



BARRIERS AND ENABLERS TO IMPLEMENTING INTERPROFESSIONAL COLLABORATIVE FAMILY PRACTICE TEAMS WITH A FOCUS ON IMPROVING ACCESS TO PRIMARY CARE

A review of the literature

January 2020





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PROJECT INFO

PROJECT TITLE

Collaborative interprofessional primary care teams in Nova Scotia: An evidence synthesis of facilitators to team implementation and performance indicators of successful collaboration

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GLOSSARY

Access: For the purpose of the current review, access is defined as attachment of patients to a collaborative family practice team in primary health care. Other more inclusive conceptualizations of access exist, and should be consulted for further understanding of the complexities of 'access.'¹

Colocation: The sharing of physical space in the professional work environment.²

Consolidated Framework for Implementation

Research: Comprised of constructs associated with effective implementation used to systematically assess barriers and enablers when implementing an innovation.³

Interprofessional Collaborative Practice Team:

Defined as having at least three primary health care providers with two or more professional disciplines (e.g., two family physicians and a nurse practitioner or a family practice nurse). An interprofessional collaborative family practice team includes family doctors, nurse practitioners, family practice nurses, and other health professionals working together to provide comprehensive care for patients.⁴

Medical Home or 'Health Home': A person-centred, team-based primary health care delivery model that promotes access to timely, coordinated, comprehensive, and continuous primary health care. This model serves as a mechanism for organizing primary care delivered by collaborative family practice teams.⁵

Primary Health Care: A multi-dimensional system that has a responsibility to organize care for individuals across the continuum of care, and understand and work with partners to improve the health of communities (adapted from Kringos, 2010 in ⁵).

ABBREVIATIONS

BRIC NS: Building Research for Integrated Primary Healthcare in Nova Scotia

CFIR: Consolidated Framework for Implementation Research

DHW: Nova Scotia Department of Health and Wellness

EMR: Electronic Medical Record

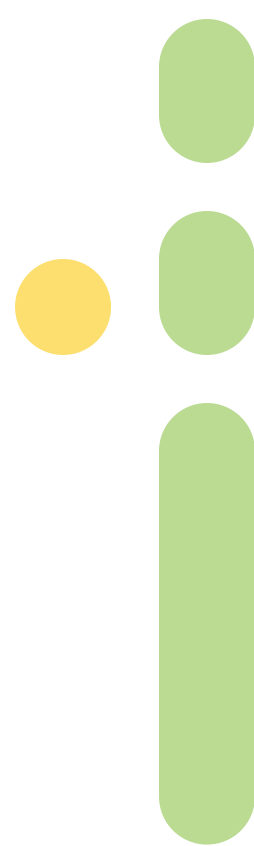
GPs: General Practitioners

MSSU: Maritime SPOR SUPPORT Unit

NPs: Nurse Practitioners

NSHA: Nova Scotia Health Authority

PC: Primary Care



EXECUTIVE SUMMARY

BACKGROUND

In Nova Scotia, collaborative practice teams were formally introduced in four pilot sites in 2000 to improve access to and quality of primary care. To help further promote primary health care access and attachment, interprofessional collaborative family practice teams were implemented with targeted funding for primary health care in 2016-17. As of January 2020, there are 85 interprofessional collaborative family practice teams in the province. Primary health care access is a priority for the Nova Scotia Health Authority (NSHA) and the Nova Scotia Department of Health and Wellness (DHW), both of whom are interested in additional strategies to support the continued growth of these teams across the province. This topic was discussed at the Maritime SPOR SUPPORT Unit (MSSU) Bridge Event in June 2018, which led to the formation of a multidisciplinary research team to study barriers and enablers to collaborative care team implementation.

OBJECTIVE

To identify, categorize, and describe barriers and enablers to interprofessional collaborative care team implementation identified in the literature, especially those that focus on improving access to primary health care. For the purpose of this study, patients attached to a collaborative family practice team were deemed to have access to primary health care.

FIVE DOMAINS ADAPTED FROM THE CFIR

The CFIR consists of five domains, which were adapted for this review.

CFIR DOMAIN	ADAPTED DOMAIN
I. Intervention Characteristics	Features of Team Implementation and Effectiveness
II. Outer Setting	Government, Health Authorities, and Health Organizations
III. Inner Setting	Characteristics of the Team
IV. Characteristics of Individuals	Characteristics of Team Members
V. Process	Features of the Process of Implementation

METHODS

Given the breadth of the literature on this topic, we primarily reviewed systematic reviews and evidence syntheses. The initial search identified 193 articles, and data were extracted from 13 articles.

The Consolidated Framework for Implementation Research (CFIR) informed categorization of the barriers and enablers into five broad domains: Features of Team Implementation; Government, Health Authorities and Health Organizations; Characteristics of the Team; Characteristics of Team Members; and, Process of Implementation.

RESULTS

Most of the barriers and enablers were categorized into the 'Characteristics of the Team' or 'Government, Health Authorities and Health Organizations' domains. Key themes within the 'Characteristics of the Team' domain were: 1. Governance Structures; 2. Informal Communication; 3. Power; and 4. Training. Key themes within the 'Government, Health Authorities and Health Organizations' domain were: 1. Professional Remuneration; 2. Regulatory Policy; and 3. Interprofessional Education.

Generally, enablers were reported more frequently than barriers throughout the review. None of the barriers or enablers identified had a specific focus on improving access to care. Few articles identified barriers and enablers related to the domains of 'Features of Team Implementation,' 'Characteristics of Team Members,' and 'Process of Implementation.'

This review involves a synthesis and thematic organization of published literature but is limited to the available information. Some areas have been researched quite extensively, while others have not. As a result, the findings may be biased toward only this published literature and its historical development. This is discussed further in the 'Strengths and Limitations' section of this report.

DISCUSSION

Based on the enablers of collaborative family practice team implementation in primary health care identified in this review, key messages for three key stakeholder groups were identified, as follows:

1. Government and Health Authorities

- Design and implement funding models that link compensation to indicators of collaboration and team functioning in a manner that includes all team members.
- Ensure physical space allows for colocation of teams. This promotes mutual understanding, enables collaboration and enhances delivery of care, while separation can enforce perceived divisions and impede communication.

2. Team-Level Clinicians and Managers

- Effective governance and leadership within teams requires deliberate attention. The literature reviewed did not specify what processes should be used for establishing a governance structure or how much of whose time needs to be devoted to governance and leadership. It did stress the importance of shared transformative leadership approaches, collaborative processes, and effective managerial support for change and conflict management.
- Technology that enables communication and facilitates information sharing (e.g., instant messaging, standardized documentation systems) are key to collaborative decision-making.

3. Health Professional Educators and Regulators

- Ensure policies enable each provider to practice to full scope within an interprofessional team and promote the development of non-hierarchical collaborative professional relationships. This includes the development and communication of clear role and scope of practice descriptions, for example in toolkits, and enhanced pre- and post-licensure interprofessional education that addresses power and hierarchy.

CONCLUSIONS

The key messages from this literature synthesis provide valuable insight into the factors that affect the implementation of interprofessional collaborative family practice teams in Nova Scotia. A clearer understanding of the local context in Nova Scotia as it relates to the findings from this review is now required.

