consistently better results in relation to the quadruple aim (improving population health, reducing the cost of care, enhancing patient experience, and improving provider satisfaction). Thus, the objective of this study was to identify potential international best practices in relation to interprofessional primary care teams. This study also examined evidence of impact, barriers and facilitators, and lessons learned. The following findings were informed by a rapid literature review of the grey and scientific literature in multiple databases.

What are potential best practices in relation to the interprofessional primary care teams in countries that have successfully implemented team-based care?

This review identified 28 potential best practices. The majority of best practices were from the United States. Other jurisdictions included Sweden, Nepal, Singapore, Hong Kong, and Australia. These best practices ranged from health centres, academic medical centres, private practices, and integrated delivery systems or programs.

What is the evidence of impact?

The evidence of impact for identified potential best practices was limited. Although each best practice is different in terms of context and

organization, available evidence indicates that interprofessional teams positively impact the goals of the quadruple aim. Some evaluations of best practices found they improved patient and family satisfaction, reduced hospitalizations, generated cost savings, and improved patient outcomes (improvement in geriatric depression and diabetes, alleviating severity in continence, reducing cardiovascular disease and mortality, and enhanced equity for migrant populations). Self-reported data from best practice organizations also indicated reductions in hospital admissions, emergency room visits, number of in-patient hospital days, and no-show rates. Providing more accessible care in rural communities and improving team functioning were areas that required further improvement.

What are the barriers and facilitators to implementing interprofessional primary care teams?

There was limited information on the barriers and facilitators to implementing potential best practices identified in this review. Two studies identified lack of physician buy-in and various issues with the implementation of information technology as key barriers to implementation.

What lessons can Canada learn from the experiences of international jurisdictions?

For the 28 potential best practices identified for which there was information available, the following features were most common:

- Two-thirds of interprofessional teams (18 best practices) served specific **target populations**. This included those from low-income or uninsured groups (9), adults that were 65 and older (5), veterans or military (4), children (2), or with chronic conditions (5).
- Many interprofessional teams (18 practices) consisted of a physician, nurse, medical assistant, and **a range of two or more diverse interprofessional providers**. Across all practices, 50 different team roles were identified. The most common roles included primary care physicians (24 practices), nurses (17), behavioural integration specialists (7) or social workers (8), and pharmacists (9). In one-third of practices (10), registered nurses, medical assistants, and/or panel managers were reported to be empowered and supported to **extend their scope of practice**.
- More than half of the interprofessional teams (15 practices) provided a range of comprehensive services that could include preventive care, chronic disease management, services, and programs to address the social determinants of health, as well as providing other services such as dental, optometry, orthopedic, and behavioural health care.
- **Timely access to care** was facilitated in more than half of the practices (15) through various mechanisms including same-day appointments, third next available appointments, after-hours coverage, 24/7 access to providers, home visits, telehealth (phone, video visits), remote monitoring, telephone hotlines or nurse triage lines, secure messaging, email, policies on patients being seen in a set period or number per day, and the use of forecasting tools to estimate demand.
- Over a third of practices (10) were using electronic medical records (EMRs) or health records. Health information technology was being used for various purposes including care coordination, data-driven performance measurement, panel and population management, and managing patient visits.
- About a quarter of best practices reported initiatives for performance measurement and quality improvement. Eight practices were collecting performance measurement data using various mechanisms including dashboards and performance measurement frameworks. Seven practices were involved in quality improvement that was enabled through regular team meetings, the establishment of performance metrics and targets, practice facilitators, and workflow mapping.

- In a quarter of the practices (7), patients were assigned to a provider to enable continuity of care, and care plans were being developed as a mechanism for engaging patients in their care.

These characteristics are part of the College of Family Physicians of Canada™ (CFPC)'s Patient's Medical Home vision. A key lesson learned from this review is that potential international best practices often resembled the community health centre model. This model focuses on marginalized and vulnerable populations and delivers a wide array of comprehensive services to their population through a range of diverse health care professionals. However, it is essential to note there was a lack of information on the leadership approach, governance framework, funding model, and accountability mechanisms for best practices. There was also a paucity of literature on the impact of best practices and the barriers and facilitators to their implementation. These findings are not surprising as the lack of primary care research remains a challenge worldwide.

Limitations

There are limitations to this review. First, despite best efforts some relevant articles on potential best practices may have been missed. Since this was a global study, the language of documents was context specific. As such, information from these non-English language documents could not be included but could have provided more

insights. Furthermore, there were varying degrees of information on each best practice. This review could only report on available information. Some best practices may include common features that could not be identified through this review. Further, the quality of the studies was not assessed; thus, the frequencies and evidence of impact should be considered with caution.

Recommendations

As the CFPC embarks on advocating for the spread of the Patient's Medical Home vision in Canada, it is recommended that the CFPC:

- Conduct further research on identified international potential best practices to obtain more details on the attributes of high-performing teams and explore their leadership approach, governance framework, funding model, accountability mechanisms, and barriers and facilitators to their implementation.
- Advocate provincial, territorial, and federal governments to invest in interprofessional team models that require the implementation and accountability of the characteristics of high-performing best practices identified in this study.
- Advocate provincial, territorial, and federal governments to invest in evaluating and conducting research on existing interprofessional team models to determine how they can be optimized and used across Canada.

2. Introduction

High-performing primary care is widely recognized as the foundation of an effective and efficient health care system. Countries with a robust primary care sector achieve superior health outcomes at lower costs.¹ Over the past two decades Canadian provinces and territories have introduced primary care reform initiatives that focus on strengthening the infrastructure for primary care and establishing funding and payment models that promote performance improvement.¹ Despite this progress, the performance of Canadian primary care trails that of many other high-income countries in access to regular doctors or places of care, timely access to care, development of inter-professional teams, and communication across health care settings.^{2,3}

In 2012 a consensus and evidenced-based discussion paper entitled *Toward a Primary Care Strategy for Canada* was developed by Dr. Monica Aggarwal and Dr. Brian Hutchison.¹ This discussion paper was informed by major primary health care (PHC) stakeholders across Canada. The purpose of the discussion paper was to build a consensus-driven vision and roadmap for strengthening PHC as the foundation of a high-performing health system in Canada. The strategy was meant to serve as a touchstone for health policymakers and health system leaders at the federal, provincial, regional, local, and organizational levels. A significant contribution of *Toward a Primary Care*



Strategy for Canada was identifying the features of high-functioning primary care systems. A review of international and national evidence and experience found that 13 features in their entirety are fundamental elements of high-functioning primary care systems.¹ This includes:

- Explicit policy direction anchored in public values, needs and preferences
- Primary care governance mechanisms at the community, regional and provincial/territorial levels
- Patient enrolment (empanelment, attachment, access)
- Interprofessional teams
- Patient engagement
- Funding and provider payment arrangements aligned with health system goals
- Health information technology that effectively supports patients and providers
- Ongoing performance measurement
- Training and support for quality improvement
- Leadership development
- Coordination, integration, and partnerships with

Other Health and Social Services

- Systematic Evaluation of Innovation
- Research Capacity and Productivity
- Decision Support

Implementing interprofessional teams is a key feature of high-performing primary care systems. The CFPC defines the Patient's Medical Home (PMH) as a family practice that patients consider the place "they feel most comfortable presenting and discussing their personal and family health and medical concerns."⁴ The pillars of the PMH include foundations (administration and funding, appropriate infrastructure, and connected care), functions (accessible care, community adaptiveness, and social accountability, comprehensive team-based care and family physician leadership, continuity of care, patient and family partnered care), and ongoing development (measurement, continuous quality improvement, and research, training, education, and continuing professional development).⁴

In Canada several jurisdictions have introduced a team-based model, all of which vary significantly in terms of their structure, physician reimbursement scheme, types of primary care providers, governance mechanisms, funding mechanism for primary care providers, enrolment of patients, scope of services, nature of the population being served, and the adoption of a population-based

approach to planning and delivering care.¹ Despite significant investments in building interprofessional teams, there is limited evidence that current team models are producing consistently better results in relation to the quadruple aim (improving population health, reducing the cost of care, enhancing patient experience, and improving provider satisfaction). There is some evidence that Ontario's Community Health Centres, a model that primarily serves underserved populations, have reduced emergency department visit rates and performed better on chronic disease management, and health promotion compared to fee-for-service practices and capitation-based models.⁵⁻⁷ To inform the ongoing dialogue about the scale and spread of high-performing interprofessional primary care teams, the purpose of this review was to:

- Identify potential best practices in relation to the interprofessional primary care teams in jurisdictions that have successfully implemented team-based care.
- Examine the evidence of the impact of identified best practices.
- Understand the barriers and facilitators to the implementation of identified best practices.
- Identify the lessons that Canada can learn from the experiences of international jurisdictions.



3. Methodology

This study was informed by a rapid literature review of the grey and scientific literature, which followed Cochrane guidelines.⁸ The approach to the search was determined by pilot testing multiple search strategies to determine the most appropriate search strategy for identifying literature on best practices. An initial search of the scientific literature yielded over 17,000 articles per database (Medline, EMBASE) on integrated care or team-based care in the context of primary care. Since this review was to be undertaken in four months, this literature review was not feasible. Limiting the search to guidelines and recommendations was investigated. This yielded over 805 articles per database. A review of results showed that this literature did not provide information on the impact of interventions. After testing multiple approaches for the search strategy, a targeted search strategy was determined to be the best approach for this review.

For this review, best practice is defined as a practice that effectively changes health care outcomes and implementation.⁹ Team-based interprofessional primary care teams are defined as the coordinated involvement of multiple primary care providers in patient care.¹⁰ For this review, potential best practices were identified based on explicit reference to best practices in literature and through nominations from experts. The evidence of impact was not used to identify best practices. This decision was made with the understanding that investment



in PHC research remains low at the global level¹¹ and to allow for a creation of a comprehensive list of potential best practices that could provide insights on common features, and which can be investigated further in future research.

To identify a list of **potential** best practices in relation to interprofessional primary care teams, the grey literature was searched in Google to identify reports, protocols, policies, and guidelines from international agencies (World Health Organization, Organisation for Economic Co-operation and Development). The search strategy included keywords and a combination of phrases such as “team-based integrated care,” “primary health care teams,” with “best practice recommendations for integrated care,” and “best practice” or “high-performing.” Grey literature articles were included if they were published in English, included team-based models of PHC, published since 1990, and described the implementation of the successful intervention or recommendations for future intervention. A recommendation is defined as “all the statements in favour or against an intervention based on systematic reviews of the evidence, which typically include a formal assessment of the benefits and drawbacks of available treatment options.”¹² Articles that involved self-selection for high performance or were hypothetical, pilot programs, or were in the implementation process were excluded. Practices that had been

implemented but were discontinued by governments were removed. Targeted searches were conducted in Google Scholar for academic literature by searching for “best practice” or “high-performing” primary care teams. The reference lists of included studies were scanned. In total, this review of 169 articles resulted in the identification of 22 potential best practices.

To ensure that the list of practices was comprehensive, experts in the field were contacted to review and nominate additional potential best practices. Experts were identified through the review of the literature. We also engaged researchers, policymakers, and experts through the North American Primary Care Research Group (NAPCRG) community. A total of seven additional initiatives were included based on the inclusion criteria. To validate findings, two experts reviewed the list of initiatives.

In total this review identified 28 potential best practices. To examine the evidence of their impact, barriers and facilitators, and lessons learned, searches were conducted in Ovid MEDLINE, Ovid EMBASE, Ovid PsycINFO, EBSCO CINAHL,

Cochrane Central, and Global Index Medicus. We also scanned the reference lists of included studies. A total of 1,151 potential articles/studies were reviewed. Only empirical studies that focused on evaluating the specific best practices were included in this review.

Results

Potential best practices, evidence of impact, and barriers and facilitators

This section describes the 28 potential best practices identified through this review. This review found that most best practices were from the United States (21 practices). Other jurisdictions included Sweden ($n = 1$), Nepal ($n = 1$), Singapore ($n = 1$), Hong Kong ($n = 1$), and Australia ($n = 3$). Potential best practices ranged from health centres, academic medical centres, private practices, and integrated delivery systems or programs. This review found limited information on the impact and the barriers and facilitators to implementing potential best practices. The available literature is summarized with each potential best practice.





4. United States

4.1 Oak Street Health

Source for identification: An expert in the field recommended this program.

Program summary

Oak Street Health was founded in 2012. Oak Street Health is a network of primary care centres that serves over 100,000 older adults in over 100 centres in 15 states. These centres offer a comprehensive array of primary care services. Oak Street Health specializes in Medicare and Medicaid patients.¹³ However, patients are accepted from other insurance plans.

