


BMJ Open Primary care family physicians' experiences with clinical integration in qualitative and mixed reviews: a systematic review protocol

L Olivia Tseng ^{1,2}, Christie Newton,¹ David Hall,^{1,3} Esther J Lee,^{4,5} Howard Chang,¹ Iraj Poursalami,⁶ Krisztina Vasarhelyi,^{3,7} Diane Lacaille,^{8,9} Craig Mitton^{2,10}

To cite: Tseng LO, Newton C, Hall D, *et al.* Primary care family physicians' experiences with clinical integration in qualitative and mixed reviews: a systematic review protocol. *BMJ Open* 2023;**13**:e067576. doi:10.1136/bmjopen-2022-067576

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2022-067576>).

Received 19 August 2022
Accepted 14 June 2023



© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

For numbered affiliations see end of article.

Correspondence to

Dr L Olivia Tseng;
otseng@alumni.ubc.ca

ABSTRACT

Introduction Clinical (service) integration in primary care settings describes how comprehensive care is coordinated by family physicians (FPs) over time across healthcare contexts to meet patient care needs. To improve care integration and healthcare service planning, a systematic approach to understanding its numerous influencing factors is paramount. The objective of this study is to generate a comprehensive map of FP-perceived factors influencing clinical integration across diseases and patient demographics.

Methods and analysis We developed the protocol with the guidance of the Joanna Briggs Institute systematic review methodology framework. An information specialist built search strategies for MEDLINE, EMBASE and CINAHL databases using keywords and MeSH terms iteratively collected from a multidisciplinary team. Two reviewers will work independently throughout the study process, from article selection to data analysis. The identified records will be screened by title and abstract and reviewed in the full text against the criteria: FP in primary care (population), clinical integration (concept) and qualitative and mixed reviews published in 2011–2021 (context). We will first describe the characteristics of the review studies. Then, we will extract qualitative, FP-perceived factors and group them by content similarities, such as patient factors. Lastly, we will describe the types of extracted factors using a custom framework.

Ethics and dissemination Ethics approval is not required for a systematic review. The identified factors will help generate an item bank for a survey that will be developed in the Phase II study to ascertain high-impact factors for intervention(s), as well as evidence gaps to guide future research. We will share the study findings with various knowledge users to promote awareness of clinical integration issues through multiple channels: publications and conferences for researchers and care providers, an executive summary for clinical leaders and policy-makers, and social media for the public.

INTRODUCTION

Integration, in a healthcare context, brings healthcare services together to meet patient care needs across providers and settings.¹

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ A systematic review approach allows us to map common factors influencing family physicians' work across diseases and populations using a transparent and evidence-based methodology.
- ⇒ This map will help identify knowledge gaps for future research work and key factors for future intervention development.
- ⇒ The team may not identify all relevant articles despite the attempt to be as comprehensive as possible, because of the lack of a universal definition of clinical integration.
- ⇒ The data extraction and charting may require more extensive labour than anticipated, given the breadth of this topic and the potential methodological heterogeneity among studies.

To integrate care is to provide coordinated, comprehensive and ongoing care.² This integration is essential to achieve patient-centred or person-centred care^{3 4} and has been a major goal in health service delivery and planning globally for over two decades.^{5–7} When healthcare is well integrated, patients receive proper care efficiently with fewer medical errors and more satisfactory results,^{8–10} all of which lower healthcare costs. However, healthcare systems remain complex and fragmented despite years of efforts to promote integrated care.¹¹ The lack of a systematic approach and inadequacy of interventions are potential reasons for the current efforts failing, which can unintentionally increase the complexity and fragmentation of the healthcare systems.¹¹

Primary care is delivered by family physicians (FPs) who coordinate care through facilitating communication between patients, their families, specialists and other healthcare providers based on a longitudinal patient-physician therapeutic relationship.^{12–15}

Lacking a systematic approach and inadequacy of interventions are barriers to care integration. Various agencies have endorsed a broad systematic approach to help primary care collaborate with other healthcare sectors, such as the WHO,¹ National Health Service Federation,¹⁶ the Scottish government¹⁷ and the Institute of Medicine.¹⁸ FPs primarily deliver a preventative and reactive biopsychosocial model of care across all health conditions and patient demographics.^{13 19} When nearing the end of life, the focus shifts primarily to comfort care to optimise quality of life (figure 1).¹³ In primary care settings, 'clinical/service integration' describes how care is coordinated for each patient in a healthcare system.²⁰

Many factors influencing the clinical integration process have been captured in qualitative studies and have been synthesised into reviews focusing on either single conditions²¹ or select patient groups.²² These reviews have reported common factors across studies, such as inefficient communication among patients, FPs and specialists.^{23 24} However, a comprehensive picture of factors promoting or hindering clinical integration remains unclear. Clinical leaders and policy-makers can not identify high-impact targets for interventions when such a map is missing during service planning.