BACKGROUND

Research has demonstrated reduction in wait times, improved coordination of care, more appropriate referrals, less duplication of services and reduced emergency department visits when access to primary health care is enhanced using team-based approaches.⁶⁻⁸

In Nova Scotia, interprofessional collaborative family practice teams (i.e., a team-based approach, hereinafter referred to as collaborative family practice teams or teams) were introduced in four pilot sites in 2000 to improve access and quality of care as part of the federally and provincially funded Strengthening Primary Care Initiative.⁹

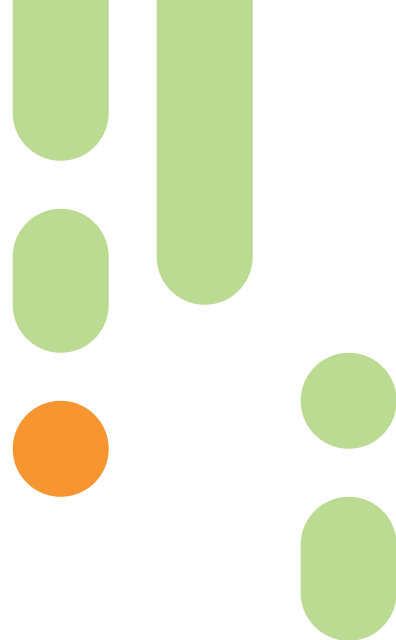
Over the next decade the number of these teams increased, mainly in rural settings, as communities submitted funding proposals to the Nova Scotia Department of Health and Wellness (DHW) to implement teams. Subsequent government commitments to improve primary care access and patient attachment stimulated a recent increase in collaborative family practice teams in a 'Health Home' model across the province.⁵ The Nova Scotia Health Authority (NSHA) defines a 'Health Home' as being "a person-centred, team-based primary health care delivery model that promotes access to timely, coordinated, comprehensive, and continuous primary health care" and is "a mechanism for organizing primary care delivered by collaborative family practice teams."⁵ This model focuses on evidence-informed components of care delivery (e.g., access, continuity of care), that have been demonstrated to build a stronger primary health care system.¹⁰

To date, evaluations of collaborative family practice teams in Nova Scotia show some positive impacts on accessibility,^{11,12} chronic disease prevention and management,¹³ and patient satisfaction.¹¹

Across Canada, team-based approaches to primary health care delivery have been introduced in other provinces such as Alberta, British Columbia, Ontario,

and Québec as a means of strengthening access to and quality of primary health care. The importance of understanding context as a structural determinant of primary health care systems is well-recognized.¹³ There is increasing attention to the impact of composition and processes of collaborative family practice teams on team function and outcomes.¹ While what constitutes a high-performing team has not been universally defined, several studies have identified features of high-functioning teams, which include having a shared-care model, a higher level of clinical support staff per healthcare provider, and frequent forums for communication.¹⁴ Recent research from Ontario suggests that team functioning is influenced by the extent to which teams master seven interacting components: sharing a common philosophy about teamwork, having effective leadership, respecting each other's scopes of practice, sharing the physical environment, including team activities, supporting conflict resolution, and managing change.¹⁵

Nova Scotia's current collaborative family practice team initiative is more than two years into implementation and was identified by both the DHW and the NSHA as a lead initiative for the 2019-20 fiscal year. The NSHA will continue to focus on recruiting and retaining physicians and nurses to form the core of these teams. Despite growth in the number of collaborative teams—from 50 to 85 as of January 2020—since the targeted funding began in 2016, access to primary health care is still a challenge in much of the province.¹⁶



In 2018, the DHW identified collaborative team implementation and improving patient attachment as priority concerns. The DHW sought to understand the barriers and enablers to team implementation, in order to leverage this knowledge to both support existing teams and form new ones. As a result, this topic was discussed at the Maritime SPOR SUPPORT Unit (MSSU) Nova Scotia Bridge Event in June 2018. The MSSU NS Bridge event is a bi-annual gathering where health care decision-makers and providers, researchers, patients and caregivers work in teams to develop research project ideas in priority health services and systems areas. A team of decision-makers, clinicians, researchers, and patient partners was established and supported by the MSSU to explore this topic further.

OBJECTIVE

To identify, categorize, and describe the barriers and enablers to interprofessional collaborative care team implementation identified in the literature, with a focus on improving access to primary health care.

For the purpose of this study, access is defined by attachment of patients to a collaborative family practice team in primary health care.

METHODS

FORMING THE RESEARCH TEAM

At the June 2018 MSSU NS Bridge Event, a variety of stakeholders discussed priority health topics including collaborative team implementation and improving patient attachment, respectively. Considering the compatibility of the two subjects, the two discussion groups were combined and identified the single topic of barriers and enablers to the implementation of interprofessional collaborative care teams in primary health care (the basis for the current report). A final project team was formed based on an opt-in process with representation from each of the stakeholder groups mentioned above.

SEARCH STRATEGY

Given the breadth of the literature on this topic, the review was limited to systematic reviews of any type and evidence/literature syntheses. The search strategy was developed and implemented in consultation with a health research librarian. An initial search was conducted in the Ovid MEDLINE database to identify peer-reviewed and review articles. Grey literature was identified through Google searches and health organization websites (Appendix 1). The search was limited to English sources.

The literature searches were performed in November - December 2018.

SCREENING

The initial search result yielded 193 unique articles of which 139 were excluded through title and abstract screening based on the predetermined inclusion and exclusion criteria (Table 1 and 2). The screening was conducted by three individuals using the Covidence online software. All articles were independently screened by at least of two of the three individuals. Any disagreements were flagged and discussed amongst the group on an article-by-article basis to establish agreement before inclusion. Full text screening was completed for 54 articles as it was difficult to determine colocation and the nature of collaboration from the title and abstract, from which an additional 41 articles were excluded. Full-text screening focused on ensuring the definition of collaboration was met in that teams were colocated in a primary health care practice setting (see Table 1). Data were extracted from 13 articles (Appendix 2).

Table 1 – Inclusion and Exclusion Criteria

INCLUSION CRITERIA			
Primary Care (PC)		Team	Colocated
General Practice		Collaboration	In same office/clinic
Family Practice	AND	Nurse	One physical location
Family Doctor		Psychologist	The collaborating partner does not have to be ONLY or always in the PC office/clinic but must provide services there (e.g., a surgeon who spends one day per week at a PC office/clinic treating patients and the remainder of their time in the hospital meets our definition)
General Practitioner		Social Worker	
GP		Partner	
Medical Home		Shared Care	
		Allied Health Professional	
EXCLUSION CRITERIA			
Solo/Individual GP/Family Doctor/etc.	OR	No team or collaborative/parntering aspect	Care or services are provided at different locations
Physicians Only			
Nurses Only			
Psychologist Only etc.			
Inpatient/Outpatient Care		Partnering/ team must be with other care providers	
Homes for Aged			
Hospital Clinic/Care			
Community Care/Clinic			

EXTRACTION

The extraction was conducted by the same three individuals responsible for screening. At least two individuals independently reviewed and extracted each article followed by a comparison of the extracted content. Any differences were flagged, discussed with the third reviewer, and included if all individuals were in agreement. Barriers and enablers were extracted and initially categorized into 8 broad categories using an iterative inductive process in response to the patterns that arose in the literature:

- **Leadership**—e.g., management, champions, non-hierarchical decision making, supportive and collaborative staff
- **System Factors**—e.g., health authority, government, outside of the primary care practice
- **Financial**—e.g., reimbursement mechanisms, fee-for-service; funding
- **Team Factors**—e.g., roles, authority within, decision-making, team education
- **Communication**—e.g., practitioners, patient, feedback
- **Technology**—e.g., scheduling systems, electronic medical record, staffing systems
- **Evaluation/Measurement**—e.g., of individuals, system, care
- **Individual Factors**—e.g., individual flexibility, buy-in

ANALYSIS

Given the range of barriers and enablers obtained through this review, an implementation framework was used to aid with categorization. The **Consolidated Framework for Implementation Research (CFIR)** was chosen as it adds conceptual clarity to our findings, is logical, and can be used to guide the development of an intervention plan to address barriers and strengthen enablers.³ The CFIR is comprised of constructs associated with effective implementation and is used to systematically assess barriers and enablers when implementing an innovation.

The CFIR was created to guide systematic assessment, and to identify factors that might influence intervention implementation and effectiveness.

Each CFIR domain has several constructs, some of which have sub-components.³ All of these domains, constructs, and sub-components are factors that have been associated with effective implementation. In addition, several other themes were inductively identified through the analysis and were grouped with the CFIR sub-constructs to assist with interpreting the results.

FIVE DOMAINS ADAPTED FROM THE CFIR

The CFIR consists of five domains, which were adapted for this review.