The characteristics of primary care centres include:¹³

- **Interprofessional Teams:** The team consists of primary care physicians, nurses, physician assistants, patient relations managers, behavioural health specialists, podiatrists, and in-centre pharmacies.¹³
- **Comprehensive Care:** A broad range of services are provided, from education on medications to addressing adverse social determinants of health.¹⁴
- **Accessible Care:** Mobile integrated health services are provided to patients through an



on-demand team that visits high-risk, medically complex patients in their homes, both for clinical and non-clinical emergencies.¹⁴

- **Virtual Care:** During the COVID-19 pandemic, the primary care centres shifted from an entirely centre-based model to a home-based model. Telehealth provides virtual care through the phone- and video-based visits. Wellness checks are provided to patients to ensure they are stable and safe in their homes. Patients have access to virtual monitoring. The medical assistant (MA) virtually checks vital signs, performs structured assessments, discusses medications, and makes changes or refills. The provider (a physician, nurse practitioner, or physician assistant) completes the remote visit, supported by a scribe. At the end of the session, another staff member schedules the next visit.¹⁵

For patients with suspected or confirmed infections of COVID-19, primary care centres implemented a model that replicates a hospital stay by incorporating remote monitoring, daily rounding, and evidence-based guidelines for supportive care. To determine needed interventions, a registry was created for suspected and confirmed cases with standardized acuity levels. A COVID-19 hotline staffed by clinicians was implemented to address virus-related patient concerns. Regular English-Spanish texting

and a voicemail service sends patients safety reminders or links to health information. Patients who do not respond after three calls are referred to the Hard-to-Reach team for further, often in-person, engagement. Outreach callers use structured tools to understand patients' physical, mental, and emotional health needs and screen for adverse social determinants of health.¹⁵

- Population Health Management: The scribe captures and manages patient data using population health and preventive screening dashboards.¹⁵
- Leadership: The company has innovative leaders that respond quickly to meet the needs of their members.¹⁶

Impact

No evidence of impact was found for this practice. However, Oak Street Health reports a 50 per cent reduction in hospital admissions compared to national averages. American Association of Retired Persons (AARP) selected the organization to provide primary care for Medicare-eligible adults.¹⁷

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-888-385-9823

4.2 Cityblock

Source for identification: An expert in the field recommended this program.

Program summary

Cityblock was founded in 2017. The mission of Cityblock is to deliver personalized health services to marginalized communities by reducing disparities and building trust between health care providers, social services organizations, and marginalized groups.¹⁸ Cityblock is a service provider that partners with community-based organizations and health plans to deliver primary care, behavioural health, and social services to members with complex needs. Services are provided in Connecticut, New York, Massachusetts, Washington, D.C., and North Carolina.¹⁸ The service provider primarily delivers services to Medicaid and low-income Medicare populations. More than half of the members are over 60 years old, more than half (59 per cent) are women, and approximately 25 per cent identify their race or ethnicity as Black.¹⁸ Cityblock receives an annual capitated payment by payers for each member and is financially responsible for medical expenses beyond the capitated payment rate.¹⁹

The characteristics of the model include:

- Interprofessional Teams: A virtual team consists of a community health partner (e.g., community health worker (CHW)), nurse care manager, nurse practitioner or physician primary care provider, behavioural health therapist, and psychiatrist.¹⁹
- Coordination, Integration, and Partnerships: Neighborhood Health Hubs are clinics designed as visible, physical meeting spaces where caregivers, members, and local organizations engage with each other and address the many factors that affect health at the local level.²⁰

- **Accessible Care:** A mobile integrated care program includes emergency medical technician (EMT) teams deployed to members' homes. The EMT acts as an in-home extender to the telehealth clinician.¹⁹ Paramedics are also deployed for patients facing acute medical needs, and they engaged with emergency physicians through video during the pandemic. The mobile integrated care program leverages a variety of modalities (including interprofessional consult, video and phone visits, SMS messaging, and in-home care) to deliver whole-person, complex care management to marginalized communities.¹⁹ Members generally meet with a therapist for behavioural health support once a week via video visit.¹⁹ In addition, patients are assigned to a community member who is available to the patient at any time (call or text).¹⁸
- **Comprehensive Care:** The community-first model extended beyond core health services to create a volunteer food delivery program, a high-risk housing program, and a high-risk courier program.²¹ Cityblock launched a pregnancy care program that includes community health partners, doulas, behavioural health specialists, an OBGYN, a pediatrician, a midwife, and lactation support.
- **Patient Engagement:** The team meets with patients to learn about their situation and goals and develops a plan. The community health partner is responsible for checking in with the member on an ongoing basis to understand their progress and flag issues for the rest of the medical team as necessary.¹⁹
- **Health Information Technology:** A software application called Commons is used to help tailor outreach, drive decision support for clinicians, and integrate with various EHRs.²²
- **Population Health Management:** Cityblock has been proactive and innovative in developing a COVID-19 risk rules-based model to identify COVID-19 patients at higher risk of hospitalization or emergency admissions.²³
- **Leadership:** The company has innovative leaders that respond quickly to meet the needs of their members.²⁰

Impact

No evidence of impact was found for this practice. However, the service provider reports that its members have seen reductions in in-patient hospital admission rates, improvements in quality outcomes, and reductions in costs while more than doubling membership and revenue year over year.²⁴ Data from Cityblock's first member cohort showed a 15 per cent reduction in emergency room visits and a 20 per cent reduction in in-patient hospital stays.²² It has been reported that no-show rates declined from 50 per cent (when patients received video visit links only) to 5 per cent when an EMT was sent to the home to help initiate and conduct the video visit.¹⁹ The cost of delivering virtual care was lower than the cost of providing care in the in-person model on a per member per month expense.²²

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-833-904-CARE

4.3 Clinica Family Health Services

Source for Identification: This practice was identified in California Healthcare Foundation.²⁵

Program summary

Clinica Family Health is a federally qualified non-profit health centre located outside of Denver. The organization's mission is to provide affordable medical, dental, behavioural health, and pharmacy services for all ages.²⁶ The health centre



delivers care to low-income and underserved patients. This includes insured, underinsured, and uninsured patients.²⁶ In 2018, 94 per cent of patients lived just above the poverty level. Clinica provides care to more than 58,000 patients a year. Clinica is accredited by the Accreditation Association for Ambulatory Health Care (AAAHC).²⁶ Clinica is also recognized by the National Committee for Quality Assurance (NCQA) as a Level III Patient-Centered Medical Home. This means they have met NCQA's rigorous standards for quality care and commitment to improvement.²⁷

The characteristics of the health centre include:²⁵

- Interprofessional Teams
 - The team includes primary care physicians, nurses, behavioural health professionals, registered dietitians, pharmacists, dental hygienists, health coaches, referral coordinators, and MAs.
 - The team is divided into pods consisting of three teamlets (clinician and MA) supported by one behavioural therapist, one registered nurse (RN), case coordinator, and medical records specialist.
 - The pods are co-located (in the same physical space).
 - MAs are empowered through standing orders to have an expanded role in supporting patients with diabetes, providing immunizations (e.g., follow-up for tests, point-in-time testing, etc.), and conducting PHQ-9 depression scans as part of patient history.
 - RNs are empowered through standing orders to have an expanded role in diagnosis and treatment for acute care.
 - Behavioural therapists have a key role in the team. These therapists are available to patients for a 15-minute consultation after a primary care visit and at the request of the MA.
 - Case coordinators have a key role on the team. The coordinator is a coach and navigator for the patient and develops plans with goals and actions and patient education.
 - A huddle with the pod occurs at the beginning of the shift to determine which patients will need to see the behavioural therapist or case coordinator.
- Accessible Care
 - Processes have been established to ensure that patients see their clinician within five days of their request, but usually within one or two days.
 - Call centres have been employed to manage and direct patient calls.
 - Clinician schedules are booked from 8:00 a.m. to 10:00 a.m., but the rest of the day is left open for same-day appointments.

- Third next available appointment cannot exceed 14 days.
- Patients have access to telehealth and same-day appointments.
- Clinicians are expected to fit patients in for same-day appointments.
- Patient Enrolment: Processes have been established so that patients see their clinicians.
- Performance Measurement
 - Data are collected and tracked to measure the organization's performance, sites, pods, and clinicians over time.
 - Performance metrics include organizational and clinical outcomes.
 - Dashboards are used to track goals, performance, and areas of improvement for each pod.
 - Metrics for relational continuity (percentage of visits with regular clinician and pod) and access are measured continuously.
- Quality Improvement
 - Team huddles take place every two weeks to discuss areas that need improvement.
 - Workflow mapping takes place to enable improvements to process continuously.
 - Improvement plans are developed when performance metrics fall below the targets established (e.g., below 70 per cent continuity with a clinician).
- Funding Model: Pay for performance is for the team and not the individual physician.
- Patient Engagement:²⁶
 - Patient Experience Cards are available in high-traffic areas in each clinic. These allow patients to provide feedback at the point of service. Most patient concerns are handled in 72 hours or less.
- Quarterly patient satisfaction surveys are completed using iPads at check-in.
- Social media feedback is continuously collected from multiple platforms using tracking software. Reviews and comments are forwarded to appropriate site leaders who follow up directly with patients. Clinica is also rolling out a texting system to solicit patient feedback immediately after visits proactively.
- The Patient Voice Committee allows patient and family perspectives to decision-making and planning processes at all levels.
- The Board of Directors includes consumers (51 per cent) who provide feedback directly to the CEO and inform operations and growth of the organization.

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-303-650-446

4.4 Multnomah County Health Department Primary Care Clinics

Source for Identification: This practice was identified in California Healthcare Foundation.²⁵

Program summary

Multnomah County Health Department Primary Care Clinics is a county-run health centre for uninsured and Medicaid patients, consisting of eight primary care clinics in Portland.²⁸

The characteristics of the health centre include:

- Interprofessional Teams
 - The team consists of two primary care providers (physician, nurse practitioner or physician assistant), one RN, a panel manager, a team clerical assistant, and two certified MAs.²⁹
 - Behavioural health personnel include psychiatric nurse practitioners and licensed clinical social workers.
 - CHWs are part of the team. Their role is to increase access to various acute and PHC services, including mental health services, by reaching out to existing clients with needs and making referrals to services.²⁸ CHWs also educate primary care providers about community health needs and cultural beliefs that impact care to improve culturally appropriate care plans.
 - RNs are empowered to provide acute care (triage, procedures, same-day visits, and care coordination) and chronic care management (patient self-management, education, and coaching on behaviour change, nutrition, exercise, medication adherence, and other areas prioritized by the patient).²⁹
 - The panel manager (MA or licensed practical nurse (LPN)) is responsible for managing the needs of the panel. Panel managers review patient charts for care gaps (overdue chronic or preventive care tasks) and outreach for diabetes, hypertension, depression, and pediatric asthma by making phone calls or sending letters to patients for follow-up and tests.²⁹
 - Each site has a sustainability team composed of the site management team plus a representative from each care team. Teams forward their concerns and workflow issues to the clinic manager, who puts them on the sustainability team agenda. The team meets every five months for an hour to review problems and change workflows to solve the problems.²⁹
- Care teams huddle for 20 minutes before their shift and one hour twice per month. During the team meetings, the team reviews the next two-week schedule (vacation, discusses the priorities set by the site's sustainability team, and ongoing team workflows).²⁹
- Providers do warm handoffs for patients needing behavioural services. The RN is implementing the IMPACT model of depression care, in which the provider refers patients and the RN does regular follow-up.²⁹
- The team knows the roles and responsibilities of team members.²⁹
- Patient Enrolment/Empanelment²⁹
 - Patients are empanelled with a clinician.
 - The complexity of the patient population determines panel size.
 - To foster continuity of care, the provider must work at least 50 per cent time and see patients in the clinic at least four days per week.
 - All providers have a practice partner to cover all clinic sessions five days per week.
- Accessible Care²⁹
 - A quarter of appointment slots are kept open for patients who call for same-day care. The remainder of the slots can be scheduled up to two weeks in advance. If a same-day appointment cannot be accommodated, the call is transferred to the team for resolution.
 - Patient calls go to a nurse triage line and an on-call provider for after-hours care.
 - Clinicians are expected to see 18 patients per 8-hour day, and behavioural health professionals see 10 patients daily.
 - Providers have 20-minute appointment slots, with the first slot of the day open for team planning and the last two slots of the day open for finishing the day's work. No-show



rates of providers are used to increase additional slots for patients.

- Performance Measurement

- Data are collected and tracked to measure performance.²⁹
- Performance metrics include organizational (e.g., continuity of care, access, provider productivity, and no-show rates) and clinical outcomes (diabetes, hypertension, depression, and preventive care measures).²⁹
- A visual management system displays real-time indicators of key improvement initiatives for each team on the public board where team members track goals achieved or not achieved.²⁵

- Quality Improvement: Medical director and director of operations meet with clinic leads of the eight clinics monthly to discuss solutions for the areas that require improvement.²⁵

- Health Information Technology: A web-based registry is populated monthly from the EMR through a data warehouse.²⁹

- Leadership²⁹

- The practice is considered to have a strong leadership structure and excellent leaders (medical director and director of operations).

- Leadership reviews dashboard and meets with site leaders at each site monthly to review and discuss opportunities for improvement.

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-503-823-4000; cityinfo@portlandoregon.gov.

4.5 Clinic Ole

Source for Identification: This practice was identified in California Healthcare Foundation.²⁵

Program summary

Clinic Ole is a team-based non-profit community-health care clinic with primary care providers and dentists working together to provide medical, dental, women's health, diabetes testing, pediatric, and preventive gynecological services, and immunizations. The clinics serve low-income individuals with diverse backgrounds.³⁰ The clinic also works

with community partners to offer community-based primary care. OLE Health serves one out of four youth (and children) and one of every six adults in Napa County. OLE Health considers more than 37,000 patients. OLE Health has the highest level (Level 3) NCQA recognition for four sites.³¹

The characteristics of the health centre include:²⁵

- Interprofessional Teams:
 - MAs are empowered to have an expanded role in supporting patients with chronic conditions. This includes conducting screenings and point-in-time testing.
 - Clinicians and MAs form teamlets.
 - Behavioural health services are provided in collaboration with primary care visits.
- Accessible Care: Extended hours are offered during weekdays and weekends.²⁵
- Quality Improvement: Executives provide training on using data for quality improvement.²⁵

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-707-254-1770

4.6 Park Nicollet Health Services

Source for Identification: This practice was identified by Pharmacy Today Journal.³²

Primary summary

Park Nicollet Health Services (PNHS) is an integrated health care system based in St. Louis Park, Minnesota. PNHS offers a team-based approach to delivering high-quality personalized care to Medicare or non-Medicare patients.³² Health care services are organized in five service lines: inpatient care, primary care, surgery, medical specialties, and administration/support.³³ Fifty-five primary care practices deliver primary care services to patients.