We developed a two-phase project. The Phase I study protocol outlines steps to compile a comprehensive map of FP-perceived factors that can influence clinical integration across healthcare contexts within a healthcare system. The map will describe the types of factors reported in literature using a custom framework defined in the methodology section. We will generate an item bank of the identified factors. Phase II will use the item bank to develop a survey study to ascertain high-impact factors for intervention(s) and evidence gaps to guide future research.

METHODS

This study is being guided by the Joanna Briggs Institute (JBI) systematic review methodology framework.²⁵ We focus on qualitative data, as this study aims to understand FPs' experiences. We select reviews over single studies, as we anticipated a high volume of studies under this broad topic. This systematic review protocol includes the following steps: (1) identifying the research question, (2) identifying relevant published studies, (3) study selection, (4) critical appraisal, and (5) data extraction and synthesis.

Stage 1: identifying the research question

The primary research questions that this review attempts to answer are:

1. What are the characteristics of qualitative and mixed reviews that evaluated FPs perceived factors influencing clinical integration in primary care?
2. What types of factors (barriers and facilitators) are reported by the above studies?

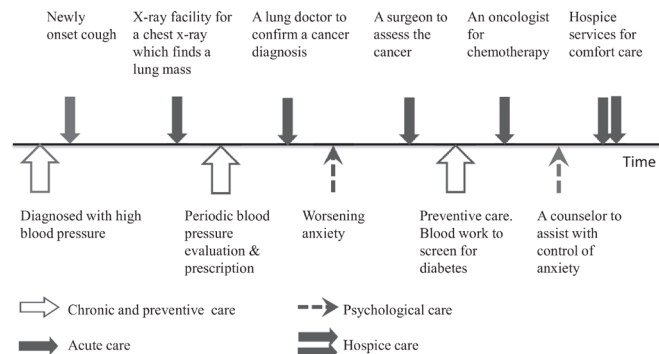


Figure 1 A simulation case illustrates the clinical integration process. A 50-year-old male with high blood pressure and mild anxiety has been seeing his family physician (FP) periodically. The FP evaluates his blood pressure (chronic care), renews his prescriptions and screens him for diabetes (preventive care). At a visit, the patient reports a 3-month cough history (acute care). This triggers diagnostic X-ray imaging and specialist consultations. A diagnosis and treatment of cancer exacerbates his existing anxiety (psychosocial care), which leads to a counsellor consultation. Near the end of his life, the patient is referred to hospice services for comfort care. During each office visit, the FP adjusts the existing care plan with feedback from the patient, his family and the services involved. Based on the care plan, the FP delivers care collaboratively with all required services and care providers in the community and hospitals.

For this study, clinical integration is defined as the coordination of patient-focused care in a continuous process across time, place (eg, clinics and facilities) and discipline (eg, primary care physicians, specialist and allied care providers).²⁰ Primary care FPs refer to physicians who have completed training in the Family Medicine Specialty¹³ and who provide holistic care to address patient healthcare needs based on long-term patient-physician relationships in the community.²⁶ Factors refer to perceived barriers and facilitators that can hinder or facilitate the process of clinical integration.

Stage 2: identifying the relevant studies

The inclusion criteria were developed using the Population-Concept-Context (PCC) framework.²⁷ Articles will be included for data analysis if they meet the inclusion criteria (table 1).

Search strategy

A template search strategy was developed and applied through two stages. During the first stage, we built draft search strategies based on the PCC inclusion criteria, which were tested against a sample of 13 review articles from other sources and were randomly title screened by the first author (LOT) with primary care expertise. The search strategies did not identify all sample articles demonstrating a sensitivity of 62% and a low specificity. During the second stage, we conducted a rapid literature review for a potential solution: a combination of MeSH terms and keywords to identify articles indexed inappropriately.²⁸ Each team member contributed keywords,

Table 1 Inclusion and exclusion criteria based on the Population-Concept-Context framework