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V. Process	Features of the Process of Implementation

Table 2 - Description of Literature Included in the Review

AUTHOR	YEAR	GEOGRAPHIC LOCATION	DESIGN
Conference Board of Canada ²²	2012	Australia, Canada, England, Netherlands	Literature Review
Virani et al. ¹⁷	2012	Canada: Nationally Distributed	Scoping Review
Registered Nurses' Association of Ontario ¹⁹	2013	Canada: Ontario	Systematic Review
Conference Board of Canada ²⁷	2014	Canada and United States of America (USA)	Survey, Interviews, Literature Review
Morgan et al. ³¹	2015	Australia; Canada: Ontario, Québec, Saskatchewan; Sweden, United Kingdom (UK)	Integrative Review
Wranik et al. ²¹	2015	Canada: Alberta, Manitoba, Nova Scotia	Scoping Review of Published and Grey Literature, Stakeholder Interviews, Surveys
Mulvale et al. ²⁸	2016	Canada, Spain, UK, USA (incl. Puerto Rico)	Systematic Review
O'Reilly et al. ²⁹	2017	Australia, Brazil, Canada, France, Netherlands, New Zealand, South Africa, Spain, Sweden, UK, USA	Integrative Review
Bentley et al. ³⁰	2018	Australia	Online Survey, Interviews
Grol et al. ²⁴	2018	Netherlands	Focus Groups, Interviews
Russell et al. ¹⁸	2018	Australia, Canada, USA	Collaborative Reflexive Deliberative Approach
Sorensen et al. ²³	2018	Norway	Scoping Review
Wranik and Haydt ²⁶	2018	Canada: Manitoba, Nova Scotia, Alberta	Interviews, Policy Documents

RESULTS

This review included 13 articles that used a variety of methodological designs (Table 2) to highlight barriers and enablers to implementation of collaborative family practice teams and their effectiveness.

An overview of the barriers and enablers identified, and subsequently categorized into the CFIR framework, is included in Appendix 3, and an accompanying visual summary can be found in Appendix 4. CFIR constructs for which there was relevant data extracted are

outlined below (Table 3). The number of articles that reported a given CFIR construct (or its respective sub-constructs) is reported in Table 3 to provide a general sense of patterns and gaps within the cited literature. This number neither captures a precise citation frequency nor serves as an indication of the relative importance of the constructs and the respective barriers and enablers therein. A narrative description of the barriers and enablers identified follows.

Table 3 – Articles Reporting Barriers and Enablers within the CFIR domains, constructs, and sub-constructs

Asterisks (*) indicate research identified themes.

CFIR CONSTRUCT	CFIR SUB-CONSTRUCTS OR RESEARCH IDENTIFIED THEME	# ARTICLES
CFIR Domain I: Intervention Characteristics		
A. Intervention Source	None	0
B. Evidence Strength and Quality		2
C. Relative Advantage		0
D. Adaptability		0
E. Trialability		0
F. Complexity		0
G. Design Quality		0
H. Packaging and Cost		3
CFIR Domain II: Outer Setting		
A. Patient Needs and Resources	None	2
B. Cosmopolitanism		3
C. Peer Pressure		0
D. External Policy and Incentives	D1. Funding Models and Compensation	8
	D2. Government and Regulatory Policy	4
	D3. Education	4
CFIR Domain III: Inner Setting		
A. Structural Characteristics	A1. Team Size and Composition*	6
	A2. Governance*	4
	A3. Team Organization and Coordination Supports*	2
B. Networks and Communications	B1. Communication Tools and Technology*	6
	B2. Formal Communication*	5
	B3. Informal Communication*	5
	B4. Role Clarity and Relationships*	7
C. Culture	C1. Trust and Respect*	8
	C2. Shared Purpose and Identity*	3
	C3. Power and Hierarchy*	10
D. Implementation Climate	D1. Tension for Change	0
	D2. Compatibility	0
	D3. Relative Priority	0
	D4. Organizational Incentives and Rewards	2
	D5. Goals and Feedback	4
	D6. Learning Climate	5
E. Readiness for Implementation	E1. Leadership Engagement	5
	E2. Available Resources	8
	E3. Access to Knowledge and Information	1

Table 3 (continued)

CFIR CONSTRUCT	CFIR SUB-CONSTRUCTS OR RESEARCH IDENTIFIED THEME	# ARTICLES
CFIR Domain IV: Characteristics of Individuals		
A. Knowledge and Beliefs About the Intervention	None	2
B. Self-Efficacy		0
C. Individual Stage of Change		0
D. Individual Identification with Organization		0
E. Other Personal Attributes		4
CFIR Domain V: Process		
A. Planning	None	2
B. Engaging	B1. Opinion Leaders	4
	B2. Formally Appointed Internal Implementation Leaders	3
	B3. Champions	4
	B4. External Change Agents	0
	B5. Key Stakeholders	0
	B6. Innovation Participants	0
C. Executing	None	0
D. Reflecting and Evaluating	None	5

CFIR DOMAIN I: INTERVENTION CHARACTERISTICS

Intervention characteristics refer to the beliefs, perceptions, and characteristics of the intervention, where the *intervention* is defined as *implementation or creation of interprofessional collaborative care teams*, not the teams themselves. This domain includes eight constructs:³

- A. Intervention Source
- B. Evidence Strength and Quality
- C. Relative Advantage
- D. Adaptability
- E. Trialability
- F. Complexity
- G. Design Quality
- H. Packaging and Cost

Findings related to the two constructs where data was found (B and H) are summarized below.

B. Evidence Strength and Quality

High quality data and research are needed to understand the current status and impact of teams in the Canadian health care system, for example, while there is international evidence of the impact of the addition of nurse practitioners (NPs) on patient volume and access, there is little Canadian data.¹⁷ Broad team-related reforms require buy-in from medical professional organizations and evidence contributes to achieving this.¹⁸

H. Packaging and Cost

Very little data were found specifically about the packaging and cost of the implementation of interprofessional collaborative family practice teams. Some funding arrangements are more likely to encourage collaboration than others.¹⁹ Organizational-level financial support enables interprofessional collaborative team implementation by paying the practice instead of the individual provider.²⁰ These models link incentive funding to team functioning and collaboration by establishing

clear performance indicators that include all team members. These funding models promote collaboration because they link funding to the activities of the whole team instead of specific providers.²¹ Conversely, models that discourage interprofessional collaborative practice team implementation, such as fee-for-service, are linked to the activities of a single provider.²¹

CFIR DOMAIN II: OUTER SETTING

Outer Setting is defined as the *practice (i.e., the entity of a practice, which includes the health professionals, administration, managers, etc.), with the next level being NSHA. This domain consists of four constructs:*³

- A. Patient Needs and Resources
- B. Cosmopolitanism
- C. Peer Pressure
- D. External Policy and Incentives

Findings related to the three constructs where data were found (A, B, and D) are summarized below.

A. Patient Needs and Resources

This construct refers to “the extent to which patient needs, as well as barriers and enablers to meet those needs, are accurately known and prioritized by the organization.”³

Having a multi-component model of care including patient education, systematic follow-up, and medication adherence support (beyond, for example, diagnosis and treatment) is an enabler of team implementation.¹⁹ Additional related enablers include team awareness of patient population characteristics and needs enhanced, possibly, through use of community needs assessments.¹⁷ Patient willingness to receive care from teams, as well as involvement of patients and families in care planning and decision-making is also important.¹⁷

B. Cosmopolitanism

This construct refers to “the degree to which the practice team is networked with other external organizations.”³

System level involvement of policy-makers, organizational leaders, health care team leads and individual professionals in developing structures that support collaboration, integration and coordination of professionals and services are important. For example, interprofessional education, communication infrastructure and quality improvement mechanisms.^{19,22} Also important is development of working relationships between health care professionals located in different practice settings to coordinate care for patients, particularly when they have complex needs.²³

Team implementation was enabled by family physicians networking to establish contacts with other community partners, hospitals, and social services, as well as the support of primary care centre managers for integration and coordination of care among team members in the practice.²⁴ Maintenance of a broad knowledge of the availability of and processes for accessing services external to the practice—for example, hospitals, nursing homes, social services, and community services—is another manager-specific enabler.²⁴

D. External Policy and Incentives

This construct includes “external strategies to spread interventions, such as policy and regulations, external mandates, guidelines, pay-for-performance, collaboratives, and public or benchmark reporting.”³ Barriers and enablers within this construct are further categorized into three research-identified themes that emerged from the literature:

- D1. Funding Models and Compensation
- D2. Government and Regulatory Policy
- D3. Education

D1. Funding Models and Compensation

Except for noting that favorable compensation models, such as salary versus fee-for-service²⁵ was satisfactory among a greater proportion of interprofessional practitioners,^{17,19} the remainder of the literature in this category focused on barriers to team implementation. Provider payment models, particularly physician remuneration with fee-for-service, impedes team implementation^{21,26} by siloing care,¹⁹ rewarding professional isolation¹⁸ and discouraging participation in interprofessional education.²⁷