Key characteristics include:

- Interprofessional Teams: Primary care providers include family physicians, internists, physician assistants, and nurse practitioners.³⁴
- Comprehensive Services: Patients can access various services, including acute, dental, optometry, mental health, pediatric, orthopedic services.³⁴
- Accessible Care: Patients have 24/7 care through same-day appointments, online clinics, and 21 urgent care locations.³⁴
- Health Information Technology: A single EMR system in in-patient and outpatient settings, making clinical information available across care sites and permitting information sharing with independent practitioners who refer patients to PNHS.³⁵
- Performance Measurement: Use a performance matrix to align its long-term goals with each service line and each unit's one-year goals. The matrix links quality, financing, and accountability. Each service line is managed by a clinical and an administrative dyad, which jointly sets priorities and discusses resource use to achieve the goals. Paired management means that quality and efficiency are linked at every decision-making phase.³³

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-952-993-5023; foundation@parknicollet.com.

4.7 Group Health, Olympia Medical Center

Source for Identification: This practice was identified by the California Healthcare Foundation.²⁵

Program summary

Olympia Medical Center is a medical group practice located in Olympia, Washington.³⁶ The centre is part of an integrated system. In 2006 Group Health initiated a primary care transformation initiative that reduced the number of patient visits per full-time physician from an average of 2,200 to 1,800.³⁶ The goal of this was to lengthen visits.

Key characteristics include:²⁵

- Interprofessional Teams: The team includes physicians, nurses, physician assistants, and pharmacists. MAs and nurses have expanded roles.
- Accessible Care: Same-day appointments are available to patients.
- Virtual Care: Patients use email and phone visits to complement face-to-face visits.
- Patient Enrolment/Empanelment: Patients see their assigned family physicians.

Impact

In a randomized control trial, an intervention involving nurses who provided guideline-based,

patient-centred management of depression and chronic disease significantly improved control of medical illness and depression.³⁷

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-360-923-7000

4.8 Sebastopol Community Health Center

Source for Identification: The practice was identified by the California Healthcare Foundation.²⁵

Program summary

Sebastopol Community Health Center is a private, non-profit, Federally Qualified Health Center that provides quality health services to the whole community, regardless of pay.³⁸ The centre was developed in response to the high use of the emergency department for non-emergency care at the local hospital in California.³⁹ A dedicated consumer and community govern the health centre-led Board of Directors.

Key characteristics include:

- Comprehensive Care: The centre provides check-ups, treatment, pregnancy care, immunizations and child care, prescription medicine, and help for mental and substance abuse.³⁸
- Interprofessional Team:²⁵
 - Team of multidisciplinary health care professionals who work in teams known as teamlets (physician, nurse practitioner, or physician assistant), a care team MA, and a care team representative.

- A care team MA manages the office experience and reinforces messages provided by the medical practitioners. A care team representative communicates non-clinical information to patients (follow-up phone calls to complete laboratory tests or out-patient procedures). Care team MAs are also responsible for quality oversight within their team, such as identifying ways to improve care and coordinate care for medically complex patients.
- All team members have a high degree of autonomy and ownership of their responsibilities, especially RNs, allowing the teams to adapt to the needs of individual patients.
- Patient navigators assist patients with self-management support.
- The team participates in huddles.
- Accessible Care: Open access scheduling promotes timely access to care.
- Performance Measurement and Quality Improvement: The centre has dashboards used to monitor 74 measures.

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

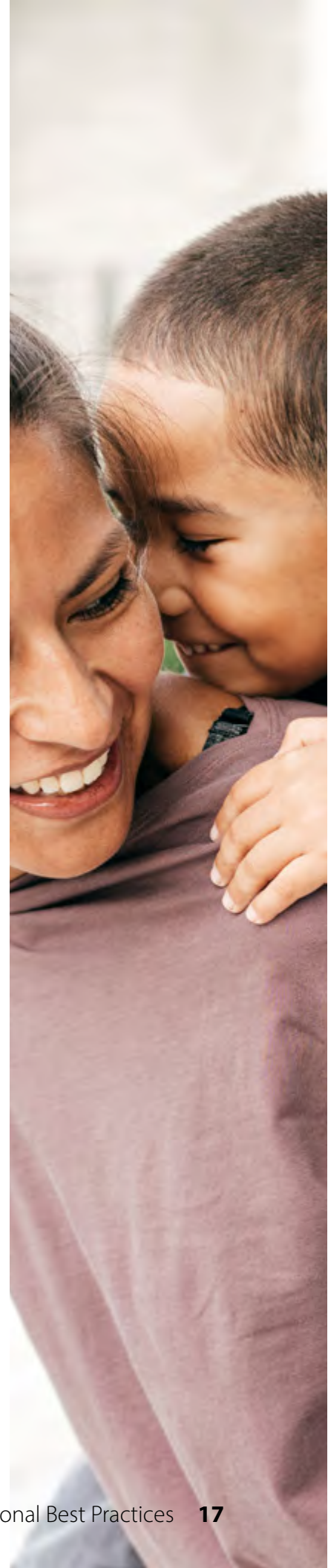
1-707-869-5977

4.9 La Clinica de la Raza, Transit Village site, Family Medicine Department

Source for Identification: This practice was identified by the California Healthcare Foundation.²⁵

Primary summary

La Clinica de la Raza is a non-profit community health centre in California. It consists of a community board (60 per cent are consumers or patients).⁴⁰ There are 26 clinic sites across Solano, Contra Costa, and Alameda counties. A comprehensive array of services is delivered to patients through a team of multidisciplinary health care professionals. The health centre serves all patients regardless of their insurance status. In 2018 La Clínica served over 90,000 patients.



Key characteristics:²⁵

- Interprofessional Teams:
 - The team includes MAs and panel managers who have expanded roles.
 - A dedicated panel manager ensures that appropriate patients are targeted for outreach efforts. The panel manager proactively schedules appointments for patients in registries, uses point-of-care testing to alert physicians when the result is out of range, conducts medication reconciliation, assesses patient adherence to medications, helps patients understand changes to their medication instructions, provides educational information, and conduct quality assurance activities.
 - MAs work closely with panel managers to proactively follow up with patients. They reach out to patients for laboratory work, medication reminders, conduct foot checks, schedule appointments, reinforce self-management support behaviours, conduct medication reconciliation, assess the patient's knowledge of their medications, and remind patients of upcoming appointments.
- Comprehensive Care: A comprehensive array of services is provided by the team. Group visits are available for various topics (foot problems, chronic liver disease, stress, and mental health) and visits for social activities (dancing, bingo, or raffles).
- Population Health Management: Flow sheets and electronic patient registries (diabetes, patients with blood thinners), software to screen patients due for vaccinations or mammograms are used for panel management.
- Quality Improvement and Performance Measurement: Data are collected and tracked to measure the performance for quality improvement.
- Coordination, Integration, and Partnerships: The health centre has close collaborations with the community organizations, including seniors' centres, colleges, and the head start program

for children. The centre supports housing, psycho-social assessments, service referrals and research, and crisis intervention.

Impact

No evidence of impact was found for this practice. The organization reports that 92 per cent of patients reported being satisfied.⁴⁰

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Website: <https://laclinica.org/contact-us>

4.10 West Los Angeles Veterans Affairs Primary Care Clinic

Source for Identification: This practice was identified by the California Healthcare Foundation.²⁵

Program summary

The West Los Angeles Veterans Affairs Primary Care is a clinic within an integrated system in Los Angeles, California. The patient population includes veterans.

Key characteristics include:²⁵

- Interprofessional Teams: The team includes primary care physicians, nurses, clerks, social workers, pharmacists, and behavioural health professionals. Teamlets have clinicians, RNs, licensed vocational nurses, and clerks.
- Patient Enrolment: Patients are assigned to family physicians who provide continuous care.
- Performance Measurement: The clinic collects data to measure performance, including metrics for continuity of care.

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-310-478-3711

4.11 Vermont Blueprint for Health

Source for Identification: This practice was identified by the Primary Care Collaborative.⁴¹

Program summary

The Vermont Blueprint for Health was implemented in 2010 as a state-wide program. Vermont Blueprint for Health consists of primary care practices recognized as patient-centred medical homes (PCMHs) through national quality and care coordination standards set by the NCQA.⁴¹ As of January 2021 there were 4,134 primary care practices, including hospital-owned practices, independently owned practices, and Federally Qualified Health Centers participating in the Blueprint.^{42,43} Insurance agencies pay Vermont Blueprint for Health (Medicaid, Medicare, BlueCross, MVP, and Cigna).^{42,43}

Key characteristics of the model include:

- **Funding and Payment Arrangement:** Funding is based on per member per month payment by payers to primary care providers or through payments for salaries and expenses of the community health teams (CHTs).⁴³ In 2016 performance-based payments were included to improve health care resource use and quality.
- **Patient Enrolment:** Attribution to practice is determined by the practice at which the patient received most of their primary care within the 24 months before the attribution process is conducted.⁴³

- **Quality Improvement:** Each practice works with practice facilitators who lead ongoing quality improvement activities and provide additional opportunities to support improved well-being.⁴⁴
- **Coordination, Integration, and Partnerships:** Practices are supported by CHTs, which are multidisciplinary teams of nurses, care coordinators, social workers, and health coaches.⁴³ The team assists with identifying root causes of health problems, including screening for mental health needs, substance use disorders, and social determinants of health. They also connect patients with effective interventions for the management of chronic conditions. CHTs provide the following services: population/panel management and outreach, individual care coordination, brief counselling and referral to more intensive mental health care, substance use treatment support, and condition-specific wellness education. The services may be co-located with the practices or centralized and shared across multiple practices.

Impact

No evidence of impact was found for this practice. However, the Blueprint for Health Annual Report shares that the initiative resulted in:⁴¹

- Reductions in in-patient discharges by 8.8 per 1,000 members
- Reductions in patient days by 49.6 per 1,000 members
- Reductions in standard imaging, advanced imaging, echography

In 2013 total expenditures were \$101 less per Blueprint participant for Medicaid (compared to non-PCMH primary care practices) and \$565 less per Blueprint participant for commercial payers.⁴¹

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Mara Donahue at 1-802-798-2471

4.12 Department of Veterans Affairs Patient-Aligned Care Teams (PACT)

Source for Identification: This practice was identified by the Office of Patient Care Services for Veterans Affairs.⁴⁵

Program summary

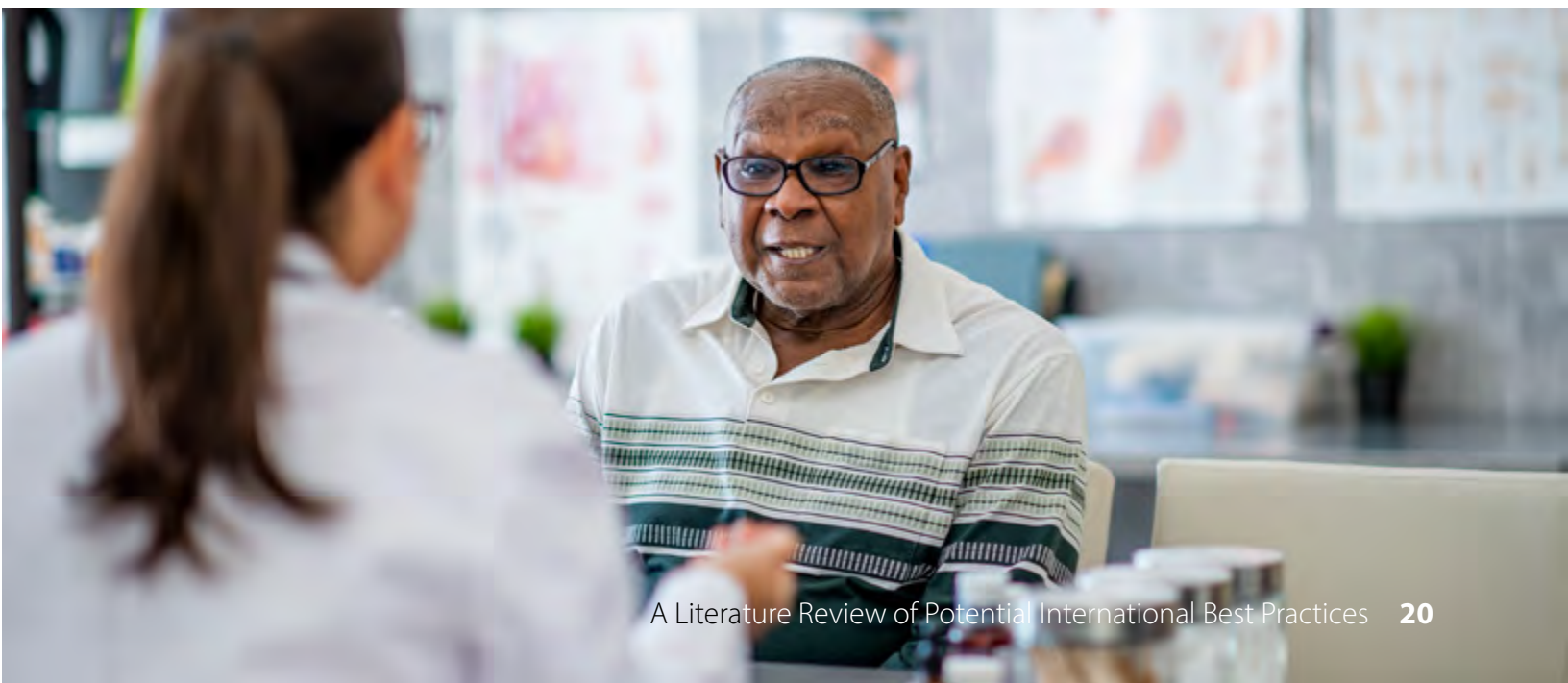
The Department of Veterans Affairs Patient-Aligned Care Teams was implemented in 2010. It consists of teams of primary care professionals and specialists (e.g., nurses, social workers, physicians) working collaboratively to provide comprehensive care to Veterans.^{46,47} This initiative aims to improve access, continuity, coordination, and comprehensiveness using patient-driven and patient-centred care.⁴⁸ The program was developed based on the patient-centred medical home model for high-functioning team-based care. All care is informed by best-practice and evidence-based care guidelines.⁴⁵

Key characteristics include:

- Interprofessional Team: Care is provided by a primary care provider, nurse care manager, clinical

associate, and administrative clerk. This team consults and facilitates access to other providers, including social workers, dietitians, pharmacists, mental health practitioners, specialists, and non-Veterans Affairs health care professionals.⁴⁹ Team members have clearly defined roles. All providers regularly meet to discuss their shared patients and facilitate care coordination.