	Inclusion criteria	Exclusion criteria
Population	Primary care settings Primary care physicians, family physicians or general practitioners <ul style="list-style-type: none"> ▶ Any sex, gender, age ▶ Providing longitudinal primary care in solo or group setting ▶ In community or office settings 	Non-primary care settings Primary care physicians <ul style="list-style-type: none"> ▶ Providing care in facility settings, such as hospitalists and long-term care facilities Care providers other than primary care physicians, such as specialists, nurse practitioners, nurses or allied care providers Patients
Concept	Clinical integration <ul style="list-style-type: none"> ▶ The coordination process of healthcare services across time, place and discipline ▶ For any patients regardless of demographics, socioeconomic status, ethnic background or health conditions ▶ For essential healthcare services to promote health, prevent diseases and manage health conditions, such as laboratory and imaging services, community and home care services, social support services and specialist/allied care provider consultations ▶ The process involves service determination (a.k.a. disease management, care planning, treatment decisions), referrals connecting patients to the required services and communication among all involved services Experience when integrating and coordinating healthcare services <ul style="list-style-type: none"> ▶ Factors ▶ Barriers ▶ Challenges ▶ Facilitators 	Clinical integration for non-essential healthcare services <ul style="list-style-type: none"> ▶ Not routinely delivered by family physicians ▶ Not to promote health and prevent or manage health conditions ▶ Experimental healthcare services, such as stem cells, gene therapy ▶ Cosmetic care ▶ Services for health tourists who travel to another country for healthcare services Other outcomes when integrating and coordinating healthcare services <ul style="list-style-type: none"> ▶ Satisfaction ▶ Health service utilisation ▶ Hospitalisation rate ▶ Self-management (chronic disease) ▶ Disease control (chronic disease)
Context	Publication time is limited to 2011–2021 Articles are limited to English-language due to cost consideration Qualitative data is considered to gather in-depth insights on the topic. Reviews are considered due to breadth of the topic and lots of single studies have been synthesised into reviews. <ul style="list-style-type: none"> ▶ Qualitative review articles ▶ Qualitative systematic reviews ▶ Mixed-methods reviews ▶ Mixed-methods systematic reviews 	Publication time prior to 2011 as information published prior to 2011 will be included in reviews published during 2011–2021 Non-English studies Studies that are not reviews using qualitative data <ul style="list-style-type: none"> ▶ Quantitative review articles ▶ Quantitative systematic review ▶ Single study, such as observational study, clinical trial, cohort study, case study ▶ Reports ▶ Abstracts ▶ Conference proceedings, guidelines

from their perspective, on the PCC elements, which were discussed iteratively (table 2). Because of the lack of a universal definition of this care integration topic, we adopted eight taxonomies defined by a Delphi study to capture more keywords.²⁹ We then built a search strategy using the keywords and best-fit MeSH terms for the MEDLINE database, which will be adjusted for the other two literature databases to accommodate their different indexing systems (online supplemental appendix S1). Our search includes the concepts: physician, primary care, attitudes, qualitative, reviews and limits (time

(2010–2021) and language (English)). All searches were performed by an Information Specialist with extensive expertise in clinical systematic reviews at the Centre for Clinical Epidemiology and Evaluation (C2E2).

Information sources

We selected MEDLINE, EMBASE and CINAHL bibliographic literature databases because they cover a wide range of journals related to our primary research questions. The Cochrane Central Register of Controlled Trials (CENTRAL) database was not included because

**Table 2** Keywords and MeSH terms, corresponding to key elements of the Population-Concept-Context criteria, for search strategy development

