BMJ Open Knowledge mobilisation in bridging community-practice-academia-policy through meaningful engagement: systematic integrative review protocol focusing on studies conducted on health and wellness among immigrant communities

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ABSTRACT

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Correspondence to Dr Tanvir C Turin; turin.chowdhury@ucalgary.ca Introduction Though the importance of knowledge mobilisation has been established globally in health and wellness research, a certain degree of ambiguity remains regarding the meaning and extent of knowledge mobilisation activities and how they have been implemented. In this study, we aim to explore the different descriptions of knowledge mobilisation and the diverse ways mobilisation activities have been realised by different researchers working for the betterment of health and wellness of immigrant communities in their host countries. Methods and analysis We aimed to conduct an integrative review to organise the available literature describing knowledge mobilisation pertaining to health and wellness in immigrant communities. We will employ a comprehensive search, using appropriate search-terms, to identify relevant literature and will gualitatively synthesise the information toward fulfilling our objectives. Specific methodological and analytical frameworks related to the integrative review process will guide each step of the process. A librarian designed the systematic search of the academic and grey literature from database inception to December 2019. The databases include MEDLINE (Ovid), Embase, PsycINFO, PubMed, CINAHL and SocINDEX. For grey literature, we will conduct searches in AHS Insite, Google, Google Scholar, OAISter and government websites. A two-stage (title-abstract and full-text) screening will be conducted, including single-citation tracking and hand search of reference lists.

Ethics and dissemination Ethical approval is not required for this review. We first plan to disseminate the results of our systematic review protocol through meetings with key stakeholders, followed by appropriate publications and presentations at applicable platforms. We also have opted for an integrated knowledge translation or community-engaged knowledge mobilisation approach where we have engaged with community-based citizen researchers from the inception of our research.

Strengths and limitations of this study

- This integrative review will address the gaps in knowledge by analysing and synthesising research and evaluating the quality of evidence in relation to knowledge mobilisation efforts undertaken with immigrant communities in their host countries.
- This integrative review will identify effective strategies and tools to promote community-engaged knowledge mobilisation.
- The involvement of community-based citizen researchers from the inception of the planning and conducting the review and producing the synthesis.
- By excluding non-English studies, we will limit ourselves from capturing knowledge mobilisation activities published in other languages.
- It also may be difficult and challenging to synthesise and interpret the data due to a lack of research directly focusing on immigrant community knowledge mobilisation.

INTRODUCTION

Knowledge mobilisation (or knowledge translation or knowledge engagement) is gaining more emphasis recently due to the evident improvement of the health and wellness of the population when research findings are translated into practice.¹ These terminologies are used interchangeably, while the core concepts are predominantly built around synthesis, dissemination, transfer and exchange. Regardless of how the concept is labelled, the overarching purpose is using the evidence-based knowledge and technology and employing them into practice to ultimately improve the health and wellness outcomes of patients or the community.²⁻⁴ The involvement of knowledge users (who are likely to be able to use research results to make informed decisions about health practices, policies and/or programmes) in the research and dissemination process as equal or meaningful partners is referred to as *integrated knowledge translation*. However, if the approach vertically transmits the knowledge from the researchers to knowledge users, generally it is termed as *end-of-grant knowledge translation*.³ All of these terms refer to the same concept of making evidence accessible, understandable and useful for knowledge users.

The overall transfer of knowledge into practice is low.¹ There seems to be somewhat lack of clear considerations in the research, policy and practice settings regarding knowledge uptake. From prior studies, it is evident that the sociocultural, organisational and economic context plays a major role in moving research into practice.⁵ For impactful knowledge mobilisation, we need to strategise in terms of who needs to be involved in mobilisation, what's trying to be mobilised, how it is intended to be mobilised or why it needs to be mobilised.⁷ Strategies for enhancing the knowledge mobilisation include addressing the differential information needs and sociocultural/organisational circumstances of the collaborating knowledge users in practice settings.⁸ Though in some instances engagement of policymakers and practitioners are done, however, integrating grassroots community members (such as programme or policy recipients) into the research process appears to be scarce and more challenging.¹⁰ Collaboration with community members in research that explores social and health inequities is imperative to help inform policies and programmes that address the social determinants of health.¹¹

Immigrants and refugees are a growing proportion of the population of major cities worldwide, particularly in developed western countries such as Canada, the USA, Australia and some European nations.¹² They constitute a substantial yet vulnerable proportion of the population who lags behind in the uptake of relevant research knowledge and practice into their lives.^{10 11 13 14} The state of knowledge mobilisation research for immigrants is less well understood; however, findings from a few studies suggest that it is no better developed than the field generally and may, in fact, be less developed.^{8 10 11} It has been suggested that perhaps there is an insufficient number of knowledge mobilisation research initiatives for immigrants and refugees or that knowledge mobilisation activities may not be appropriately developed to address their particular sociocultural and economic context.¹⁵ Also, barriers and challenges specific to immigrants and refugees may hinder effective knowledge translation and uptake of healthy practices,¹⁶ which in turn would affect health and wellness literacy or health service utilisation. If that is the case, it may further contribute to the existing health inequity between immigrants and the host or mainstream population.^{17 18}