Family physicians receiving alternative payment models may be incentivized to participate in team meetings,²² while those paid using fee-for-service may not be compensated—and potentially lose out on income—for participating in meetings including meetings to discuss patient care with other providers.²⁴ Similarly, fee-for-service curbs financial incentives to share decision-making with other team members.²⁷ Financial differences among providers working together in teams is another barrier.²¹ When compensation and benefits for primary health care team positions are not competitive with those in hospitals and/or the private sector the recruitment and retention of qualified personnel is hindered.²² Another barrier is the higher rate of remuneration paid to specialists for patient referrals made by family physicians compared with those made by nurse practitioners.²²

D2. Government and Regulatory Policy

Collaboration at the systems level to coordinate appropriate legislative and regulatory reforms, including pan-Canadian frameworks, enables team implementation.^{17,19} For example, standardizing regulations for nurse practitioners across Canada solidified the profession's scope of practice contributing to enhanced role clarity among the profession which, in turn, supports their integration into the health care system as valued members of interprofessional health teams. Government-led enablers of teams include setting targets for interprofessional care¹⁹ and allocating funds to interprofessional collaboration.¹⁹

Reforms to introduce non-physician professionals such as pharmacists, dieticians and social workers into traditional primary health care settings enable implementation of teams.¹⁸ In contrast, legislation that requires physicians to sign-off the actions of other providers perpetuates interprofessional power differences.¹⁸

D3. Education

Several papers addressed the importance of interprofessional education¹⁹ to enable team implementation. Lack of competency in interprofessional collaboration was attributed to having no, or inadequate interprofessional education.²⁷ Interprofessional pre-and post-licensure education¹⁷ and incorporation of interprofessional competencies into health professional regulatory bodies' licensing requirements¹⁹ are enablers of team implementation.

Provider-specific enablers identified in the reviewed literature include graduate-level education for advanced practice nurses¹⁷ and the development and incorporation of curricula for family practice and family health nursing roles in interprofessional settings.¹⁷

CFIR DOMAIN III: INNER SETTING

Inner Setting is defined as the collaborative family practice team, which in the current study is defined as at least three primary health care providers with two or more professional disciplines (e.g., two family physicians and a nurse practitioner or a family practice nurse).⁴ This domain includes five constructs:³

- A. Structural Characteristics
- B. Networks and Communications
- C. Culture
- D. Implementation Climate
- E. Readiness for Implementation.

Findings related to all five constructs are summarized below.

A. Structural Characteristics

This construct refers to “the social architecture, age, maturity, and size of an organization.”³

Barriers and enablers within this construct are further categorized into three research-identified themes that emerged from the literature:

- A1. Team Size and Composition
- A2. Team Governance
- A3. Team Organization and Coordination Supports

Findings related to all three sub-constructs are summarized below.

A1. Team Size and Composition

The size of a team can be both a barrier and an enabler.²⁸ Teams that are too large can impede functioning^{21,26,28} and effectiveness.²² However, a disadvantage of smaller teams is that they may reduce accessibility, continuity, and quality of care.²² The presence of NPs on teams is a feature of successful implementation of an appropriate care model for a given population.¹⁷ There is insufficient information about what constitutes an optimum size and composition of teams.

A2. Team Governance

Primary health care teams benefit from having leadership teams that guide the operations and provide strategic direction. These leadership teams aide in sustaining transformative changes by responding to and addressing the difficulties experienced by the care team.²² Practices with a board of directors governance model demonstrate consistently high team climate scores.¹⁸ Moving away from physician-governed care is also regarded as an enabler of team implementation.¹⁹ Barriers to team implementation include lack of a strong governance structure²² and privately-owned practices governed by physicians who dominate decisions and experience disproportionate profits.¹⁸ The literature often does not clearly define and distinguish the features comprising these unique governance models, limiting the ability to draw clear conclusions on their relative strengths and weaknesses.

A3. Team Organization and Coordination Supports

Team organizational supports (e.g., clear business plan, a governance mechanism, work place policies)¹⁷ and a ‘whole system’ approach, that considers the importance of involving non-clinical staff such as human resource and social services, enable team implementation.²² Clerical staff are also crucial to team effectiveness.²² Coordination of daily team activities by a primary health care manager helps create an environment that is supportive to interprofessional collaboration.²¹ In one paper, team implementation was enabled when the following activities were facilitated by General Practitioners: selecting what electronic patient record to use, negotiating with health insurers and social/care services, and setting up the collaborative care team.²⁴

B. Networks and Communications

This construct refers to

“the nature and quality of webs of social networks and the nature and quality of formal and informal communications within an organization and includes meetings, emails, methods of keeping people connected and informed; statements about team formation, quality, and functioning.”³

Barriers and enablers within this construct were further categorized into four research-identified themes that emerged from the literature:

- B1. Communication Tools and Technology
- B2. Formal Communication
- B3. Informal Communication
- B4. Role Clarity and Relationships

Findings related to all five constructs are summarized below.

B1. Communication Tools and Technology

Information communication technology systems enable team communication through electronic medical and/or health records (EMRs, EHRs), computerized messaging, and telehealth.^{22,29}

Other communication tools that encourage information sharing include: weekly team meetings, interprofessional care plans, integrated care pathways, common patient/client charts, standardized documentation systems, protocols and practices that clarify provider responsibilities and patient pathways, and consistent scheduling of teams on the same shifts.²⁰ Barriers include technologies not designed for recording interprofessional work³⁰ and disagreement among team members around care plans for patients.¹⁷

B2. Formal Communication

Formal communication mechanisms, such as regularly scheduled team meetings, case conferences and huddles enable team implementation.^{19,22,23,27,28} Such meetings are opportunities to collaborate about patient care, discuss team schedules and plans,²² and gain an understanding of team members' roles and priorities.¹⁹ Face-to-face communication is highly valued²⁹ along with a structured, interactive approach that includes processes for negotiating, decision-making and conflict management.¹⁹ Documenting plans made during meetings along with specific delegated tasks is helpful.²²

B3. Informal Communication

Informal unplanned communication approaches, for example hallway conversations, are needed but are insufficient.²² While they are inadequate on their own, frequent informal communication plays a part in enabling collaboration among team members.³¹ Informal gatherings of teams can also be useful in facilitating an understanding of roles and priorities.¹⁹ Informal ad hoc interactions can also be useful to enable shared decision-making and informational continuity.²⁹ In general, formalizing communication procedures supports collaboration between family physicians and other healthcare providers.²³ Promoting effective communication between family physicians and nurses is important for enhancing the processual efficiency of care.²³

B4. Role Clarity and Relationships

The importance of role clarity among team members is discussed in several papers²⁹ with many highlighting the frequency and negative impact created by the lack of role clarity.^{22,29} Other papers point out how team members' knowledge of one another's scope of practice and role, as well as their own, enables team implementation.¹⁷ A clear understanding²² and definition of roles²¹ is important as the consequences of poor role clarity are role confusion and conflict.²² Another enabler of role clarity and relationships is the collaborative skills of the team.²³ Barriers that can prevent role clarity are gaps in knowledge, misunderstanding of roles among team members,²² and inadequate communication about provider roles in educational programs.²¹

C. Culture

This construct refers to "the norms, values, and basic assumptions of a given organization."³ Barriers and enablers within this construct are further categorized into three subconstructs that emerged from the literature:

- C1. Trust and Respect
- C2. Shared Purpose and Identity
- C3. Power and Hierarchy

C1. Trust and Respect

Trust and respect are linked with role clarity and regarded as essential for team implementation and collaboration.^{22,23,29} Part of what respect means is to be heard.^{23,29} Low levels of conflict and supportive colleagues are conducive to team implementation and collaboration.²⁸

C2. Shared Purpose and Identity

Having shared ideals and a collective identity are important aspects of culture that promote team implementation.³⁰ In contrast, professional silos²¹ and issues interfering with team cohesion¹⁷ create barriers to team implementation.