Key elements	Explanation/definition	Keywords/MeSH terms
Population		
Study participants	Family physicians who provide primary care	Family physicians, general practitioners, family practitioners, primary care physicians
Setting	Providing longitudinal primary care in solo or group in community or office settings	Primary care, primary healthcare, family practice, office visits, community health services
Concept-care Integration		
Care integration	A process that involves a coherent and synergetic set of methods and models to connect healthcare components (care providers, services, programmes and facilities) collaboratively within, between and across various parts of a healthcare system ²	Integrated care, coordinated care, continuity of care, health service accessibility, access, care fragmentation, collaborative care, shared care, healthcare delivery, comprehensive care
Concept-Clinical integration based on eight taxonomies defined in a Delphi study		
'Centrality of client needs'	'The principle of care is to address the needs of clients in terms of medical, psychological and social aspects of health' ²⁹	Biopsychosocial model of care, primary healthcare, primary care, social health, behavioural medicine, mental health, community care, home care
'Case management'	'Coordination of care for clients with a high-risk profile (eg, identifying risks, developing policies and guidance) ²⁹	Case management, care planning, decision making, consultations, referrals, care conference, care coordination, electronic health records, electronic medical records, medical record systems, data collection, information technology, collaboration, interconnected care, health resources, healthcare workforce, healthcare disparity
'Continuity'	'The organisation of care aims to provide fluid care delivery for an individual client' ²⁹	Continuity of care, ongoing care, information continuity, interconnectivity, longitudinal care
'Interaction between professional and client'	'Attitude and behavioural characteristics between professional and client regarding all health needs of the client' ²⁹	Patient-physician relationship, attitude of health personnel, professionalism, cultural safety, cultural humility
'Individual multidisciplinary care plan'	Implementation of a multidisciplinary care plan at the individual client level ²⁹	Multidisciplinary team, interdisciplinary communication, interdisciplinary care, interprofessional team, case conference
'Information provision to clients'	'Provide unambiguous and understandable information at the individual client level' ²⁹	Patient-centred care, patient education, healthcare literacy, communication and communication tools, evidence-based medicine
'Client participation'	'Clients are (pro)actively involved in the design, organisation and provision of care at the operational level' ²⁹	Patient-centred care, collaborative decision-making, shared decision-making, expanded chronic care model, patient navigation, patient navigators, patient compliance
'Population needs'	'The interdisciplinary approach is consistent with the dominant needs of the population' ²⁹	Acute care, chronic care, palliative care, preventive care, ⁴³ primary care, secondary care, tertiary care
Concept-experience		
Participants' experience	Experience when integrating healthcare services for patients	Enabler, barrier, facilitator, challenge, difficulty, problem, solution, issue, deficit, preference, satisfy, dissatisfy, frustrate, inability, attitude, perspective, experience, view, perception
Context		
Article type	Reviews	Review, systematic review
Study type	Qualitative	Qualitative, focus group, interview

clinical trials evaluating intervention effectiveness are not an interest of this study. We will handsearch references of all included studies.

Data management

The Covidence platform (Covidence, Melbourne, Australia) is used to manage records during the study selection and data extraction processes. We will collate and import the identified records into the Covidence platform. Duplicates will then be removed.

Stage 3: study selection

Study selection is a two-stage process where two independent reviewers evaluate all identified, non-duplicate records against the inclusion criteria. Eligible reviews focus on FP participants reporting barriers, facilitators and factors related to healthcare services in primary care settings. During the first stage, reviewers exclude records when their titles or abstracts do not meet the inclusion criteria. The remaining records will proceed

to the second stage, where reviewers read their full text. Reviewers will document the reasons for exclusion, such as ‘incorrect population’, when the population criterion is unmet. Reviewer disagreements between reviewers will be resolved by consensus or by the third reviewer. If disagreement persists, it will be discussed within the larger research team. The selection process, including the number of records at each stage and reasons for exclusion, will be reported in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram.³⁰ We will collate records sharing a similar study design, author team and study findings for data extraction.

Stage 4: critical appraisal

We will evaluate the methodological quality of the included reviews using a JBI critical appraisal tool for systematic reviews.^{25 31} Two independent reviewers will assess each included review article and rate it as yes, no, unclear, or not applicable to 11 questions (online supplemental appendix S2).

Stage 5: data extraction and synthesis

Data extraction

We will draft a preliminary data extraction template with guidance from the JBI methodology framework. The template will be pilot-tested with a random sample of five included studies and then refined with reviewers’ feedback to ensure proper data extraction. Two reviewers will independently extract the following data items from each included study. Inconsistency will be resolved by consensus or by a third reviewer.

- ▶ Study characteristics (eg, study ID, title, author, year of publication, number of studies included, type of publication).
- ▶ Aims and methods (eg, study aims or objectives, methodology).
- ▶ PCC inclusion criteria.
- ▶ Qualitative data of FP perceived factors

Data synthesis

We adopted a best-fit framework synthesis, a popular and highly structured approach to synthesise qualitative evidence.^{32–34} This approach has the advantage of managing a large quantity of contextual data of participants’ experience and guiding the development of an analytic framework.³⁵ Conducting such an analysis involves five steps: familiarisation, identifying a framework, indexing, charting, and mapping and interpretation.³⁶ A final report will be developed to summarise the methods of the review, the criteria used to identify and include studies, and details of study designs.