- Patient Engagement: The team engages Veterans to meet their health and wellness goals through personalized care plans.⁴⁹ Informal (family and friends) caregivers are members of the care team and are included in care decisions. The multidisciplinary care team is then responsible for helping Veterans with all aspects of their care plans, emphasizing prevention and health promotion. Individuals can also access educational seminars and vetted health care information on MyHealtheVet.
- Timely Access: Patients can communicate with PACT members by telephone (telephone care 24/7 is a VHA Health Care Service Standard) or through secure messaging via MyHealtheVet.⁴⁵
- Health information Technology: PACT uses health information technologies such as a computerized patient record system (CPRS), the Nationwide Health Information Network, and EHRs



Impact

- In 2012 a study was done to assess the impact of PACT by evaluating the experiences of health care professionals with implementing a PCMH model and becoming a teamlet. The study found that respondents felt the PACT model had improved relationships with patients and increased patient satisfaction; however, teamlets had reduced time with patients, increased member burnout, and diminished efficacy due to low-performing team members. Staffing was seen to be insufficient for the new model.⁵⁰
- In 2017 an RCT study explored how augmenting the existing PACT with an Intensive Management program (ImPACT) influenced high-need patients' costs, health care use, and experience. The authors concluded that intensive outpatient care for high-need patients did not reduce acute care use or costs compared with standard PACT care.⁵¹
- In a recent 2021 mixed-methods study, researchers found that clinics located in large rural or small/isolated rural areas had difficulty accessing telephone visits, group visits, or secured messaging and completing post-discharge follow-up calls to urban clinics.⁵²
- In the context of COVID-19, the continuous use of telephone and online communication by social workers was found to meet the needs of Veterans in a timely fashion.⁴⁶

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-800-273-8255 (Press 1)

4.13 Hospice of the Bluegrass

Source for Identification: This practice was identified by a newspaper article on HEALTHCARE First.⁵³

Program summary

The Hospice of the Bluegrass is a non-profit organization that provides a team-based primary care approach to care for terminally-ill individuals with six months to live (or less), and their families, to meet their combined medical, physical, social, and emotional and spiritual needs for a 23-county service area.⁵⁴ The Hospice includes 15 organizations.⁵⁵ It is led by a Board of Directors⁵⁶ and has 400 staff, including a mix of nurses, certified nursing assistants, social workers, chaplains, bereavement counsellors, physicians, and administrative and clerical staff.⁵⁷ Clinical teams include primary care and specialist palliative care physicians, occupational therapists, physical therapists, speech-language pathologists, counsellors, home aids, and nurses. Care teams provide care in the home, hospital, long-term care facilities, or in a stand-alone hospice house, and are covered by major insurance plans in the United States.⁵⁴ The Hospice of the Bluegrass also trains family members as caregivers and provides them with emotional and spiritual support.⁵⁴ Hospice of the Bluegrass created a Pharmacy and Therapeutics Committee as a management strategy to control costly medication use.⁵⁸

Impact

- An informal (i.e., non-academic) survey conducted with family caregivers showed high scores in treatment preferences, beliefs/values addressed (if desired by the patient), pain screening, pain assessment, dyspnea screening, dyspnea treatment, and the quality of care provided to patients treated with an opioid who are given a bowel regimen.⁵⁹
- A cross-sectional survey that measured staff members' beliefs, attitudes, and values found

that staff were protective of controlling access to patients (i.e., did not want other providers providing care to their patients) and did not have enough time to participate in research.⁵⁷

- Hospice of the Bluegrass reports saving between \$1 million and \$2 million per year for two hospitals in Lexington.⁵⁶

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-859-276-5344

4.14 El Rio Community Health Center

Source for Identification: This practice was identified by The HITEQ Center (a National Training and Technical Assistance Center), under contract to the Bureau of Primary Health Care.⁶⁰

Program summary

El Rio Community Health Center is a large provider of primary medical, dental, and behavioural health services.⁶¹ The integrated care model is delivered across 13 health centres and serves more than 10 per cent of the Tucson, Arizona, population.⁶¹ This centre does not accept Medicare recipients, but receives funding from many other health insurers, patient co-payments, government grants, and private donations.⁶² The clinic focuses on providing episodic care through collaborative team-based care (e.g., dentists, primary care physicians, nurses, and nurse practitioners).⁶² The “El Rio MyChart” is available to patients to schedule and manage appointments, view health information, communicate with providers, access test results, and request prescription refills.⁶² To help provide

their community with additional opportunities to engage in health prevention, El Rio Community Health Center partnered with Tucson Medical Center to create HealthOn Tucson—an integrated health and wellness non-profit organization.⁶²

Impact

A formal evaluation is currently under way but unavailable.⁶²

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-520-670-3857

4.15 Crozer-Keystone Family Medicine Residency, Center for Family Health

Source for Identification: This practice was identified by the Association of American Medical Colleges.⁶³

Practice summary

The Crozer-Keystone Family Medicine Residency in Pennsylvania has the Centre for Family Health and has been certified as a patient-centred medical home since 2009. The hospital-based clinic consists of 30 residents in training that attend two clinic sites. The clinic predominantly includes clinically focused faculty, 12 attendings with 10 clinical FTEs. Each clinic has a team of attending physicians, residents, two MAs, an RN, a pharmacist, a social worker, and psychology students. The patient population consists of 7,000 patients with about 20,000 visits per year. About one-third of patients are Medicare patients, one-third Medicaid or uninsured, and one-third privately insured.⁶³



Key characteristics of the centre include:⁶³

- Interprofessional Team
 - The core team (teamlet) includes physicians, physician-residents, on-site care manager, one MA, and one medical student. This team works with social workers and a behaviourist team.
 - The core team works together and attends meetings whereby they review each patient on the schedule and discuss what issues to address in the visit and what preventive health tasks are due. These regular huddle-style meetings are also used for discussing clinic flow and what the medical student role will be for the day.
 - The RN care manager supports all teams and is responsible for hospital discharge appointments, diabetes education, and care coordination for patients with complex health care needs and high emergency department/hospital use. The RN contacts discharged patients within 48 hours and schedules them for double-slot visits. The RN reviews hospital charts, prepares medication reconciliation, and huddles with the teamlet to see the patient. The RN provides intensive counselling and self-management support for complex patients.
 - The pharmacist and pharmacy students conduct medication reconciliation and see patients for warfarin management.
 - The scope of the MA role was expanded to help free physician time for clinical decision making. MAs assist by reviewing patient charts and doing pre-visit planning (dates that the patient will need appointments for procedures), making future appointments, obtaining a brief history at intake, reviewing medications, asking whether refills are needed, and screening for depression. MAs also check EMR inboxes, help providers with forms, and update the patients' proactive care flowsheets.
 - The Director of Behavioural Sciences reviews the daily clinic schedule to screen for patients with behavioural health needs and ensure they can access the appropriate services.
- Population Health Management: On-site care manager to oversee population management of diabetes.
- Performance Measurement: An annual SWOT (strengths, weaknesses, opportunities, threats) analysis is conducted with all MAs, residents, faculty, and staff completing anonymous surveys. Members of the leadership team then review the SWOT results to develop plans for improving performance.
- Quality Improvement: To help continuously improve the quality of care provided, a network-wide quality and population management director is responsible for setting a yearly focus and related outcome targets. Each clinic has a quality champion who reviews targets that were not met and

developed a plan to address them. In addition to clinical measures, the residency program collects data on patient satisfaction, patient flow, and wait times to help improve care.

- **Health Information Technology:** EMRs are used to generate a flowsheet with information on population health, visit management (e.g., tracking of overdue services), visit templates, and information on the patient's health care maintenance and disease management tasks. The flowsheet also contains information on preventive care, diabetes/hypertension/lipids, heart failure, osteoporosis, chronic obstructive pulmonary disease, and depression screening. This allows collecting data on chronic disease measures and clinic-specific and provider-specific data. Information can be tracked on preventive care, cancer screenings, diabetes care, lipids, and emergency department/hospitalization use. The dashboard results are frequently presented to the team.
- **Leadership:** The transformation of the Center for Family Health has been attributed to engaged leadership.

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Crozer Health Family Medicine Residency 1260 East Woodland Avenue, Suite 200 Springfield, PA 19064. Phone: 610-690-4471. E-mail: fmresidency@crozer.org.

4.16 University of Massachusetts Medical School– Baystate Internal Medicine Residency High Street Health Center– Adult Medicine

Source for Identification: This practice was identified by the Association of American Medical Colleges.⁶³

Practice summary

The Baystate Internal Medicine Residency High Street Health Centre for Adult Medicine is in Springfield, Massachusetts, and a branch of the University of Massachusetts' Medical School.⁶³ This is a non-profit clinic for people in low-income neighbourhoods. The patient population consists of 10,000 patients, mainly covered by either Medicare or Medicaid. The clinic is run by 10 teams, with one attending and five to six residents, whereby the same people work together to care for the same patients within their teams.

Key characteristics of the model include:⁶³

- **Interprofessional Teams**
 - Each team also has an RN, an MA (who remains the same 80 per cent of the time), and one front desk staff (patient service representative (PSR)).⁶³ The teams are divided into five additional sister-teams to provide extra assistance. Teams and sister teams work in the same spaces.
 - Every team member has a clearly defined goal.
 - MAs alert RNs of when vaccinations are due, verify smoking status, complete patient health questionnaires for depression screening, fall-risk assessments, manage chronic disease registries, contact diabetic patients who are overdue for services, and track consultations and diagnostic-test results. MAs also place patients in each room.

- RNs provide nurse visits with diabetic, asthmatic, and hypertensive patients, and regularly provide Coumadin and controlled substances, arrange labs, etc. The RN goal is 40 nurse visits with patients per month.
- PSRs check on patients, make appointments, take phone calls, fill no-show or cancellation slots with patients wanting appointments, arrange lab and diagnostic study appointments, and provide patients with educational materials and follow-up appointments.
- Every team member is present one day a week to help facilitate “bonding.”
- Accessible Care: The clinic ensures patients are seen within two weeks of their request and 24 hours for urgent appointments.
- Continuity of Care: For booking appointments, PSRs offer patients appointments with their primary care physician. If the physician is unavailable and the patient wants an appointment sooner, the PSR offers to make an appointment with the team advanced-practice clinician. If the team is unavailable, the patient is offered another provider on the team or (last resort) the sister-team. The centre also ensures team continuity 80 per cent of the time.

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-413-794-0000

4.17 University of North Carolina Family Medicine Residency, UNC Family Medicine Center

Source for Identification: This practice was identified by the Association of American Medical Colleges.⁶³

Practice summary

The University of North Carolina Family Medicine Residency, UNC Family Medicine Center, serves 17,000 patients between their multiple clinics. The care offered at the clinic is through four teams, each consisting of six faculty, six residents, six credentialed medical assistants (CMAs), and a clerk.⁶³

Key characteristics include⁶³:

- Interprofessional Teams:
 - These teams are organized in teamlets that are supported by various service providers.
 - The team includes physicians, counsellors for behavioural health, medical-related finances, nicotine addictions, nutrition, social services, lab technicians, acupuncture, physical training, and physical therapy.
 - There is an RN and three LPNs that function as communications (triage) nurses where they can refill medications address messages the same day.
 - The CMA is the team lead and is responsible for daily clinic flow and training of new team members.
- Patient Enrolment/Empanelment: Patients are empanelled with a physician.
- Continuity of Care: CMAs and team clerks try to give patients appointments with their empanelled provider.



- Accessible Care:

- The clinic works on a 16/16 schedule, which requires 16 providers to be present throughout the day to ensure patients have timely access to care. The resident-scheduling model is 12 four-week blocks (two blocks are five weeks).
- To ensure appropriate staffing in the clinic, a forecasting model that predicts appointment demand is used. The clinic aims to provide appointments within a few days of request.
- The clinic's goal that follow-up visits occur within 10 days is almost always achieved.