C3. Power and Hierarchy

Balanced power relationships among team members occurring through shared leadership, decision making, authority, and responsibility enable team implementation.¹⁹ Identifying and addressing imbalances of power is important for creating interprofessional workplaces that are supportive and safe for all team members.¹⁹

Non-hierarchical organization and decision-making along with effective leadership enable team implementation.^{17,26} For example, the change from being the sole provider responsible to meet patients' needs to being a member of a team, with different skill mixes and expanded roles, can be challenging for family physicians²³ as well as other providers with vested authority and decision-making.²¹ Hierarchical relationships in the team,²⁷ and physician hierarchy in particular, are barriers to team implementation.^{23,26,29} Inherent in this notion is the perception among practitioners and organizations that teams can only be capably led by physicians.¹⁸

Hierarchical relationships and power sharing are further compromised by the business responsibilities of family physicians when they are practice owners.¹⁸ Hierarchy and power imbalances impede collaboration both within the team and with other organizations.¹⁹ Collaborative teams have a sense of equality among members and understand and rely on their individual strengths and capabilities.¹⁷

D. Implementation Climate

This construct refers to "the absorptive capacity for change, shared receptivity of involved individuals to an intervention, and the extent to which use of that intervention will be rewarded, supported, and expected within their organization."³

D1. Tension for Change

D2. Compatibility

D3. Relative Priority

D4. Organizational Incentives and Rewards

D5. Goals and Feedback

D6. Learning Climate

Findings related to the last three sub-constructs (D4.-D6.) are summarized below.

D4. Organizational Incentives and Rewards

This sub-construct refers to "extrinsic incentives such as goal-sharing awards, performance reviews, promotions, and raises in salary, and less tangible incentives such as increased stature or respect."³

Team implementation is enabled by payment incentives for after-hours services and for care plan compilation, capitation models, and salary support for leadership and administrative roles.¹⁸ Another incentive of team-based care is the opportunity for all providers on a team to earn a bonus for the attainment of clinical targets in pay-for-performance programs.²¹

D5. Goals and Feedback

This sub-construct refers to "the degree to which goals are clearly communicated, acted upon, and fed back to staff, and alignment of that feedback with goals."³

Having a team vision or shared goals and objectives is an enabler of team implementation²⁸ as is ensuring that this purpose is clear to the team and properly communicated and coordinated.^{17,21} When shared goals are explicitly communicated it adds to the sense of common purpose and improves the buy-in of team members with the collaborative process.²¹ Formal recognition from supervisors of members' contributions to the team is another enabler.²⁸

D6. Learning Climate

This sub-construct refers to

*"a climate in which: a) leaders express their own fallibility and need for team members' assistance and input; b) team members feel that they are essential, valued, and knowledgeable partners in the change process; c) individuals feel psychologically safe to try new methods; and d) there is sufficient time and space for reflective thinking and evaluation."*³

Enablers include ensuring established team leadership,¹⁷ and mutual trust and respect amongst the team members, as well as commitment to building relationships between them and willingness to cooperate and collaborate.¹⁷ To this end, feeling like there is support and innovation within the team

enables team implementation.²⁸ Furthermore, some interprofessional teams establish leadership teams to address managing and facilitating collaboration.²² Physicians and nurses often lack the training and experience needed to act as facilitators of collaboration which can be a barrier to team implementation.²²

E. Readiness for Implementation

This construct refers to “the tangible and immediate indicators of organizational commitment to its decision to implement an intervention.”³ Barriers and enablers within this construct were further categorized into three sub-constructs:

E1. Leadership engagement

E2. Available Resources

E3. Access to Knowledge and Information

Findings related to all three sub-constructs are summarized below.

E1. Leadership Engagement

This sub-construct refers to the “commitment, involvement, and accountability of leaders and managers with the implementation.”³

Leadership is a key enabler of team implementation. Its importance is a regularly occurring theme throughout the literature, however, information about what constitutes ideal leadership is limited.^{17,27} There is a view that practices should be engaging and developing leaders at every level.^{19,27} Barriers to team implementation include lack of a clear leader¹⁷ and inadequate system-level leadership that promotes and supports collaboration.²³

E2. Available Resources

This sub-construct refers to “the level of resources dedicated for implementation and on-going operations, including money, training, education, physical space, and time.”³

Education is an important resource for improving interprofessional collaboration²⁷ and one that

may reduce team turnover to optimize growth of interprofessional teams.¹⁹ Leadership courses,¹⁹ interprofessional education on the job¹⁹ and teamwork training^{17,21,29} are enablers of team implementation. Education about interprofessional collaboration and care helps team members overcome barriers to collaborative practice and encourages competent communication.¹⁹ Social and organizational training can reduce the impact of power dynamics within teams.¹⁹

Adequate physical space that allows for colocation of the team is an enabler of team implementation.²⁹ Colocation results in greater mutual understanding, including increased understanding of one another’s roles, and enhanced delivery of care.^{19,24} Physical separation of team members can become a symbolic barrier reinforcing assumed divisions²⁷ and impeding communication and collaboration.²⁷ While working under one roof is regarded as enabling, this is not necessarily so when sharing the same room or office.²⁴ Insufficient space and profession-specific spaces negatively impact communication, workflow, and team integration.^{19,26}

Inadequate time to interact with team members limits opportunities to participate in sharing reflections and learning from collaborative partners which impedes team implementation.²³ Human resource plans that allow dedicated time for team members to learn about, from, and with one another and provide coverage for staff to participate in interprofessional activities are important.¹⁹

E3. Access to Knowledge and Information

This sub-construct refers to “ease of access to digestible information and knowledge about the intervention and how to incorporate it into work tasks.”³

Clarification of team processes and clear documentation contribute to team implementation and effective team functioning.²¹ Interprofessional practice guidelines and clear role definitions for team members support effective team communication, which in turn, enables team implementation.¹⁹

CFIR DOMAIN IV: CHARACTERISTICS OF INDIVIDUALS

In this review, *Characteristics of Individuals* refers to any individuals working within a team. This domain includes five constructs:³

- A. Knowledge and Beliefs About the Intervention
- B. Self-Efficacy
- C. Individual Stage of Change
- D. Individual Identification with Organization
- E. Other Personal Attributes

Findings related to the two constructs where data were found (A and E) are summarized below.

A. Knowledge and Beliefs about the Intervention

This construct refers to “individuals’ attitudes toward and value placed on the intervention as well as familiarity with facts, truths, and principles related to the intervention.”³

Enablers of team implementation include belief in the concept of collaboration, and positive attitudes and views towards collaboration.²⁸ Barriers to team implementation include opposition or disagreement among providers regarding the potential value of interprofessional education,¹⁹ and conflicting interests, values, beliefs or other interpersonal conflicts.¹⁹

E. Other Personal Attributes

This broad construct includes “other personal traits such as tolerance of ambiguity, intellectual ability, motivation, values, competence, capacity, and learning style.”³

Flexibility—particularly in one’s role—is an enabler of team implementation, while concern about maintaining ownership over roles creates barriers to team implementation.^{17,28} Difficulty with shifting to the attitudes required for team care is difficult, especially for physicians.¹⁸ Physicians believed that their role centered on a trust relationship with the

patient that may feel threatened when others are brought into that relationship.¹⁸ Allowing other team members opportunities to have meaningful patient interactions is important for collaboration, but to do this, a shift is needed in the way physicians view their role within the primary care team.

CFIR DOMAIN V: PROCESS

Process refers to the implementation of collaborative family practice teams.³ This domain includes four constructs:

- A. Planning
- B. Engaging
- C. Executing
- D. Reflecting and Evaluating

Findings related to the constructs where data were found (A, B, and D) are summarized below.

A. Planning

This construct refers to “the degree to which a scheme or method of behavior and tasks for implementing an intervention are developed in advance, and the quality of those schemes or methods.”³ This construct includes evidence of assessments done prior to the introduction and implementation of collaborative care teams and refinements to plans related to introduction and implementation.

Health human resource planning to encourage collaboration and coordination of services is an enabler of team implementation.¹⁷ The need to develop human resource plans to allow staff dedicated time to engage in interprofessional activities such as team development was noted.¹⁹ In this way, government policies that contribute to limited human resource planning act as a barrier to the implementation of interprofessional collaborative care teams.¹⁹

B. Engaging

This construct refers to

“attracting and involving appropriate individuals in the implementation and use of the intervention through a combined strategy of social marketing, education, role modeling, training, and other similar activities. Engagement strategies and outcomes is also included.”³

Barriers and enablers within this construct were further categorized into six sub-constructs:

- B1. Opinion leaders
- B2. Formally Appointed Internal Implementation Leaders
- B3. Champions
- B4. External Change Agents
- B5. Key Stakeholders
- B6. Innovation Participants

Findings related to three sub-constructs (B1.-B3.) are summarized below.