Familiarisation and development of the draft conceptual framework: clinical integration framework

Several authors are practising physicians who are familiar with potential factors influencing clinical integration from their daily practice experience. Hence, we searched literature to identify an existing framework that can organise data in a meaningful way. We first

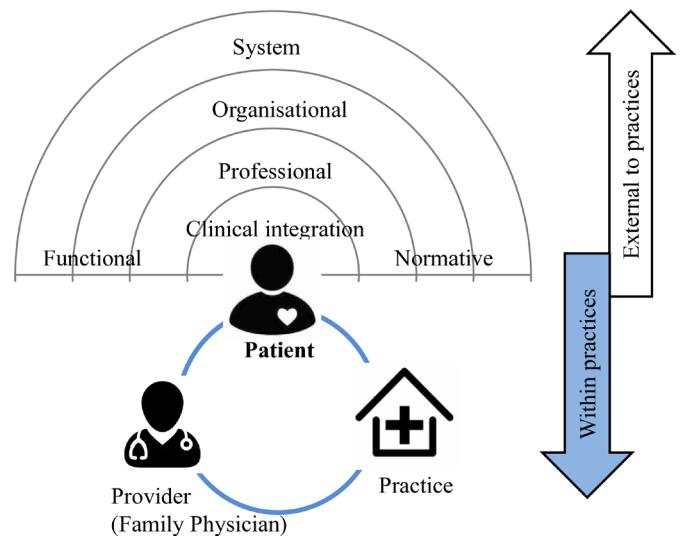


Figure 2 A draft ‘Clinical Integration Framework’ to categorise factors impacting clinical integration. We merged the Rainbow Model of Integrated Care (RMIC) with the Patient-Provider-Practice (3P) model. Patients were placed at the centre of the draft framework, where the merged models intersect, while their healthcare services were integrated and coordinated by their family physicians across various settings and disciplines. Both models were modified to better fit our study. The modified RMIC explains how clinical integration is influenced by factors from hierarchical levels that are linked vertically by functional and normative factors in a dynamic healthcare system. The modified 3P model can capture factors that originate from patient, provider and/or practice levels during the clinical integration process.

discovered Rainbow Model of Integrated Care (RMIC) in the reference article that defines clinical integration for this study.²⁰ RMIC can capture factors originating within a healthcare system, such as system and organisation factors. We then merged RMIC with the three-level Patient-Provider-Practice (3P) model³⁷ that can capture factors originating within primary care practices. Patients are placed at the centre of the draft framework where the merged models intersect, while their healthcare services are integrated and coordinated by their FPs across various settings and disciplines. Both RMIC and 3P models were modified as described in the following sections, to better fit our study goals. Levels of the models are referred to as themes during data extraction and analysis in this study. We name this custom framework as a ‘Clinical Integration Framework’ that consists of the eight *a priori* themes (figure 2, table 3). Themes refer to groups (categories) of factors sharing common ideas or origins (eg, patient and FP).

The modified RMIC for factors external to primary care practices within a healthcare system

The RMIC model was developed iteratively with experts’ inputs in a narrative review in 2013.²⁰ The clinical integration sits at the core (micro) level. It can be impacted hierarchically and reciprocally by other concurrent integrative activities at the professional (meso), organisational

**Table 3** Definitions of *a priori* themes

Domains	Definition in this study	Example factors
Outside of primary care practices based on the modified Rainbow Model of Integrated Care ²⁹		
System	Refers to system factors that can influence the coordination and delivery of healthcare services	<ul style="list-style-type: none"> ▶ Healthcare policy ▶ Resource
Organisational	Refers to organisational factors that can influence the coordination and delivery of healthcare services	<ul style="list-style-type: none"> ▶ Regional alliances among organisations ▶ Network of organisations
Professional	Refers to professional (care provider) factors that can influence the coordination and delivery of healthcare services	<ul style="list-style-type: none"> ▶ Role and Identity ▶ Responsibility
Functional	Refers to 'financial, management and information system' factors that can influence the coordination and delivery of healthcare services	<ul style="list-style-type: none"> ▶ Finance ▶ Communication
Normative	Refers to cultural factors that can influence the coordination and delivery of healthcare services	<ul style="list-style-type: none"> ▶ Culture ▶ Believe
Within a primary care practice based on the modified Patient-Provider-Practice model ³⁷		
Patient	Refers to patients seeking care in primary care settings	<ul style="list-style-type: none"> ▶ Expectation ▶ Socioeconomic status
Provider	Refers to family physicians or primary care physicians who deliver continuous and comprehensive care to everyone regardless their ages and health conditions in primary care settings	<ul style="list-style-type: none"> ▶ Knowledge ▶ Attitude ▶ Training
Practice	Refers to infrastructure, policy, workflow/protocols, etc.	<ul style="list-style-type: none"> ▶ Staff availability ▶ Capability

(meso) and system (macro) levels.²⁰ The above levels are vertically linked and influenced by functional (eg, communication and financing) and normative (eg, shared vision) integrative activities.²⁰ The original model was modified by the following steps to better fit our study goals. We first removed the 'clinical integration at the population level' from the model to align with our individual-level focus. We then remove the integration word from the names of the themes, as our study aims to map factors, not integrative activities. An example factor is the lack of effective FP-specialist partnerships at the meso/professional level, which can lead to suboptimally coordinated care.³⁸ Another example is inadequate financial support at the functional level (eg, volume-based payment), which can result in time-constrained office visits. Lacking proper financial support discourages FPs from comprehensively evaluating complex patients with multiple health issues.³⁹ In this study, factors affecting care integration that are external to primary care practices will be mapped into the themes of system, organisational, professional, functional and normative factor themes accordingly.