- Performance Measurement: Data are collected on clinical and operational metrics, including patient and staff satisfaction. The entire team, including the individual who collects the data, meets monthly to review and determine improvements. The number of patients each provider sees is also monitored quarterly to ensure they can access appointments in a timely manner.

Impact

No evidence of impact was found for this practice. However, the residency program was ranked number two in the nation by *US News & World Report* in 2020.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Jessica Smith, MPM, Manager of Departmental Residency Programs, Phone Number: 1- (984)-974-0210.

4.18 The Air Force Medical Home Advantage

Source for Identification: This practice was identified by the Primary Care Collaborative.⁶⁴

Program summary

The Air Force Medical Home Advantage aims to provide care to military members, Veterans, and their families. The Air Force implemented the Family Health Initiative to improve primary care for patients.⁶⁵ The Air Force Medical Home builds on the existing Patient-Centred Medical Home model (PCMH). A team of providers has a patient panel of military beneficiaries (active-duty members, retirees, and families).⁶⁶ Primary care managers assist patients with access to specialty providers.⁶⁷ In

2011 the PCMH implemented the models at several bases with the United States. The scope of services includes prevention and personalized interventions. Care plans are created to encourage healthy lifestyle behaviours.⁶⁴ These clinics provide care to more than 1.1 million Veterans.⁶⁷

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

One study explored the lessons learned when transitioning a traditional primary care practice into a PCMH.⁶⁶ This included the Air Force Medical Home Advantage. Data were collected from various organizations at a workshop held in Alexandria, Virginia, in June, 2010. Participants indicated that the lack of specialized training for team members to work in the model was a barrier. The lack of physician buy-in for the model was a barrier. Physicians were resistant due to the misalignment of financial incentives, feeling under-compensated, and needing to perform time-consuming procedures. Programs tried to change office culture by realigning workspace to facilitate collaboration. Lastly, challenges with implementing EMRs were noted for practices transitioning from a paper-based system to an EMR as the process was time-consuming.

Contact information

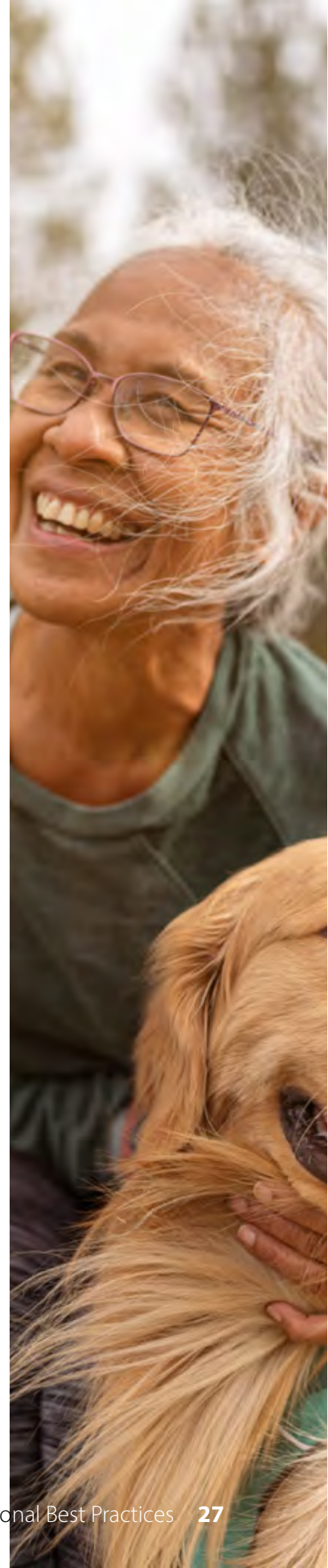
7700 Arlington Boulevard, Falls Church, VA 22042

4.19 BRIGHTEN (Bridging Resources of an Interdisciplinary Geriatric Health Team via Electronic Networking)

Source for Identification: This practice was identified by the Mather Institute.⁶⁸

Program summary

The Bridging Resources of an Interdisciplinary Geriatric Health Team via Electronic Networking (BRIGHTEN) program is a virtual model of care. BRIGHTEN is rooted in best-practice concepts for geriatric mental health.⁶⁸ BRIGHTEN consists of primary care providers who collaborate with one another to deliver geriatric mental health care through virtual communication (email, phone, and fax).⁶⁸ To address the symptoms of depression in older adults, the BRIGHTEN virtual team includes experts in psychology, social work, psychiatry, physical therapy, occupational therapy, dietetics, chaplaincy, and pharmacy.⁶⁹ Each



team member responds with care recommendations based on their specialty.⁷⁰ After recommendations are made, the primary care provider delivers care to the patient based on a tailored care plan.⁷⁰ This approach reduces the time associated with face-to-face meetings, increases effective communication between providers, and facilitates the delegation of health care tasks to the provider best suited to address the concerns of the individual.⁷¹ Although the team is virtual, team members meet every quarter to discuss team functioning.⁷¹ The BRIGHTEN team also has a “culture of cake,” where significant events are celebrated by eating cake during in-person meetings.⁷²

Impact

- The BRIGHTEN program was assessed using the RE-AIM structure (used to design well-being advancement programs, assess achievement, and further develop chances of projects working in real-world circumstances). The evaluation found that the interdisciplinary methodology profoundly encouraged treating more seasoned depression and fostering general emotional well-being through clinics.⁶⁹
- The team functioning of the BRIGHTEN program was assessed using the Team Fitness Test and Team Development Measure (31-item measure of team functioning—cohesiveness, communication, role clarity, goals, and means clarity). The study found that within six months of formation, team members did not know what a “meeting” was (e.g., email that needed a response or not). However, the study also found that virtual communication allowed team members to have an equal voice.⁷¹
- A feasibility study of BRIGHTEN evaluated the team’s ability to provide depression treatment and a broad range of services (e.g., occupational therapy). The study found that at six months, participants demonstrated significant ($P < 0.001$) improvement as measured by the geriatric depression scale and the Medical Outcomes.⁷⁰

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-847-492-7500

4.20 Mike O’Callaghan Federal Medical Center

Source for Identification: This practice was identified in a Discussion Paper provided by the Institute of Medicine, Washington, DC.⁷²

Program summary

The Mike O’Callaghan Federal Medical Center is run by the 99th Medical Group.⁷³ It aims to provide preventive, emergency, and acute care services for 22,000 active-duty members and their dependents and army retirees and their dependents.⁷² The Center connects primary and secondary care. Services are provided by nurses, physicians, surgeons, clinical pharmacists, discharge coordinators, physician assistants, and social workers.⁷² This program aims to follow team-based care as informed by TeamSTEPPS to provide collaborative, coordinated care to improve patient outcomes and safety.⁷² TeamSTEPPS involves routine multidisciplinary daily rounds attended by clinicians from multiple professions. Teams update the EMR to review patient information, add notes, order sets, and flow sheets. The team meets weekly to discuss potential improvements in communication and the EMR.⁷² Over 1,400 staff work at the Mike O’Callaghan Medical Center (Hospital).⁷³

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-702-653-2000

4.21 Cincinnati Children's Hospital/Cincinnati Children's Family- and Patient-Centered Rounds

Source for Identification: This practice was identified by a Discussion Paper provided by the Institute of Medicine, Washington, DC.⁷²

Program summary

This program resides in the hospital. It is a team-based initiative in which primary care providers, hospital physicians, nurses, administrative staff, and other professionals provide integrated care to children and their families.⁷² Team members aim to develop trust with patients and families by using effective communication to develop shared goals and highlighting roles and responsibilities. Team rounds with the patient and family members are used to review progress toward the shared goals, setting new goals, and plans of care.

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

1-513-636-4200 (local) or 1-800-344-2462 (toll free)



5. Sweden

5.1 Sweden's Team Based Care Model

Source for Identification: An expert in the field recommended this program. It was also identified as a best practice by the Commonwealth Fund.⁷⁴

Program summary

The Swedish health care system is highly integrated.⁷⁴ There are 1,200 primary care practices; regions own 60 per cent of practices, and the remainder are privately owned. The regions control the establishment of new private practices and are responsible for regulating clinic hours and financial conditions for accreditation and payment.⁷⁴ Team-based primary care includes GPs, nurses, midwives, physiotherapists, and psychologists. Municipalities employ district nurses to coordinate care for patients with chronic illness or complex needs.⁷⁴ They are involved in conducting home visits. Public and private physicians, nurses, and health care staff are predominantly salaried employees.⁷⁴ Primary care providers are required to provide after-hours care. Often, three to five primary care practices are located close to each other to provide after-hours arrangements.⁷⁴

Primary health care centres (PHCCs) employ four to 10 general practitioners (GPs), nurses, physical and occupational therapists, social workers, psychologists, nurses, nurse assistants, and administrators.⁷⁵ PHCCs are paid through a combination of methods: fixed capitation for registered individuals (accounting for 60 per



cent–95 per cent of the total payment), fee-for-service (accounting for 5 per cent–38 per cent of payments), and performance-related bonuses (0 per cent–3 per cent of payments) for achieving quality targets related to patient satisfaction, care coordination, compliance with evidence-based guidelines, and other metrics. Primary care physicians in the centres are paid a salary, determined at the regional level, or are private providers.⁷⁴ Citizens can choose to register with any public or private provider they want, although most register with practice instead of a provider.⁷⁴ Physicians from primary care practices can also see private patients outside their primary care practice.⁷⁴

Many “high-quality information technology systems” are adopted by primary care practices, although the types of systems vary by care setting and region.⁷⁴ A qualitative study used 48 in-depth interviews with managers and staff at primary care health centres. It noted that managers need to integrate a policy “push” to increase primary care professionals’ understanding and values of supporting team-based primary care innovation.⁷⁵

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Information could not be found.



6. Nepal

6.1 Frontline Health Workers/ Nepal Health Sector Program (NHSP)

Source for Identification: This practice was identified by the CHW Central interactive platform.⁷⁶

Program summary

In 2004 Nepal implemented a team-based approach for communities.⁷⁶ The program is funded through a mix of government and donor financing (i.e., U.S. Agency for International Development paying for the cost of training and the United Nations Children's Fund (UNICEF) providing materials for training and patient education).⁷⁶ The purpose of the team-based approach is to promote healthy behaviours through health education (e.g., about immunization campaigns), distributing supplies and medications (e.g., a tablet taken immediately after childbirth to reduce the risk of postpartum hemorrhage), detecting and treating common childhood illnesses, resuscitating newborns who have birth asphyxia, and providing medications and treatment to children with symptoms of pneumonia.⁷⁶

Each health facility has at least one professional health worker (e.g., primary care physician, nurse), one village health worker (VHWs), one maternal and child health worker (MCHW), and usually nine



(but sometimes more) female community health village (FCHV) workers who work part-time (e.g., eight hours per week) to serve a catchment population of 5,000 to 10,000 people. VHWs and MCHWs supervise the FCHVs who work in their catchment areas.⁷⁶ MCHWs provide treatment to patients at outreach clinics. Services include treating childhood illnesses and supporting health education/promotion, immunization, and vitamin A campaigns.⁷⁶ MCHWs also facilitate referrals and are responsible for the supervision of FCHVs.⁷⁶ MCHWs and VHWs are formally employed and paid by the government for their services. In contrast, many FCHVs are part-time volunteers and receive non-financial incentives like clothing allowances and free services from Nepal's Ex-Servicemen Contributory Health Scheme, providing medical insurance and community recognition.⁷⁶ FCHVs were originally being paid a monthly stipend, but the stipend was discontinued due to a lack of funding.

Impact

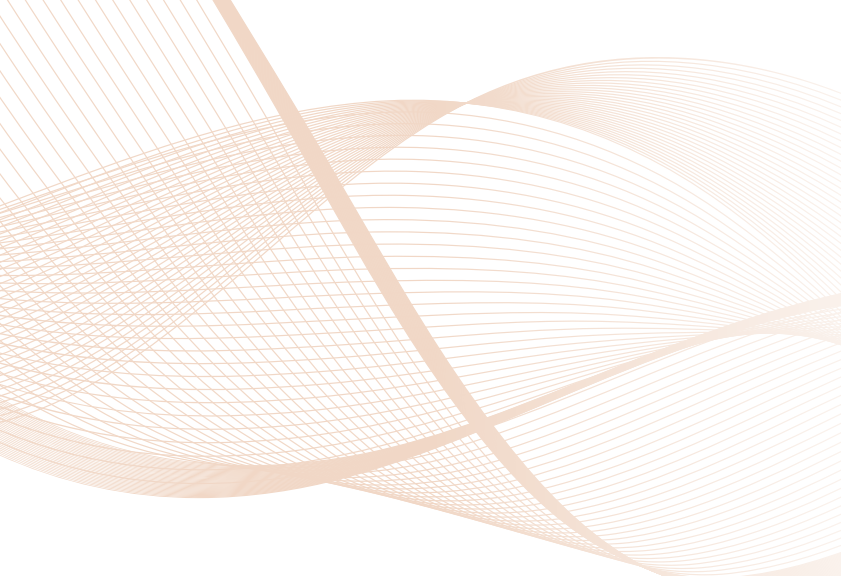
No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Information could not be found.



7. Singapore

7.1 Public-Private Chronic Disease Management Shared Care Programme (“Shaped Care Programme”)

Source for identification: An expert in the field recommended this program.