B1. Opinion Leaders

This sub-construct refers to “individuals in an organization who have formal or informal influence on the attitudes and beliefs of their colleagues with respect to implementing the intervention.”³

One article identifies the enabling role of physicians in team implementation because they can be favorably positioned in the team to coordinate the medical domain, integrate actions of the team, have the ability ‘to see the big picture’ and have leadership (clear vision, endurance, drive, taking responsibility) and team building skills.²⁴ One article identifies physician hesitancy around collaboration as a barrier to team implementation.^{23,26,29}

B2. Formally Appointed Internal Implementation Leaders

This sub-construct refers to “individuals from within the organization who have been formally appointed with responsibility for implementing an intervention as coordinator, project manager, team leader, or other similar role.”³

Management structures that are collaborative and supportive of team development and processes and

that offer regular feedback on team performance were identified as an enabler of collaborative team implementation.³¹ Systems that support local management and leadership,²³ as well as development of leaders amongst healthcare professionals within the team¹⁹ are enablers of interprofessional care.

B3. Champions

This sub-construct refers to

“individuals who dedicate themselves to supporting, marketing, and ‘driving through’ an [implementation] overcoming indifference or resistance that the intervention may provoke in an organization.”³

One article discusses the notion of a team champion.²⁸ Developing interprofessional care champions is an enabler of team implementation.^{19,28} One review includes some articles that discuss physicians as team leads and others that indicate leads could be family physicians, nurses or other providers.²⁹ Specific roles for physicians in team facilitation include choosing an electronic patient record, negotiating with health insurers and social / care services, and setting up a collaborative care team.²⁴

Ensuring future collaboration champions, requires opportunities for students to engage and to learn about, from, and with students of other professions.²² Greater networking on interprofessional collaboration is also needed.¹⁷

D. Reflecting and Evaluating

This construct refers to “quantitative and qualitative feedback about the progress and quality of implementation accompanied with regular personal and team debriefing about progress and experience.”³

Formal evaluation of team and collaborative care functioning was identified as an enabler.²⁹ Evaluation models included Lean,²⁹ Reflective Adaptive Process,²⁹ a National Demonstration Project,²⁹ a workshop to enhance interprofessional teamwork²⁹ and a Quality Team Development initiative.²⁹ One article found that requirements for external accountability motivated a team-based approach to problem solving.¹⁸

Informal feedback among health care providers about their interprofessional work was also noted to be an enabler of team implementation,²⁹ as was team members' self-assessment and reflection on their own practice.¹⁹

DISCUSSION

The purpose of this review was to identify, categorize and describe the barriers and enablers to the implementation of colocated interprofessional collaborative care team, with a focus on improving access to primary health care. The review found 13 articles documenting literature reviews of barriers and enablers to implementation of collaborative teams. None of the included reviews examined team implementation specifically in reference to improving access to primary health care, an outcome of interest. Nevertheless, the review provides a useful synthesis of the barriers and enablers to the implementation of collaborative care teams in primary health care informed by the lens of the CFIR.

Most of the information found in our review related to the barriers and enablers affecting implementation of collaborative family practice teams at the team level (i.e., CFIR's 'Inner Setting' domain) and the practice, organization, health authority, government levels (i.e., CFIR's 'Outer Setting' domain).

Few articles had information about the introduction of teams (i.e., the intervention) or barriers and enablers to the introduction and implementation of collaborative family practice teams (the intervention) or characteristics of individuals involved in teams. The scarcity of information about the introduction of team-based care as an intervention in health care systems is noteworthy and worthy of consideration for future research.

There is insufficient information about what constitutes an optimum size and composition of teams. This finding is not unexpected as team size and composition would depend heavily on the context and circumstances of any given team. Furthermore, it may vary depending on the outcomes being measured with a larger team being sub-optimal for team functioning while realizing improvements in patient centered outcomes such as quality of care or satisfaction. These details were not considered

in the included literature reviews and answering this specific research question would require a focused search of primary literature.

Similarly, while provider payment models were a common theme within the literature, they were usually not described in terms of what the ideal model was or described in sufficient detail to draw a definitive conclusion based on the evidence provided.

STRENGTHS AND LIMITATIONS

This review involves a synthesis and thematic organization of published literature but is limited to the available information. Some areas have been researched quite extensively, while others have not. Existing literature has been influenced by the policy direction of governments and health service delivery organizations, by directions of health professional organizations, by the academic orientation of those studying the issues and the directions of funders of such research. As a result, the findings may be biased toward only this published literature and its historical development. Our review focused on colocated collaborative family practice teams. In having this focus, it is possible we may have missed other types of collaborative care offered by other team configurations.

To maintain as much rigor as possible, our search strategy was developed by a librarian in consultation with the full research team and involved a selection of literature identified to meet our study inclusion criteria. Title and abstract and full text reviews were done by two members of the team to ensure articles selected were within the scope of the current study. Despite this methodology, it is possible that there would be differences in agreement upon adding another reviewer. The CFIR framework was modified to suit the project based on team discussions, as it was designed to be tailored to meet the intervention design and the context being studied.³ Given the flexibility of the CFIR and overlap in how some barriers and enablers could be interpreted (i.e., into multiple domains), this may lead to differences in how the extracted data is interpreted. Data were extracted into the CFIR framework by two members

of the team and discussed with at least one additional team member in order to resolve conflicts and reach agreement. A multidisciplinary team met monthly to develop methods and provide direction to the review and insights into evolving findings.

KEY MESSAGES:

ENABLERS OF TEAM IMPLEMENTATION

In the following sections, we summarize enablers of collaborative family practice teams from the literature in key messages for three knowledge-user groups: 1) Systems-level leaders in governments and health authorities; 2) Team-level clinicians and managers; 3) Systems-level leaders in health professional education and regulation.

Governments and Health Authorities

- Adopt organization-level financial support strategies that reward practices instead of individual providers
- Coordinate legislative and regulatory reforms, for example reforming scopes of practice, with other provinces
- Develop policies and procedures that promote and consider professional equality within teams
- Provide financial incentives/payments for individuals or teams according to performance indicators related to specific services or achieved targets
- Ensure teams share physical space, thereby enabling collaboration and enhancing delivery of care
- Adopt organizational leadership strategies and structures that respond to and address difficulties experienced by teams
- Provide system-level support for local management and leadership
- Ensure participation by all team members in unit-level interprofessional education, enabling interprofessional collaboration and teamwork
- Evaluate the impact of the above enablers on access to primary health care

Team-Level Clinicians and Managers

- Build teams that are large and diverse enough to meet patients' primary health care needs and small enough without limiting accessibility or compromising quality of care
- Provide deliberate attention to governance and leadership within teams
- Coordinate team activities by managers and technological tools to enable optimal utilization of all team members
- Adopt innovative technologies, tools and approaches (e.g., clinic huddles, computerized messaging) to facilitate communication, decision-making and information sharing
- Plan regularly scheduled team meetings for patient care planning and communication about the roles of team members and how the team works together enables teams to collaborate
- Promote a climate of learning and culture of trust and respect with a shared purpose/vision and identity that enables collaboration
- Address the organizational governance and leadership of teams to minimize issues of power and hierarchy in team development

Health Professional Educators and Regulators

- Ensure each type of health care provider is able, and is supported, to practice to full scope in order to enable team collaboration
- Establish pre- and post-licensure requirements for interprofessional education
- Address the organizational governance and leadership of teams to minimize issues of power and hierarchy in team development
- Incorporate interprofessional curricular components into education programs, to allow team members and students from different provider backgrounds to learn about, from and with one another

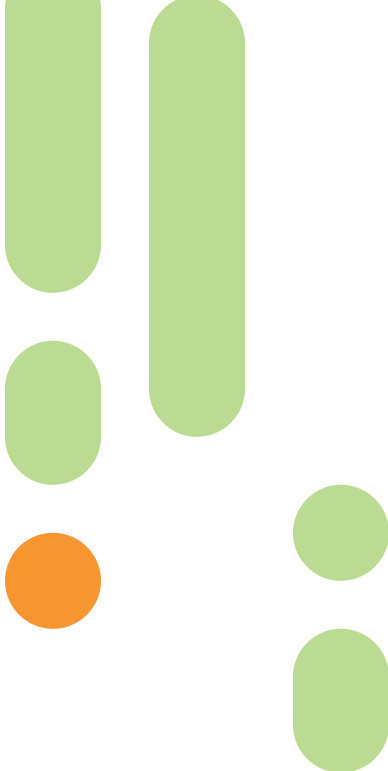
CONCLUSIONS

The key messages from this literature synthesis provide information relevant to implementation of interprofessional collaborative family practice teams in Nova Scotia. A clearer understanding of the local context in Nova Scotia as it relates to the findings from this review is now required. The intent of the next phase of the project is to use recently awarded Translating Research into Care (TRIC) grant funds, along with the findings from the recently completed provincial rapid review on Collaborative Care Practices, to engage collaborative family practice teams in prioritizing the relative importance of the prevailing barriers and enablers including their impact on access to care. This work will be the first step in the identification and development of an intervention capable of addressing the prioritized barriers and enablers that are of greatest importance locally.