The aim of this integrative review was to describe the extent, nature, content, mode and settings of knowledge mobilisation research pertaining to the health and wellness of immigrants. We have planed to conduct this review with meaningful involvement with a grassroots community-based citizen researcher who has already contributed to the research objective development. Also, the community-based citizen researcher will be involved in all the stages of the process, including the synthesis and dissemination activities associated with this programme of research. This participatory research approach, which requires time and sustained efforts by all patrons, is recognised for generating solution-oriented knowledge that is relevant to grassroots community reality.¹⁹

METHODS

We will follow an integrative review methodology to conduct a comprehensive review and synthesis of a wide range of literature.²⁰ We will be using the integrative review approach as this methodology is deemed useful when the scope of the topic is complex and uncertain.²¹ An integrative review is a specific review method that summarises data from previous studies of diverse methodologies to provide a more comprehensive understanding of a particular phenomenon or issue in order to inform practice and policy.^{20 22} The integrative review method is not restricted by any specific study design and can accommodate diverse data sources.²¹ A synthesis approach can combine both quantitative and qualitative information if there are similarities across the studies and the synthesis involves a flexible analytical approach.^{20 21} We will follow the five integrative review methodology stages described by Whittemore and Knafl: (1) problem identification, (2) literature search, (3) data evaluation, (4) data analysis and (5) presentation.²⁰

Stage 1: problem identification: guiding question

A systematic integrative review requires clearly identifying the guiding questions the review will be addressing and that will serve as the objective of the review.²⁰ Through this approach, we will systematically explore the relevant theoretical/conceptual, empirical and grey literature on knowledge mobilisation among immigrants and refugees with the following specific objectives:

- 1. To map the publications on knowledge mobilisation among immigrants in Canada.
- 2. To outline the range, content and modes of knowledge mobilisation activities among immigrants in Canada.
- 3. To determine the extent and depth of engagement of knowledge users within the knowledge mobilisation activities.
- 4. To find out the barriers and facilitators that influence exertion of knowledge mobilisation activities.
- 5. To summarise the outcomes of different knowledge mobilisation activities.
- To identify any gaps in knowledge mobilisation research among immigrant populations for the purposes

Table 1 List of searched databases	
For published articles	For grey literature
 MEDLINE (Ovid) PubMed Embase Scopus CINAHL Plus with Full-text PsycINFO Sociological Abstracts Social Services Abstracts Social Work Abstracts SocINDEX with Fulltext EBM Reviews (including Cochrane Database of Systematic Reviews, among others) Web of Science Canadian Research Index Canadian business and current affairs database Canadian Electronic Library MEDLINE (Ebsco) Business Source Complete 	 Google Scholar Google ProQuest (theses and dissertations) Health Sciences Online Turning Research Into Practice OAISTER (WorldCat) Canadian Institute for Health Information Public Health Agency of Canada Health Canada National Institutes of Health AHS Insite OpenGrey Canadian Institutes of Health Research

of designing future studies and establishing policy implications.

Stage 2: literature search

Databases and keywords

A research librarian (MV), in collaboration with the research team, has developed a preliminary search strategy. This team will test and refine the preliminary search strategy parameters, which involves a comprehensive set of subject headings and keywords that will be used in a wide range of databases. Major academic databases to be searched include MEDLINE (Ovid), Embase, PsycINFO, PubMed, CINAHL and MEDLINE (Ebsco). For grey literature, we will conduct searches in AHS Insite, Google, Google Scholar, OAISter and government websites (see table 1 for the complete list). To identify relevant publications, we will conduct a broad search using keywords and Medical Subject Headings terms synonymous with 'knowledge translation', 'knowledge mobilisation',and 'knowledge exchange' (see Box 1 for the complete list). Keywords for each of these themes will be connected by the Boolean operator 'OR' and later collectively linked for the term 'immigrant' theme (see box 1 for the complete list) using the Boolean operator 'AND'. To ensure a comprehensive scope of coverage, we will also review the reference list of reviews and relevant primary papers to identify further publications, which is known as the citation pearl-growing approach. In addition, a single citation and relevant results search of all retrieved publications will be undertaken in PubMed. This search strategy was initially developed in November of 2019 and improved during the revision of this article. We plan to complete the search process, outlined in figure 1, as soon as the present article is accepted for publication (estimated to be 26 March 2020).