The modified 3P model for factors within a practice

The 3P model was originally developed in 2018 to capture factors influencing preventive care from the three levels of patients, FPs (providers) and practices.³⁷ This model places patients at the core while interacting with FPs and practices during the clinical integration process. We adopted this model for its flexibility to capture factors influencing non-preventive care in this study, its ability to reflect internal activities among the three levels within a practice, and its easy-to-understand structure to guide

intervention development targeting patients, FPs or practices. An example factor is FPs inexperienced with the corresponding health conditions^{40 41} or available services,⁴¹ which may result in unnecessary delays in care integration. In this study, challenges affecting clinical integration that are within primary care practices will be mapped into the themes of patient, FP and practice.

Indexing

At the indexing stage, two reviewers will independently review each extracted factor and assign it to an '*a priori*' theme (category) of the framework. Emergent themes will be created for factors not fitting for any *a priori* themes. The reviewers will compare their indexing sheets and resolve inconsistency by discussion. Persistent disagreement will be resolved by iterative discussion among the author team. We will consider developing subthemes (subcategories) under each theme if the data quantity is large. Once the indexing is completed, we will organise the data into a format that is manageable and can facilitate data analysis and interpretation.

Mapping and interpretation

We will review and synthesise the data to identify patterns and describe the data to bring clarity and understanding. A descriptive summary will be provided, as suggested by Arksey and O'Malley, to report the characteristics of the included studies, such as objectives and outcomes. A final framework will be reported to describe both *a priori* and emergent themes. While unlikely, developing another new framework will be considered if we are unable to map most extracted factors into the proposed draft framework.

An evidence map will be created to report the number of studies with their factors mapped to each theme.⁴² Visual presentations including tabular forms or graphics will be considered improving readers' comprehension.

Patient and public involvement

Two team members (VS and RL) actively participated in this study. They provided feedback on the study design, keywords for building search strategies, and the custom 'Clinical Integration Framework' by emails and in team meetings. They both have lived experiences through their journeys through British Columbia's healthcare system. VS has extensive expertise in health policy and health system planning from her employment with the Manitoba provincial government and Health Canada and participation in various projects, which include the final report of the federal advisor wait times and comparable health indicators. RL is a retired public health nurse who completed post-RN graduate courses at the University of British Columbia. She worked at hospitals in British Columbia (Canada) and Europe.

DISCUSSION

This Phase I study will describe the characteristics of reviews evaluating perceived factors influencing care integration in primary care and provide a comprehensive evidence map of the factors. The map will systematically describe factors that are grouped into related themes by their sources and characteristics. Study findings will be shared with policymakers, clinical leaders, researchers, care providers, patients and the general population through multiple channels. These may include journal publications, conference presentations, community forum and dissemination through social media. We believe the results of this review and the evidence map will help clinical leaders and policymakers address the relevant factors when planning healthcare services. Any theme with a very few or even zero factors identified can be considered as a knowledge gap requiring future research work. In Phase II of the project, common factors identified from Phase I will be used to develop a questionnaire to survey local FPs. The survey will verify factors that FPs most want resolved to promote efficient care integration. This survey will guide future intervention development.

Author affiliations

¹Department of Family Practice, The University of British Columbia Faculty of Medicine, Vancouver, British Columbia, Canada

²Centre for Clinical Epidemiology and Evaluation (C2E2), Vancouver Coastal Health Research Institute, Vancouver, British Columbia, Canada

³Department of Family & Community Practice, Vancouver Coastal Health Authority (VCHA), Vancouver, British Columbia, Canada

⁴Complex Care Program, BC Children's Hospital, Vancouver, British Columbia, Canada

⁵Department of Pediatrics, Division of General Pediatrics, UBC, Vancouver, British Columbia, Canada

⁶Respiratory Medicine Division, University of British Columbia, Vancouver, British Columbia, Canada

⁷Faculty of Health Sciences, Simon Fraser University, Burnaby, British Columbia, Canada

⁸Arthritis Research Canada, Vancouver, British Columbia, Canada

⁹Department of Medicine, The University of British Columbia Faculty of Medicine, Vancouver, British Columbia, Canada

¹⁰The University of British Columbia School of Population and Public Health, Vancouver, British Columbia, Canada

Acknowledgements The authors would like to thank patient representatives, Rika Lyne and Vivian Sandberg, for their contribution from personal and professional perspectives. The authors also would like to thank information specialist Mimi Doyle-waters of the centre for clinical epidemiology and evaluation (c2e2) for testing and building search strategies.