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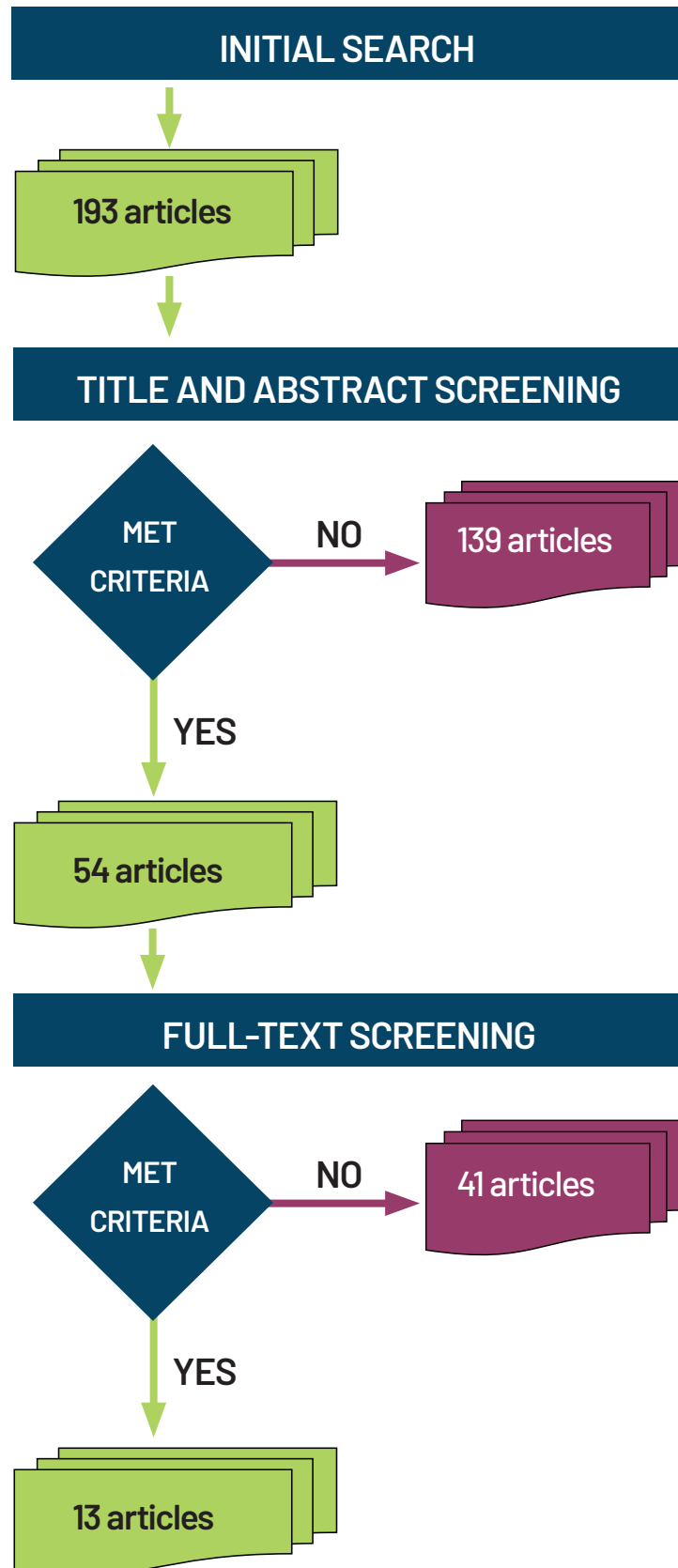
APPENDIX 1

GREY LITERATURE SOURCES

Organization	Website
Government of Québec	https://www.quebec.ca/en/health/advice-and-prevention/mental-health/quebec-psychotherapy-program-for-mental-disorders-pqptm/#c5818
Government of New Brunswick	https://www2.gnb.ca/content/dam/gnb/Departments/h-s/pdf/en/Publications/HealthCare/PrimaryHealthCareDiscussionPaper.pdf
Gouvernement of Saskatchewan	http://www.sma.sk.ca/kaizen/content/files/SMA_Primary_Health_Care.pdf
Government of Alberta	http://www.health.alberta.ca/documents/PCN-Governance-Leadership-Structure-2017-06.pdf http://www.health.alberta.ca/initiatives/primary-care-networks-framework.html https://open.alberta.ca/dataset/3ca7c848-0112-467f-8230-2ee364a294f8/resource/a41ff408-5d52-4763-83b5-1171612ee8c7/download/pcn-review-2016.pdf
Government of British Columbia	http://www.gpsc.bc.ca/what-we-do/patient-medical-homes/primary-care-networks https://www.divisionsbc.ca/sites/default/files/Divisions/Richmond/FINAL-Integration%20of%20AHP-October%202016.pdf
Health Sciences Association	https://www.hsabc.org
Patient-Centered Primary Care Collaborative Organization	www.pcpcc.org
The Change Foundation	https://www.changefoundation.ca/
Divisions of Family Practice	https://divisionsbc.ca/northern-interior-rural
American Academy of Family Physicians (AAFP)	www.aafp.org
General Practice Services Committee	http://www.gpsc.bc.ca/
Institute for Healthcare Improvement	http://www.ihl.org/
Canadian Foundation for Healthcare Improvement	https://www.cfhi-fcass.ca/

APPENDIX 2

FLOW DIAGRAM OF SCREENING PROCESS



APPENDIX 3

CONDENSED VERSION OF BARRIERS AND ENABLERS IN THE CFIR

The following condensed summary table represents an overview of the extracted barriers and enablers identified in the literature listed according to the corresponding domain and sub-construct to which they were categorized. *Any items related to access have been italicized for easy identification.* All CFIR constructs that did not have any barriers or enablers coded to them from the extracted literature were not listed in the table below.

The following is a list of omitted constructs organized according to their corresponding CFIR domain:

- I. **Intervention Characteristics:** Intervention Source, Relative Advantage, Adaptability, Trialability, Complexity, Design Quality and Packaging
- II. **Outer Setting:** Peer Pressure
- III. **Inner Setting:** Implementation Climate, Tension for Change, Compatibility, Relative Priority, Readiness for Implementation
- IV. **Characteristics of Individuals:** Self-efficacy, Individual Stage of Change, Individual Identification with Organization
- V. **Process:** External Change Agents, Key Stakeholders, Innovation Participants, Executing

	Enablers	Barriers
I. Intervention Characteristics		
Evidence Strength and Quality	<ul style="list-style-type: none"> Buy-in from medical professional organizations <i>Good data and research to understand current status and impact of changes in system (e.g., NPs on volume/access)</i> 	
Cost	<ul style="list-style-type: none"> Organizational-level financial support Neutral funding models that link funding to activities of whole team on a per patient basis Independent income generation, not dependent on their activities or those of colleagues 	<ul style="list-style-type: none"> Unstable funding models Space and equipment covered by income of a specific provider

	Enablers	Barriers
II. Outer Setting		
Patient Needs and Resources	<ul style="list-style-type: none"> • Client-centered approaches (i.e., assessing patient/community characteristics and needs) • Involving patient and family in care planning and delivery • Patients willing to receive care from teams • Multi-component models that involve patient education, systematic follow-up, medication adherence 	<ul style="list-style-type: none"> • <i>Rostering patients to a specific team member, which may reduce access if team member leaves practice</i>
Cosmopolitan	<ul style="list-style-type: none"> • GP networking in community to establish contacts with community partners (e.g., social services, hospitals) • Managers supporting integrating care (e.g., care coordination, connecting to social services, nursing homes, prevention resources) • <i>Inter-organizational collaboration, including service integration and coordinating care for patients with complex needs</i> 	
External Policy and Incentives	<ul style="list-style-type: none"> • GPs in alternate payment plans (APPs) may be more incentivized to participate in team meetings than fee for service models • Government funding allocated to interprofessional collaboration • System-level collaboration and policies (i.e., legislative and regulatory reforms) which may set targets for interprofessional care or introduce non-physician professionals into Interprofessional Primary Care (IPC) teams • Health professional regulatory bodies incorporating interprofessional competencies into licensing requirements • Graduate level education for advanced practice nurses • Incorporating interprofessional education into academic curricula for healthcare professional programs, pre- and post- licensure 	<ul style="list-style-type: none"> • Lower compensation and benefits for IPC teams compared to hospitals and private sector results in poor recruitment and retention • Different remuneration systems for different professionals (e.g., referrals from GPs vs. NPs) • Salaries that originate from different funding sources • When funding or compensation does not facilitate participation in team (e.g., meetings discussing patients) • Fee for service payment models, which reward interprofessional isolation. • Top-down policies that require physician authority or decision-making • Team members lack competency in interprofessional collaboration due to lack of/inadequate interprofessional training