Program summary

The Shared Care Programme allows patients to access team-based care for 20 chronic conditions. The program resides in a public hospital. The Specialist Outpatient Clinics are polyclinics with more than 1,250 GP clinics and private specialists.⁷⁷ The team includes primary care providers, dentists, nurses, and specialists. This program is sponsored by the Ministry of Health.⁷⁷

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Information could not be found.



8. Hong Kong

8.1 General Outpatient Clinics

Source for Identification: This was identified as best practice by the Hospital Authority in Hong Kong.⁷⁸

Program summary

In Hong Kong, the Hospital Authority provides community-based PHC services to individuals older than 65, low-income individuals, and patients with chronic diseases through general outpatient clinics (GOPCs). GOPCs are in various districts over Hong Kong Island, Kowloon, and the New Territories. Patients can book a consultation within 24 hours through the GOPC Telephone Appointment System or a one-stop mobile app. Some GOPCs provide care in the evening, on Sundays, and public holidays.⁷⁸

The multidisciplinary (i.e., nursing and physician-based) risk factor assessment and management program (RAMP) was introduced within GOPCs. Specifically, the RAMP was designed to improve the quality of care for patients receiving diabetic care in the GOPCs^{79,80} and for patients diagnosed with hypertension.⁷⁹ Patients with diabetes who can independently complete their activities of daily living and receive regular care at one of the GOPCs are eligible to enter the RAMP.⁷⁹ The



RAMP is based on a chronic disease model of care and offers team-based multidisciplinary care that is coordinated by a nurse manager who schedules monitoring of patient care.⁸⁰ The RAMP uses a standardized protocol to assess patients regarding their risk for illness-related complications.^{79–81} Patients receive appropriate interventions and education based on the following protocol: 1) low-risk patients receive the usual GOPC follow up; 2) medium-risk patients receive care by an advanced practice nurse (APN); 3) high-risk/very high-risk patients receive care by an APN and a specialist family medicine physician. The RAMP assessment is repeated once every two years.⁸⁰

In 2017 six nurse allied health clinics (NAHC) were introduced within GOPCs. The program is government funded and aims to support the increase in chronic disease management in community settings.⁸² The program includes teams of multidisciplinary nurses and allied health professionals.⁸² The program addresses fall prevention, continence care, mental wellness, wound care, respiratory disease management (respiratory clinic), and medication management and compliance.⁸² Services include drug compliance, evidence-based care, and education.^{82,83} Patients are referred to NAHCs by their primary care doctor or are self-referred.⁸⁴ The program is based on nurse-led clinics found in the United Kingdom, Australia, Canada, and the United States.

Impact

A quantitative study is under way to assess the quality of care and viability of a multidisciplinary RAMP for type 2 diabetic patients receiving care.⁸⁰ Another evaluation is currently under review by the Department of Family Medicine and Primary Care of the University of Hong Kong.⁸² The evaluation will involve self-reported information from six clinics on their impact on clinical outcomes.

A study that compared the experiences of GOPC users with users of private GPs found that patients reported better primary care experiences with private GPs. This was attributed to better interprofessional relationships and accessibility.⁸⁵

A study on Nurse and Allied Health Clinic for Continence Care (NAHC-CC) evaluated the long-term effects (24 months) of nurse-led continence care primary care services. This study noted that NAHC-CC effectively alleviated the symptom severity and impacted the health-related quality of life in patients with lower urinary tract symptoms than those receiving usual care (i.e., not at a NAHC-CC). These improvements are sustained for at least two years.^{84,86} A study on the five-year effectiveness of a multidisciplinary Risk Assessment and Management Programme–Diabetes Mellitus

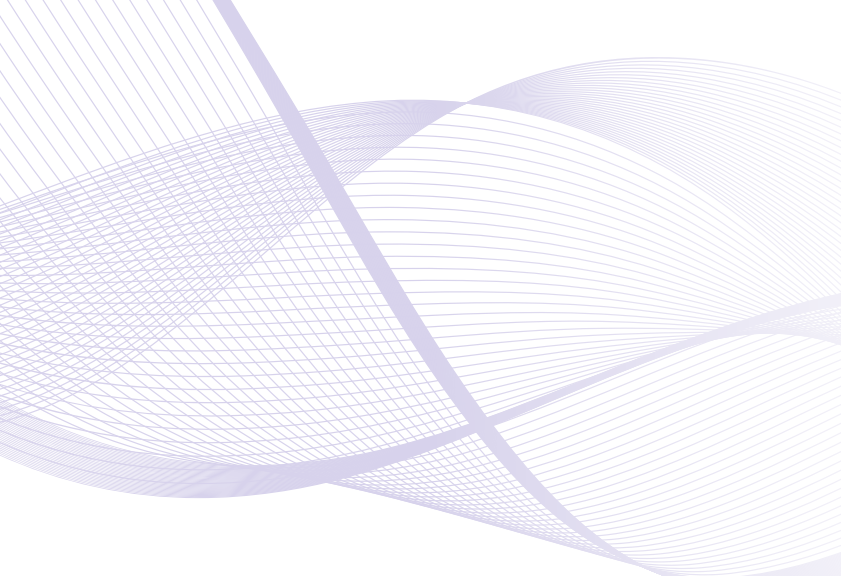
(RAMP-DM) in primary care patients with type 2 diabetes was conducted.⁸⁷ It was found that RAMP-DM led to significantly greater reductions in cardiovascular disease (CVD) risk by 56.6 per cent, microvascular complications by 11.9 per cent, mortality by 66.1 per cent, specialist attendance by 35.0 per cent, emergency attendance by 41.2 per cent, and hospitalizations by 58.5 per cent.⁸⁷ Patients with lower CVD risk received the best advantages from the RAMP-DM.⁸⁷ Similar evaluations of the quality of care and effectiveness of the RAMP found the program successfully resulted in reductions in blood pressure and CVD risk of patients with hypertension and diabetes.^{79,87–91} RAMP-DM has also been associated with lower incidences of all microvascular complications (except neuropathy).⁹² RAMP-DM is considered to be cost-effective.⁹³

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Information could not be found.



9. Australia

9.1 CHC (Community Health Centre)

Source of Identification: An expert in the field recommended this program.

Program summary

The Department of Health funds community health centres (CHCs). CHCs include an interprofessional team of providers that offer a comprehensive array of primary care services, including community health, pharmacy, and allied health services.⁹⁴

Impact

Systematic reviews were conducted. Findings include:

- CHCs can also help improve the equity of care. A study conducted at the Community Health Service in Kensington, Melbourne, which serves a large migrant population, noted that the CHC gave higher priority to vitamin D testing in migrants, people who are middle-aged, females, and those with diabetes and osteoarthritis, who may be most at risk of vitamin D deficiency.⁹⁵
- Compared to private general practice, GPs working in CHCs are more likely to detect their patients' exercise levels and dietary details, perform

a Pap smear, and provide advice on smoking, alcohol, and diet, which can help prevent illness.⁹⁶ Similarly, a study of 12 Aboriginal community health centres in the Northern Territory of Australia found better outcomes for diabetes care related to the control of HbA1c, blood pressure, total cholesterol, and health promotion.^{97,98}

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

betterhealthchannel@dhhs.vic.gov.au.

9.2 Western Sydney Integrated Care Program (WSICP)

Source of Identification: An expert in the field recommended this program.

Program summary

The Western Sydney Integrated Care Program (WSICP) aims to improve health care for people living with chronic diseases (i.e., diabetes, chronic obstructive pulmonary disease (COPD), and

congestive heart failure). The program links these people to existing programs to help meet their physical, mental, and social health needs.⁹⁹ The WSICP supports individuals through a team-based home care model. Care facilitators are RNs employed by the Western Sydney Local Health District (WSLHD). They are connected with patients as soon as they are enrolled by a GP participating in the program, a care facilitator, or a hospital specialist team.⁹⁹ The care coordinators then conduct comprehensive assessments of health and social care needs and coordinate this care between primary and acute care settings. Care coordinators also enhance the care plans based on their assessments, and supervise and monitor patient care during hospitalization to ensure continuity of care.⁹⁹ Through this model of care GPs also have access to community services and a phone support line.¹⁰⁰ This model of care also encourages patients to engage in self-care interventions recommended by the care coordinator and involves individualized tools based upon the priorities set by the patient.⁹⁹

Key features of the program include:

- **Coordination:** Rapid Access and Stabilization Services (RASS) is a hospital-based clinic that provides timely access to evaluate an acute deterioration of a patient's chronic condition that can either avoid or expedite a hospital admission based upon the evaluation results.⁹⁹ Similarly, GPs can expedite care by referring their patients to the appropriate specialty clinicians for their patient's chronic condition and consulting with them through "WSICP's data-sharing technology platforms."
- **Patient Enrolment:** To be eligible for the WSICP, clinicians, GPs, and hospital staff discuss suitability with patient input. Patients can therefore be enrolled in one of three ways: 1) identified by either the GP or hospital; 2) by clinical criteria (cardiac, COPD, DM); 3) through their participating GP/general practice clinic.¹⁰⁰ Enrolled patients then have access to care facilitators, primary care, and RASS clinicians that can help expedite appropriate hospitalizations if needed.⁹⁹

- **Performance Measurement:** The "program routinely collected data on program activities."⁹⁹ However, the details of this data and how they were used were not reported.
- **Health Information Technology:**⁹⁹ Clinicians enrolled in the WSICP have access to shared EHRs and other data-sharing technologies to facilitate clinician-to-clinician education and case conferencing. All care team members use a shared EHR to monitor the patient and see their care plan (a shared care repository). There are shared EHRs among different care providers and care settings (e.g., hospitals and community providers) to ensure sustainable communication.
- **Leadership:**⁹⁹ The WSICP has shared governance between the executives and senior clinicians of Western Sydney Local Health District and the Western Sydney Primary Health Network, as well as an executive steering committee. These two agencies fund the program and work together to design services, set priority areas, complete performance monitoring, and deliver integrated care).

Impact

The New South Wales Ministry of Health (NSW MoH) is gathering qualitative information on the WSICP that incorporates medical clinic affirmations, patient and supplier commitment, hospital admissions, and patient and provider engagement.¹⁰¹

One study aimed to describe the implementation of the WSICP by describing the program's design, the processes involved, and some of the challenges and barriers to integration.¹⁰² The study found that patients who were enrolled or had attended specialist rapid access and stabilization services saw a 34 per cent reduction in the number of hospital admissions, a 37 per cent reduction in potentially preventable hospitalizations, a 32 per cent reduction in ED presentations, and a 25 per cent reduction in unplanned admission length of stay.

A preliminary qualitative evaluation found that this model of care improved patient experiences (e.g.,

improved wait times at hospitals, perceptions of improved health care, and increased efficacy in self-management and health system navigation) and reduced the cost of care due to prevention of hospital admissions and reducing waiting times.¹⁰¹ The study is still under way.^{101,103}

Barriers and facilitators

While early results are vague and preliminary, the qualitative study comprised of 125 interviews with patients, carers, health care providers, and WSICP management noted: “barriers still exist in terms of IT systems and communication, promotion and awareness, and low levels of general practitioner engagement.”¹⁰¹

Contact information

Information could not be found.

9.3 Top of license - team model

Source of Identification: An expert in the field recommended this program.

Program summary

The top of the license team model involves family medicine physicians, primary care nurses, allied health professionals, health system facilitators, care coordinators, generalist rehabilitation assistants, physician assistants, nurse practitioners, pharmacists, and paramedics.¹⁰⁴ The goal of the model is to improve the quality of care through enhanced patient access to a broad range of primary care providers working at the top of their professional licenses.¹⁰⁴ For example, physicians are responsible for physical exams, data analysis, decision making, and care plan development, whereas nurses are responsible for data gathering, entering most patient care information into the EHR, care plan implementation, and patient education.¹⁰⁴

Impact

No evidence of impact was found for this practice.

Barriers and facilitators

No information was found on barriers and facilitators for this practice.

Contact information

Information could not be found.

10. Lessons Learned

This literature review found 28 implemented potential best practices identified as “high performing” or “best practices” in the literature or by experts. To identify the characteristics that were most common to potential best practices, Aggarwal and Hutchison’s framework on the attributes of high-performing primary care systems and Bodenheimer’s work on the building blocks for high-performing teams was used (Refer Supplementary Material).^{1,105} The features that were assessed included: engaged leadership, organizational governance, funding model, patient attachment, health information technology, population health management, care coordination, team composition, expanded scope of practice, comprehensive care services, performance measurement, quality improvement, patient engagement, prompt access to care, and continuity of care.

This review found that a common feature of potential best practices was their focus on providing care to various target populations (18 practices). This included those from low-income or uninsured groups (nine), adults that were 65+ (five), Veterans or military (four), children (two), or with chronic conditions (five). In addition, over half of the interprofessional teams (15 practices) were providing a range of comprehensive services that could include preventive care (nine), chronic disease management (five), services and programs to address the social determinants of health (four), as well as providing dental, optometry, orthopedic, and behavioural health services. Further,

many interprofessional teams (18 practices) consisted of a physician, nurse, and a range of two or more diverse interprofessional providers. Across all practices, 50 different team roles were identified. The most common roles included primary care physicians (24 practices), nurses (17), behavioural integration specialists (seven) or social workers (seven), and pharmacists (nine). In one-third of practices (10), RNs, MAs, and/or panel managers were reported to be empowered and supported to extend their scope of practice.