Contributors LOT conceived and drafted the protocol. CN, CM, DH, HC, EJL, DL, IP and KV contributed to the research formation, the development of this protocol and study design. All authors have provided detailed comments on earlier drafts. All authors have reviewed and agreed to this protocol.

Funding This study is funded by a grant (PIPU GRO 17531) provided by BC Support, one of the provincial SPOR Supports Units under the Canadian Institutes of Health Research (CIHR). First author, LOT, has been awarded an Investigator Award from the Vancouver Coastal Health Research Institution (www.vchri.ca) which financially supports her research time for this project.

Disclaimer Both funders had no role in developing the systematic review protocol.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

L Olivia Tseng <http://orcid.org/0000-0002-7987-4338>

REFERENCES

- 1 World Health Organization Regional Office for Europe. Integrated care models: an overview Copenhagen. Denmark World Health Organization Regional Office for Europe; 2016.
- 2 Kodner DL, Spreeuwenberg C. Integrated care: meaning, logic, applications, and implications--a discussion paper. *Int J Integr Care* 2002;2:e12.
- 3 Gerteis M, Edgman-Levitan S, Walker JD, *et al*. What patients really want. *Health Manage Q* 1993;15:2-6.
- 4 Louw JM, Marcus TS, Hugo JFM. Patient- or person-centred practice in medicine? - A review of concepts. *Afr J Prim Health Care Fam Med* 2017;9:e1-7.
- 5 World Health Organization, United Nations Children's Fund (UNICEF). A vision for primary health care in the 21st century: towards universal health coverage and the sustainable development goals. Contract no.: WHO/HIS/SDS/2018.15. Geneva World Health Organization; 2018.
- 6 Leatt P, Pink GH, Guerriere M. Towards a Canadian model of integrated healthcare. *Healthc Pap* 2000;1:13-35.