Enablers	Barriers
III. Inner Setting	
<p>Structural Characteristics</p> <ul style="list-style-type: none"> • Single-handed governance structures, in place of a partnerships, are positively associated with team climate • Clinics operating under a board of directors • Integrating both bottom-up and top-down governance associated with heightened efficiency and coordination • Adopting a “whole system” approach by involving non-clinical staff and clerical staff on team • <i>Include Nurse Practitioners in team</i> • <i>Move away from physician-driven care</i> • Developing new organizational infrastructure crucial for care delivery • Team organizational supports (e.g., team manager to coordinate day-to-day activities) 	<ul style="list-style-type: none"> • Privately owned practices governed by physicians typically dominate the organizational decisions • Large teams can impede functioning • <i>Small teams may reduce accessibility, continuity of care and quality of care</i>
<p>Networks and Communications</p> <ul style="list-style-type: none"> • Tech supports (e.g., EMRs, computerized message and booking, telehealth) • ICT systems are useful for collaborative decision making and information sharing • Verbal, face-to-face communication through interprofessional team meetings • Meetings are scheduled on a weekly basis, well-documented and involve plans for task delegation • Meetings include procedures for negotiation, decision-making and conflict management and resolution • Frequent and reciprocated, ad hoc communications (e.g., clinic huddles to discuss schedules, daily plans) • Clearly defining roles and understanding respective scopes of practice • Use formal and informal means of communication to establish this understanding • Standardize documentation and tools (e.g., integrated care pathways, common patient charts, interprofessional care plans) • Encourage information sharing • Set interprofessional guidelines (e.g., referral mechanisms between members) • Promoting supportive communication between team members • Interprofessional case conferences allows opportunity to collaborate 	<ul style="list-style-type: none"> • When technologies are not designed for recording interprofessional work • Insufficient as a means of communication • Communicative procedures between GPs and other team members generally did not support efficient collaboration • Improper communication negatively affects understanding of unique roles, backgrounds and contributions • Disagreement on plans of care and approaches

	Enablers	Barriers
III. Inner Setting (continued)		
Culture	<ul style="list-style-type: none"> • Balanced power relationships through shared leadership, decision-making, authority and responsibility • Identify and adjust power imbalances to build mutually supportive workplaces • Non-hierarchical organizational structure where sense of equality and mutual respect are felt by professionals • Shared ideals, collective identity, and sense of purpose • Trust and respect for each other • Understanding each member’s role • Low levels of conflict • Willing to cooperate and collaborate • Balance between group culture, hierarchy, and focus on efficiency and achievement 	<ul style="list-style-type: none"> • Hierarchical organizational structures • Vesting of authority and decision-making with one provider (e.g., perception that only physicians are capable of leading teams) • <i>Professional silos and lack of team cohesion</i>
Organizational Incentives and Rewards	<ul style="list-style-type: none"> • Financial incentives based upon unique collaborative care demands (e.g., after-hours services, compilation of care plans) • Opportunities for all staff to receive bonuses based upon target achievement 	
Goals and Feedback	<ul style="list-style-type: none"> • A clear vision and well-defined goals that have been collectively identified contribute to a shared sense of purpose • Formal recognition of performance from supervisor 	
Learning Climate	<ul style="list-style-type: none"> • Processes for group decision-making and problem solving promote shared purpose amongst the team • Sense of being a part of the team • Feeling supported professionally and creatively within the team 	<ul style="list-style-type: none"> • Non-physician members feel disconnected when involvement in decision-making is limited, leads to reduced job satisfaction • Power imbalances impede shared decision-making
Leadership Engagement	<ul style="list-style-type: none"> • Establish and develop leaders at every level of the organization • Ensure there is an established team leader responsible for managing and facilitating collaboration 	<ul style="list-style-type: none"> • Lack of a clear leader • Inadequate system-level leadership • Physicians and nurses in leadership roles often lack the training or experience required to evolve into facilitators of collaboration

Enablers	Barriers
III. Inner Setting (continued)	
Available Resources	<ul style="list-style-type: none"> • Colocation leads to greater mutual understanding, increased role clarity and superior care delivery • Educating staff in interprofessional care on the job (e.g., social and organizational training to mitigate power dynamics and training on co-workers' roles) • Offering leadership training courses
Access to Knowledge and Information	<ul style="list-style-type: none"> • Clearly explained team processes, policies and procedures as well as accessible and intuitive documentation
IV. Characteristics of Individuals	
Knowledge and Beliefs About the Intervention	<ul style="list-style-type: none"> • Belief in, or positive attitude towards, the concept of collaboration
Other Personal Attributes	<ul style="list-style-type: none"> • The ability to be flexible in one's professional role within the team • GPs accommodate the new skill mixes on a team and acknowledge the potential benefit of non-physician/patient interactions • Collaborative skills possessed by individuals within the team

		Enablers	Barriers
V. Process			
Planning	<ul style="list-style-type: none"> • Plan human health resources in a manner that encourages collaboration and coordination • Establish human resource plans that allow time for staff to participate in interprofessional activities • <i>Reduced team turnover to optimize growth</i> 		<ul style="list-style-type: none"> • Limited human resource planning
Engaging	<ul style="list-style-type: none"> • To foster future collaboration, allow opportunities for students from different professions/ programs to engage with one another • Promote greater interprofessional networking 		
Opinion Leaders	<ul style="list-style-type: none"> • When GPs serve as a pivotal professional in the team by integrating team actions, coordinating the medical domain, leadership, and facilitating team building 		<ul style="list-style-type: none"> • Physician reluctance to collaboration
Formally Appointed Internal Implementation Leaders	<ul style="list-style-type: none"> • Management structures and system-level foundations that are explicitly collaborative and support local leadership, and team development and processes • Engage and develop interprofessional leaders among the point-of-care health professional 		
Champions	<ul style="list-style-type: none"> • Developing and having team champion(s) within the team such (e.g., physician lead, GP and Nurse) • GPs act as team facilitators (i.e., choose electronic patient records, negotiating with health insurers, setting up care team, etc.) 		
Reflecting and Evaluating	<ul style="list-style-type: none"> • External accountability like focusing on quality through audits or other processes, and motivate a collaborative approach to problem solving • Monitoring and evaluation are a method to overcome system level barriers to interprofessional communication • Team members reflecting on their practice and sharing informal feedback with colleagues about their interprofessional work 		

APPENDIX 4

VISUAL SUMMARY OF FINDINGS

Barriers and Enablers to Implementing Interprofessional Family Practice Teams in Primary Care

Key Messages from the Literature for Stakeholder Groups

Governments and Health Authorities

- Regularly assess the equity of compensation models, including special incentives
- Coordinate legislative and regulatory reforms with other provinces
- Ensure there are policies/procedures for equality
- Ensure teams share physical space
- Evaluate the effectiveness of interventions to improve primary care
- Provide support for management and leadership
- Consider community needs/services, accessibility and quality of care when constructing the size and composition of teams

Team-level Clinicians and Managers

- Consider how to optimize the roles of all team members and identify gaps in capacity to meet patient needs
- Create a supportive and nurturing environment
- Provide attention to governance and leadership dynamics within teams
- Utilize technology for communication, decision-making and information sharing
- Dedicate time for patient care planning and team development

Health Professional Educators and Regulators

- Ensure health care providers are able and supported to practice to full scope
- Establish pre- and post-licensing requirements for interprofessional education
- Address organizational leadership of teams to minimize hierarchy
- Incorporate interprofessional curricular components into education programs