Timely access to care was also a key feature of 15 best practices and was facilitated through various mechanisms including same-day appointments, third next available appointments, after-hours coverage, 24/7 access to providers, home visits, telehealth (phone, video visits), remote monitoring, telephone hotlines or nurse triage lines, secure messaging, email, policies on patients being seen in set period or number per day, and the use of forecasting tools to estimate demand. In a quarter of the practices (seven practices), patients were assigned to a provider to enable continuity of care, and care plans were being developed as a mechanism for engaging patients in their care.

Over a third of practices (10 practices) were using EMRs or health records. Health information technology was being used for various purposes including care coordination, data-driven performance measurement, panel and population management, and managing patient visits. About

a quarter of best practices reported initiatives for performance measurement and quality improvement. Eight practices were collecting performance measurement data using various mechanisms including dashboards and performance measurement frameworks. Seven practices were involved in quality improvement that was enabled through regular team meetings, the establishment of performance metrics and targets, practice facilitators, and workflow mapping.

Many of the characteristics of the identified best practices are part of the CFPCs' PMH vision. When comparing interprofessional models across Canada, the best practices identified in this review resembled the community health centre model, which focuses on marginalized and vulnerable populations that deliver a wide array of comprehensive services by a range of health care professionals. However, it is essential to note there was a lack of information on the leadership approach, governance framework, funding models, and accountability mechanisms for best practices. In addition, there was limited evidence of impact on the barriers and facilitators to implementation. These findings are not surprising as the lack of primary care research remains a challenge worldwide.¹¹

Limitations

There are limitations to this review. Despite best efforts, some relevant articles on potential best practices may have been missed. Since this was a global study, the language of documents was context-specific. As such, information from these non-English language documents could not be

included but could have provided more insights. Furthermore, there were varying degrees of information on each best practice; this review could only report on available information. Some best practices may include common features that could not be identified through this review. Thus, the frequencies for each best practice should be read with caution. Further, the quality of the studies was not assessed; therefore, the frequencies and evidence of impact should be considered with caution.

Recommendations

As the CFPC embarks on advocating for the spread of the patient medical home vision in Canada, it is recommended that the CFPC:

- Conduct further research on identified international potential best practices to obtain more details on the attributes of high-performing teams and explore their leadership approach, governance framework, funding model, accountability mechanisms, and barriers and facilitators to their implementation.
- Advocates provincial, territorial, and federal governments to invest in interprofessional team models that require the implementation and accountability of the characteristics of high-performing best practices identified in this study.
- Advocate provincial, territorial, and federal governments to invest in evaluating and conducting research on existing interprofessional team models to determine how they can be optimized and used across Canada.

11. References

Note: Links valid at time of publication.

1. Aggarwal M, Hutchison BG. *Toward a primary care strategy for Canada*. Ottawa, ON: Canadian Foundation for Healthcare Improvement; 2013.
2. Commonwealth Fund. Commonwealth Fund Survey 2019. Accessed April 4, 2022. <https://www.cihi.ca/en/commonwealth-fund-survey-2019>.
3. Commonwealth Fund. Commonwealth Fund Survey 2020. Accessed April 4, 2022. <https://www.cihi.ca/en/commonwealth-fund-survey-2020>.
4. College of Family Physicians of Canada. *A new vision for Canada: Family Practice—The Patient's Medical Home 2019*. Mississauga, ON: College of Family Physicians of Canada; 2019. Accessed April 4, 2022. https://patientsmedicalhome.ca/files/uploads/PMH2019Summary_ENG.pdf.
5. Russel GM, Dahrouge S, Hogg W, Geneau R, Muldoon L, Tuna M. Managing chronic disease in Ontario primary care: the impact of organizational factors. *Ann Fam Med*. 2009;7(4):309-318.
6. Glazier RH, Zagorski, BM, Rayner J. *Comparison of Primary Care Models in Ontario by Demographics, Case Mix and Emergency Department Use, 2008/09 to 2009/10*. ICES Investigative Report. Toronto, ON: Institute for Clinical Evaluative Sciences; 2012.
7. Hogg W, Dahrouge S, Russell G, Tuna M, Geneau R, Muldoon L, et al. Health promotion activity in primary care: performance of models and associated factors. *Open Med*. 2009;3(3):e165-73.
8. Garritty C, Stevens A, Gartlehner G, King V, Kamel C, Cochrane Rapid Reviews Methods Group. Cochrane Rapid Reviews Methods Group to play a leading role in guiding the production of informed high-quality, timely research evidence syntheses. *Cochrane Database Syst Rev*. 2016;5(1):184.
9. Grol R, Grimshaw J. From best evidence to best practice: effective implementation of change in patients' care. *Lancet*. 2003;362(9391):1225-1230.
10. Wagner EH, Flinter M, Hsu C, Cromp D, Austin BT, Etz R, et al. Effective team-based primary care: observations from innovative practices. *BMC Fam Pract*. 2017;18(1):13.
11. Hajjar F, Saint-Lary O, Cadwallader J-S, Chauvin P, Boutet A, Steinecker M, et al. Development of Primary Care Research in North America, Europe, and Australia From 1974 to 2017. *Ann Fam Med*. 2019;17(1):49-51.
12. Zafra-Tanaka JH, Goicochea-Lugo S, Villarreal-Zegarra D, Taype-Rondan A. Characteristics and quality of clinical practice guidelines for depression in adults: a scoping review. *BMC Psychiatry*. 2019;19(1):76.
13. Oakstreet Health. Our Mission. Accessed April 4, 2022. <https://www.oakstreethealth.com/about-us/mission>.
14. Famakinwa J. Oak Street Health's CMO Touts Home-Based Care Credentials, New AARP Partnership. Home Health Care News. September 26, 2021. Accessed April 4, 2022. <https://homehealthcarenews.com/2021/09/oak-street-healths-cmo-touts-home-based-care-credentials-new-aarp-partnership/>.

15. Myers G, Price G, Pykosz M. Commentary: A Report from the Covid Front Lines of Value-Based Primary Care. *NEJM Catalyst Innovations in Care Delivery*. May 1, 2020.
16. Yahoo News. Oak Street Health Recognized for Company Culture and Leadership. Yahoo News. November 5, 2021. Accessed April 4, 2022. <https://ca.finance.yahoo.com/news/oak-street-health-recognized-company-123000528.html>.
17. Oak Street Health Selected by AARP as the Only Primary Care Provider to Carry the AARP Name. Accessed June 8, 2022. <https://www.financialbuzz.com/oak-street-health-selected-by-aarp-as-the-only-primary-care-provider-to-carry-the-aarp-name/>
18. Cityblock. What We Do. Accessed April 4, 2022. <https://www.cityblock.com/approach>.
19. American Medical Association. *Cityblock Health – Complex Care Coordination*. AMA Return on Health; 2021. Accessed April 4, 2022. <https://www.ama-assn.org/system/files/case-study-cityblock-health-complex-care-coordination.pdf>.
20. Romm I. Announcing Cityblock: Bringing a new approach to urban health, one block at a time. Sidewalk Talk. October 1, 2017. Accessed April 4, 2022. <https://medium.com/sidewalk-talk/announcing-cityblock-bringing-a-new-approach-to-urban-health-one-block-at-a-time-fc791e7f17b8>.
21. Rosenbaum E. Cityblock Health. CNBC. May 25, 2021. Accessed April 4, 2022. <https://www.cnbc.com/2021/05/25/cityblock-health-disruptor-50.html>.
22. Jennings K. Cityblock Health Gets \$192 Million Funding Boost To Turbocharge Care For Low-Income Patients. March 29, 2021. Accessed April 4, 2022. <https://www.forbes.com/sites/katiejennings/2021/03/29/cityblock-health-gets-192-million-funding-boost-to-turbocharge-care-for-low-income-patients/?sh=5d582fa8436a>.
23. Schnake-Mahl AS. Identifying patients with increased risk of severe COVID-19 complications: building an actionable rules-based model for care teams. *NEJM Catalyst Innovations in Care Delivery*. 2020;1(3).
24. Landi H. Cityblock Health raises another megaround of cash, boosting valuation to \$5.7B. Fierce Healthcare. Accessed April 4, 2022. <https://www.fiercehealthcare.com/practices/cityblock-health-raises-another-mega-round-cash-banking-a-reported-400m>.
25. Willard R, Bodenheimer T. *The Building Blocks of High-Performing Primary Care: Lessons from the Field*. Oakland, CA: California Health Care Foundation; 2012. Accessed April 4, 2022. <https://www.chcf.org/wp-content/uploads/2017/12/PDF-BuildingBlocksPrimaryCare.pdf>.
26. Clinica Family Health. About Clinica. Accessed April 4, 2022. <https://www.clinica.org/about/>.
27. Institute for Patient- and Family-Centered Care. Clinica Family Health. Accessed April 4, 2022. <https://www.ipfcc.org/bestpractices/clinica-family-health.html>.
28. Multnomah County. Primary Care Clinics. Accessed April 4, 2022. <https://www.multco.us/health/primary-care-clinics>.
29. American Board of Internal Medicine Foundation. Multnomah County Health Department – Primary care clinic site visit, May 12, 2011. Philadelphia, PA: American Board of Internal Medicine Foundation; 2011. Accessed April 4, 2022. <https://abimfoundation.org/wp-content/uploads/2016/01/Finding-Joy-In-Primary-Practice-Site-Visit-Multnomah-County.pdf>.
30. Ole Health. What's Different About Us. Accessed April 4, 2022. <https://www.olehealth.org/who-we-are/whats-different-about-us/>.
31. Ole Health. Our Impact. Accessed April 4, 2022. <https://www.olehealth.org/support-ole-health/our-impact>.
32. Gross A. Park Nicollet: Pioneers in accountable care. *Pharmacy Today*. 2013;19(8):48-49.
33. Edwards JN, Silow-Carroll S. Park Nicollet Methodist Hospital: Aligning goals to achieve efficiency. The Commonwealth Fund. July 28, 2011. Accessed April 4, 2022. <https://www.commonwealthfund.org/publications/case-study/2011/jul/park-nicollet-methodist-hospital-aligning-goals-achieve-efficiency>.

34. HealthPartners. HealthPartners. Accessed April 4, 2022. <https://www.healthpartners.com/>.
35. Edwards JN, Silow-Carroll S. Park Nicollet Methodist Hospital: Aligning goals to achieve efficiency. The Commonwealth Fund. July 28, 2011. Accessed April 4, 2022. <https://www.commonwealthfund.org/publications/case-study/2011/jul/park-nicollet-methodist-hospital-aligning-goals-achieve-efficiency>.
36. American Board of Internal Medicine Foundation. Group Health, Olympia Medical Center site visit report October 2011. Philadelphia, PA: American Board of Internal Medicine Foundation; 2011. Accessed April 4, 2022. <https://abimfoundation.org/wp-content/uploads/2016/01/Finding-Joy-In-Primary-Practice-Site-Visit-Group-Health.pdf>.
37. Katon WJ, Lin EHB, Von Korff M, Ciechanowski P, Ludman EJ, Young B, et al. Collaborative care for patients with depression and chronic illnesses. *N Engl J Med*. 2010;363(27):2611-2620.
38. Free Clinic Directory. Sebastopol Community Health Center. Accessed April 4, 2022. https://freeclinicdirectory.org/detail/sebastopol_community_health_center1_sebastopol_ca.html.
39. Willard R. Sebastopol Community Health Center: Innovation from every corner. 2011. Accessed April 4, 2022. <https://www.wchealth.org/location/sebastopol-community-health-dental-center/>.
40. Clinica. Clinica Family Health – About Us. Accessed April 4, 2022. <https://www.clinica.org/about/>.
41. Primary Care Collaborative. Vermont Blueprint for Health. 2016. Accessed April 4, 2022. <https://www.pcpcc.org/initiative/vermont-blueprint-health>.
42. Blueprint for Health. Annual Report. 2020. https://blueprintforhealth.vermont.gov/sites/bfh/files/doc_library/BlueprintforHealthAnnualReportCY2020.pdf.
43. Tanzman B. *Annual Report on the Vermont Blueprint for Health, January 2021*. Waterbury, VT: Vermont Agency of Human Services, Department of Vermont Health Access. Accessed April 4, 2022. https://blueprintforhealth.vermont.gov/sites/bfh/files/doc_library/BlueprintforHealthAnnualReportCY2020.pdf.
44. AHRQ. Case Studies of Leading Primary Care Practice Facilitation Programs. 2013. Accessed April 4, 2022. https://pcmh.ahrq.gov/sites/default/files/attachments/Vermont_020413comp.pdf.
45. Veterans Affairs. Patient Care - PACT. Accessed April 4, 2022. <https://www.patientcare.va.gov/primarycare/PACT.asp>.
46. Cornell PY, Celardo C, Chmelka G, Giles AJ, Halladay CW, Halaszynski J, et al. Social work and telehealth: How Patient Aligned Care Team (PACT) social workers in the Veterans Health Administration responded to COVID-19. *Soc Work Health Care*. 2021;60(2):131-145.
47. Solimeo SL, Steffen MJA, Gardner EE, Adjognon O, Shin MH, Moyer J, et al. Using the PACT Resources Framework to Understand the Needs of Geriatric Primary Care Teams. *J Am Geriatr Soc*. 2020;68(9):2006-2014.
48. Yano EM, Darling JE, Hamilton AB, Canelo I, Chuang E, Meredith LS, et al. Cluster randomized trial of a multilevel evidence-based quality improvement approach to tailoring VA Patient Aligned Care Teams to the needs of women Veterans. *Implementation Science*. 2016;11:101.
49. Yano EM, Bair MJ, Carrasquillo O, Krein SL, Rubenstein LV. Patient Aligned Care Teams (PACT): VA's journey to implement patient-centered medical homes. *J Gen Intern Med*. 2014;29 Suppl 2(Suppl 2):S547-9.
50. Ladebue AC, Helfrich CD, Gerdes ZT, Fihn SD, Nelson KM, Sayre GS. The experience of Patient Aligned Care Team (PACT) members. *Health Care Manage Rev*. 2016;41(1):2-10.
51. Zulman DM, Pal Chee C, Ezeji-Okoye SC, Shaw JG, Holmes TH, Kahn JS, et al. Effect of an Intensive Outpatient Program to Augment Primary Care for High-Need Veterans Affairs Patients: A Randomized Clinical Trial. *JAMA Intern Med*. 2017;177(2):166-175.
52. Lampman MA, Steffensmeier KRS, Reisinger HS, Sarrazin MV, Steffen MJA, Solimeo SL, et al. Patient Aligned Care Team (PACT) Performance in Urban and Rural VHA Primary Care Clinics: A Mixed Methods Study. *J Rural Health*. 2021;37(2):426-436.