- 7 Shaw S, Rosen R, Rumbold B. *What is integrated care? An overview of integrated care in the NHS Research report*. London: UK Nuffield Trust, 2011.
- 8 Snow K, Galaviz K, Turbow S. Patient outcomes following Interhospital care fragmentation: a systematic review. *J Gen Intern Med* 2020;35:1550–8.
- 9 Kim MO, Coiera E, Magrabi F. Problems with health information technology and their effects on care delivery and patient outcomes: a systematic review. *J Am Med Inform Assoc* 2017;24:246–50.
- 10 Kern LM, Seirup JK, Casalino LP, et al. Healthcare fragmentation and the frequency of radiology and other diagnostic tests: a cross-sectional study. *J Gen Intern Med* 2017;32:175–81.
- 11 Stange KC. The problem of fragmentation and the need for integrative solutions. *Ann Fam Med* 2009;7:100–3.
- 12 Canfield PR. Family medicine: an historical perspective. *J Med Educ* 1976;51:904–11.
- 13 Gibson C, Arya N, Ponka D, et al. Approaching a global definition of family medicine: the besour papers: a series on the state of family medicine in the world. *Can Fam Physician* 2016;62:891–6.
- 14 World Health Organization, Regional Office for South-East Asia. Family medicine: report of a regional scientific working group Meeting on core curriculum New Delhi. India WHO Regional Office for South-East Asia; 2003.
- 15 Hashim MJ. A definition of family medicine and general practice. *J Coll Physicians Surg Pak* 2018;28:76–7.
- 16 NHS Confederation. The role of primary care in integrated care systems. 2021. Available: https://www.nhsconfed.org/sites/default/files/2021-05/The-role-of-primary-care-in-integrated-care-systems_FNL.pdf
- 17 APS group Scotland for the Scottish government. Health and social care delivery plan 2016; 2020.
- 18 Committee on Integrating Primary Care, Public Health, Board on Population H, et al. *Primary care and public health: exploring integration to improve population health*. Washington (DC): National academies press (US), 2012.
- 19 Finley CR, Chan DS, Garrison S, et al. What are the most common conditions in primary care? systematic review. *Can Fam Physician* 2018;64:832–40.
- 20 Valentijn PP, Schepman SM, Opheij W, et al. Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. *Int J Integr Care* 2013;13:e010.
- 21 Khanassov V, Vedel I, Pluye P. Barriers to implementation of case management for patients with dementia: a systematic mixed studies review. *Ann Fam Med* 2014;12:456–65.
- 22 Frost R, Beattie A, Bhanu C, et al. Management of depression and referral of older people to psychological therapies: a systematic review of qualitative studies. *Br J Gen Pract* 2019;69:e171–81.
- 23 Janssen M, Sagasser MH, Fluit C, et al. Competencies to promote collaboration between primary and secondary care doctors: an integrative review. *BMC Fam Pract* 2020;21:179.
- 24 Dossett LA, Hudson JN, Morris AM, et al. The primary care provider (PCP)-cancer specialist relationship: a systematic review and mixed-methods meta-synthesis. *CA Cancer J Clin* 2017;67:156–69.
- 25 Aromataris E, Munn Z, eds. *JBIM Manual for Evidence Synthesis: Joanna Briggs Institute*. 2020.
- 26 Yordy KD, Lohr KN, eds. Chapter 2 Defining primary care, primary care: America's health in a new era Donaldson MS. In: *Institute of Medicine (US) Committee on the Future of Primary Care*. Washington, DC: National Academies Press (US), 1996.
- 27 Peters M, Godfrey C, McInerney P, et al. *The Joanna Briggs Institute Reviewers' Manual 2015: Methodology for JBI Scoping Reviews*. Adelaide, SA Australia: The Joanna Briggs Institute, 2015: 24.
- 28 Lewis S, Damarell RA, Tieman JJ, et al. Finding the integrated care evidence base in PubMed and beyond: a Bibliometric study of the challenges. *Int J Integr Care* 2018;18:11.
- 29 Valentijn PP, Vrijhoef HJM, Ruwaard D, et al. Towards an international taxonomy of integrated primary care: a Delphi consensus approach. *BMC Fam Pract* 2015;16:64:64..
- 30 Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71.
- 31 Aromataris E, Fernandez R, Godfrey CM, et al. Summarizing systematic reviews: methodological development, conduct and reporting of an umbrella review approach. *Int J Evid Based Healthc* 2015;13:132–40.
- 32 Barnett-Page E, Thomas J. Methods for the synthesis of qualitative research: a critical review. *BMC Med Res Methodol* 2009;9:59.
- 33 Carroll C, Booth A, Leaviss J, et al. "Best fit" framework synthesis: refining the method. *BMC Med Res Methodol* 2013;13:37.
- 34 Grembowski D, Schaefer J, Johnson KE, et al. A conceptual model of the role of complexity in the care of patients with multiple chronic conditions. *Med Care* 2014;52 Suppl 3:S7–14.
- 35 Parkinson S, Eatough V, Holmes J, et al. Framework analysis: a worked example of a study exploring young people's experiences of depression. *Qualitative Research in Psychology* 2016;13:109–29.
- 36 Gale NK, Heath G, Cameron E, et al. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol* 2013;13:117.
- 37 Bednarczyk RA, Chamberlain A, Mathewson K, et al. Practice-, provider-, and patient-level interventions to improve preventive care: development of the P3 model. *Prev Med Rep* 2018;11:131–8.
- 38 Lawrence RA, McLoone JK, Wakefield CE, et al. Primary care physicians' perspectives of their role in cancer care: a systematic review. *J Gen Intern Med* 2016;31:1222–36.
- 39 Sinnott C, Mc Hugh S, Browne J, et al. GPs' perspectives on the management of patients with multimorbidity: systematic review and synthesis of qualitative research. *BMJ Open* 2013;3:e003610.
- 40 Aboueid S, Jasinska M, Bourgeault I, et al. Current weight management approaches used by primary care providers in six multidisciplinary healthcare settings in Ontario. *Can J Nurs Res* 2018;50:169–78.
- 41 Constantinescu A, Li H, Yu J, et al. Exploring rural family physicians' challenges in providing dementia care: a qualitative study. *Can J Aging* 2018;37:390–9.
- 42 Miake-Lye IM, Hempel S, Shanman R, et al. What is an evidence map? A systematic review of published evidence maps and their definitions, methods, and products. *Syst Rev* 2016;5:28.
- 43 Godfrey MM, Nelson EC, Batalden PB, et al. *Clinical Microsystem Action Guide: Improving Health Care by Improving Your Microsystem*. Dartmouth Medical School, 2004.