53. Bluegrass Care Navigators. Bluegrass Care Navigators recognized with two prestigious national awards. 2017. Accessed April 4, 2022. <https://www.bgcarenav.org/national-awards>.
54. Hospice Care. Accessed April 4, 2022. <https://www.bgcarenav.org/our-care-services/hospice-care>.
55. Hospice of the Bluegrass, Inc. Accessed April 4, 2022. https://www.dnb.com/business-directory/company-profiles/hospice_of_the_bluegrass_inc.e024ac2b05f8de5b172fdccc7789b711.html.
56. Passik SD, Ruggles C, Brown G, Snapp J, Swinford S, Gutsell T, et al. Is there a model for demonstrating a beneficial financial impact of initiating a palliative care program by an existing hospice program? *Palliat Support Care*. 2004;2(4):419-23.
57. Kirsh KL, Walker R, Snider S, Weisenfluh S, Brown GM, Passik SD. Hospice staff members' views on conducting end-of-life research. *Palliat Support Care*. 2004;2(3):273-82.
58. Snapp J, Kelley D, Gutsell TL. Creating a hospice pharmacy and therapeutics committee. *Am J Hosp Palliat Care*. 2002;19(2):129-134.
59. Hospice. Hospice Of The Bluegrass, Inc DbA Bluegrass Care N. Accessed April 4, 2022. <https://hospice.io/care/hospice-of-the-bluegrass-inc-lexington-ky/>.
60. HITEQ. Incredible Behavioral Health Integrator Badge. Accessed April 4, 2022. <https://hiteqcenter.org/Services/Badges-Self-paced-Learning/Behavioral-Health-Integrator/successful-practices-in-accountable-care-el-rio-community-health-center>.
61. (AACHC), T.A.A.f.C.H.C. El Rio Health. Accessed April 4, 2022. <https://www.aachc.org/community-health-center-locations/member-el-rio-health-center/>.
62. El Rio Health. What It Means To Be Healthy: Our Impact On Our Community. 2018. Accessed April 4, 2022. <https://www.elrio.org/wp-content/uploads/2018/08/el-rio-mid-year-report-2018.pdf>
63. Association of American Medical Colleges. *Profiles of Three High-Performing Primary Care Residency Clinics*. Washington, DC: Association of American Medical Colleges; 2018.
64. Primary Care Collaborative. U.S. Air Force Family Health Operations PCMH National.
65. Goodman TB. High-Performing Primary Care Teams: Creating the Air Force Medical Home Advantage. 2015, Air War Coll Maxwell Afb AL.
66. Green EP, Wendland J, Carver MC, Rinker CH, Mun SK. Lessons learned from implementing the patient-centered medical home. *Int J Telemed Appl*. 2012;2012:103685.
67. Airforce Medical Services. Air Force Medical Home. Accessed April 4, 2022. <https://www.airforcemedicine.af.mil/Priorities/Air-Force-Medical-Home/>
68. Benson J. The BRIGHTEN Program: An electronic networking intervention program for interdisciplinary geriatric health teams. 2012.
69. Emery EE, Lapidus S, Eisenstein AR, Ivan II, Golden RL. The BRIGHTEN program: implementation and evaluation of a program to bridge resources of an interdisciplinary geriatric health team via electronic networking. *Gerontologist*. 2012;52(6):857-865.
70. Cartier JM. A team-based approach to the care of depression in later life: where are we now? *Psychiatr Clin North Am*. 2013;36(4):651-660.
71. Emery EE, Millheiser A, Garcia CM, Marquine MJ, Golden RL. Community long-term care teams: Assessing team fitness. *Clin Gerontol*. 2011;34(5):355-366.
72. Mitchell P, Wynia M, Golden R, McNellis B, Okun S, Webb CE, et. al. *Core Principles & Values of Effective Team-Based Health Care*. Washington, DC: Institute of Medicine; 2012. Accessed April 4, 2022. <https://nam.edu/wp-content/uploads/2015/06/VSRT-Team-Based-Care-Principles-Values.pdf>.
73. 99th Medical Group - Mike O'Callaghan Federal Medical Center. Military Health System. Accessed April 4, 2022. <https://health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Patient-Portal-for-MHS-Quality-Patient-Safety-and-Access-Information/See-How-Were-Doing/Air-Force/AF-MC-99TH-MED-GRP-NELLIS?DmisId=0079>.

74. Tikkanen R, Osborn R, Mossialos E, Djordjevic A, Wharton GA. International health care system profiles–Sweden. 2020. The Commonwealth Fund. Accessed April 4, 2022. <https://www.commonwealthfund.org/international-health-policy-center/countries/sweden>.
75. Avby G, Kjellström S, Andersson Bäck M. Tending to innovate in Swedish primary health care: a qualitative study. *BMC Health Serv Res*. 2019;19(1):42.
76. Zulliger R. Nepal's Frontline Health Workers. Accessed April 4, 2022. <https://chwcentral.org/nepals-frontline-health-workers/>.
77. Ministry of Health. Chronic Disease Management Programme (CDMP). Accessed April 4, 2022. [https://www.moh.gov.sg/policies-and-legislation/chronic-disease-management-programme-\(cdmp\)](https://www.moh.gov.sg/policies-and-legislation/chronic-disease-management-programme-(cdmp)).
78. Health Authority. General Out-patient Clinics. 2022. Accessed April 4, 2022. https://www.ha.org.hk/visitor/ha_visitor_index.asp?Content_ID=10052&Lang=ENG&Dimension=100&Parent_ID=10042&Ver=HTML.
79. Yu EY, Wan EY, Chan KH, Wong CK, Kwok RL, Fong DY, et al. Evaluation of the quality of care of a multi-disciplinary Risk Factor Assessment and Management Programme for Hypertension (RAMP-HT). *BMC Fam Pract*. 2015;16:71.
80. Fung CS, Chin WY, Dai DS, Kwok RL, Tsui EL, Wan YF, et al. Evaluation of the quality of care of a multi-disciplinary risk factor assessment and management programme (RAMP) for diabetic patients. *BMC Fam Pract*. 2012;13:116.
81. Lau IT. A clinical practice guideline to guide a system approach to diabetes care in Hong Kong. *Diabetes Metab J*. 2017;41(2):81-88.
82. TrialBulletin. Evaluation of Quality of Care – Nurse Allied Health Clinic Programme, HA. 2017. Accessed April 4, 2022. <https://trialbulletin.com/lib/entry/ct-02307929>.
83. Choi EP, Chin WY, Wan EY, Lam CL. Evaluation of the internal and external responsiveness of the Pressure Ulcer Scale for Healing (PUSH) tool for assessing acute and chronic wounds. *J Adv Nurs*. 2016;72(5):1134-1143.
84. Choi E, Chin WY, Wan EYF, Lam CLK. A participatory action research to evaluate the outcomes of care of a Nurse-led Continence Care Service for Chinese Primary Care Patients with Lower Urinary Tract Symptoms: a two-year prospective longitudinal study. Presented at: Annual Meeting of the International Continence Society; September 13-16, 2016; Tokyo, Japan. Accessed April 4, 2022. <https://www.ics.org/Abstracts/Publish/326/000054.pdf>.
85. Wong SY, Kung K, Griffiths SM, Carthy T, Wong MC, Lo SV, et al. Comparison of primary care experiences among adults in general outpatient clinics and private general practice clinics in Hong Kong. *BMC Public Health*. 2010;10:397.
86. Chin WY, Choi EP, Wan EY, Chan AK, Chan KH, Lam CL. Evaluation of the outcomes of care of nurse-led continence care clinics for Chinese patients with lower urinary tract symptoms, a 2-year prospective longitudinal study. *J Adv Nurs*. 2017;73(5):1158-1171.
87. Wan EY, Fung CS, Jiao FF, Yu EY, Chin WY, Fong DY, et al. Five-Year Effectiveness of the Multidisciplinary Risk Assessment and Management Programme-Diabetes Mellitus (RAMP-DM) on Diabetes-Related Complications and Health Service Uses-A Population-Based and Propensity-Matched Cohort Study. *Diabetes Care*. 2018;41(1):49-59.
88. Fu SN, Dao MC, Luk W, Lam MC, Ho IS, Cheung SK, et al. A cluster-randomized study on the Risk Assessment and Management Program for home blood pressure monitoring in an older population with inadequate health literacy. *J Clin Hypertens (Greenwich)*. 2020;22(9):1565-1576.
89. Jiao F, Fung CS, Wan YF, McGhee SM, Wong CK, Dai D, et al. Long-term effects of the multidisciplinary risk assessment and management program for patients with diabetes mellitus (RAMP-DM): a population-based cohort study. *Cardiovasc Diabetol*. 2015;14:105.

90. Wan EY, CFung CS, Wong CK, Choi EP, Jiao FF, Chan AK, et al. Effectiveness of a multidisciplinary risk assessment and management programme-diabetes mellitus (RAMP-DM) on patient-reported outcomes. *Endocrine*. 2017;55(2):416-426.
91. Yang Y, Chu TK, Lian J, Lo CW, Lau PK, Nan H, et al. Risk factors of chronic kidney diseases in Chinese adults with type 2 diabetes. *Sci Rep*. 2018;8(1):14686.
92. Jiao F, Fung CS, Wan YF, McGhee SM, Wong CK, Dai D, et al. Effectiveness of the multidisciplinary Risk Assessment and Management Program for Patients with Diabetes Mellitus (RAMP-DM) for diabetic microvascular complications: A population-based cohort study. *Diabetes Metab*. 2016;42(6):424-432.
93. Jiao FF, Fung CS, Wan EY, Chan AK, McGhee SM, Kwok RL, et al. Five-Year Cost-effectiveness of the Multidisciplinary Risk Assessment and Management Programme-Diabetes Mellitus (RAMP-DM). *Diabetes Care*. 2018;41(2):250-257.
94. Community Health Centres. Accessed April 4, 2022. <https://www.betterhealth.vic.gov.au/health/healthyliving/community-health-centres>.
95. Ruwanpathirana T, Reid CM, Owen AJ, Fong DP, Gowda U, Renzaho AM. Assessment of vitamin D and its association with cardiovascular disease risk factors in an adult migrant population: an audit of patient records at a Community Health Centre in Kensington, Melbourne, Australia. *BMC Cardiovasc Disord*. 2014;14:157.
96. Montalto, M., et al., Disease prevention and health promotion activity during consultations by private and community health centre general practitioners. *Aust J Prim Health*. 1996;2(1):41-47.
97. Si D, Bailie R, Connors C, Dowden M, Stewart A, Robinson G, et al. Assessing health centre systems for guiding improvement in diabetes care. *BMC Health Serv Res*. 2005;5:56.
98. Mikhailovich K, Morrison P, Arabena K. Evaluating Australian Indigenous community health promotion initiatives: a selective review. *Rural Remote Health*. 2007;7(2):746.
99. The Commonwealth Fund. Western Sydney Integrated Care Program (WSICP). 2020. Accessed April 4, 2022. <https://www.commonwealthfund.org/publications/international-innovation/2020/oct/western-sydney-integrated-care-program-wsicp>
100. Wah-Cheung N. Western Sydney Integrated Care Program. Accessed April 4, 2022. https://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0008/355670/Western_Sydney_Integrated_Care_Program.pdf.
101. Trankle SA, Abbott P, Usherwood T, Girgis C, Roberts M, Chang Y, et al. The Western Sydney Integrated Care Program (WSICP): Qualitative Evaluation. *Int J Integr Care*. 2017;17(3):A18.
102. Cheung NW, Crampton M, Nesire V, Hng T-M, Chow CK, Western Sydney Integrated Care Program Investigators. Corrigendum to: Model for integrated care for chronic disease in the Australian context: Western Sydney Integrated Care Program. *Aust Health Rev*. 2019;43(5):600.
103. Trankle SA, Usherwood T, Abbott P, Roberts M, Crampton M, Girgis CM, et al. Integrating health care in Australia: a qualitative evaluation. *BMC Health Serv Res*. 2019;19(1):954.
104. Naccarella L, Greenstock LN, Brooks PM. A framework to support team-based models of primary care within the Australian health care system. *Med J Aust*. 2013;199(5 Suppl):S22-25.
105. Bodenheimer T, Ghorob A, Willard-Grace R, Grumbach K. The 10 building blocks of high-performing primary care. *Ann Fam Med*. 2014;12(2):166-171.