Inclusion and exclusion of studies

To obtain relevant articles, we have defined inclusion and exclusion criteria corresponding to our research question (table 2). No time restrictions will be placed on our search; however, language has been restricted to English. In terms of design, only primary studies will be included in our review, excluding any reviews, books, editorials, letters and commentaries. Both qualitative and quantitative studies will be included in this review.

Two-stage screening of articles

At first, all articles identified through the comprehensive search will be exported to RefWorks software (ProQuest, LLC, Ann Arbour, Michigan, USA) to manage, combine and remove duplicate articles identified in the different databases. After removing all duplicate articles, the remaining articles will be screened for relevance and eligibility using a two-step process: (1) title and abstract screening and (2) full-text review (figure 1). Title and abstract screening will be performed by two reviewers independently to decide on study inclusion. We will classify abstracts as relevant, potentially relevant or not relevant. The abstracts that meet eligibility criteria will be considered for full-text review. In addition, abstracts lacking information on outcomes to assist us in determining eligibility will be included for full-text review. The same two reviewers will again independently read, review and re-examine full texts for relevance. The articles identified as eligible after full-text review will be considered for data extraction. Any disagreement between reviewers will be solved through consensus; if no agreement is reached between the two reviewers, a third reviewer will arbitrate.

Stage 3: data evaluation

Using a predetermined data extraction schema, all relevant data will be extracted into a Microsoft Excel

Box 1 List of search keywords

Terms for knowledge mobilisation

"knowledge mobilisation" [keyword] OR "Knowledge translation" [keyword] OR "Evidence-Based Practice" [Medical Subject Headings (MeSH), keyword] OR "evidence-informed practice" [keyword] OR information dissemination [MeSH] OR dissemination [keyword] OR "organisational innovation" [MeSH, keyword] OR "implementation research" [keyword] OR "research utilisation" [keyword] OR "research design" [MeSH, keyword] OR "research use" [keyword] OR Translational medical research [MeSH] OR "knowledge utilisation" [keyword] OR "knowledge transfer" [keyword] OR "knowledge exchange" [keyword] OR "Knowledge Management" [MeSH, keyword] OR Translational Medical Research [MeSH] OR Diffusion of Innovation [MeSH] OR Professional Practice [MeSH] OR Guideline Adherence [MeSH] OR Social Change [MeSH] OR "knowledge uptake" [keyword] OR "knowledge action" [keyword] OR "knowledge integration" [keyword] OR ["knowledge implementation" [keyword] OR "knowledge dissemination" [keyword] OR "knowledge adoption" [keyword] OR adopt* adj3 knowledge OR disseminat* adj3 knowledge OR implement* adi3 knowledge OR integrat* adi3 knowledge OR uptake adi3 knowledge OR translat* adi3 knowledge OR transfer* adi3 knowledge OR management* adi3 knowledge OR exchange adj3 knowledge OR mobiliz* adj3 knowledge OR utiliz* adj3 knowledge

Terms for health and wellness

Health [Keyword, MeSH]; "health promotion" [Keyword, MeSH]; promot* adj3 health; "public health" [Keyword, MeSH]; "population health" [Keyword, MeSH]; "social determinants of health" [Keyword, MeSH]; SDOH [Keyword]; "health status" [Keyword, MeSH]; "health equity" [Keyword, MeSH]; "health behaviour" [Keyword, MeSH]; "health behaviour" [Keyword]

Wellness [Keyword]; wellbeing [Keyword]; "health and wellness" [Keyword]

Terms for immigrant

Immigrant* [keyword] OR Immigrants [MeSH] OR emigrant* [keyword] OR alien* [keyword] OR "emigrants and immigrants" [MeSH] OR Undocumented immigrant* [keyword, MeSH] OR Newcomer* [keyword] OR Refugee* [keyword, MeSH] OR asylum [keyword] OR asylum seeker [keyword] OR displaced [keyword] OR resettle [keyword] OR Humanitarian [keyword] OR entrant [keyword] OR settle [keyword] OR displaced person [keyword] OR displaced population [keyword] OR internally displaced person [keyword] OR war population [keyword] OR forced migra* [keyword] OR refugee camp

spreadsheet (Microsoft Office, 2016). First, we will extract data on basic characteristics of the selected studies (table 3). Second, we will extract the knowledge mobilisation-related information provided in the studies (table 4). One member of the research team will perform the data extraction, with a second member of the team double-checking the extracted data for accuracy and completeness. Any disagreements in the data collected will be resolved by discussion, with reference to the original publication for clarification and a third team member involved as an arbitrator, if required.

Stage 4: data analysis: qualitative synthesis of the studies

The goal of the integrative review was to retrieve a larger superficial description of the research to be synthesised and reported in a narrative format.²⁰ To synthesise the

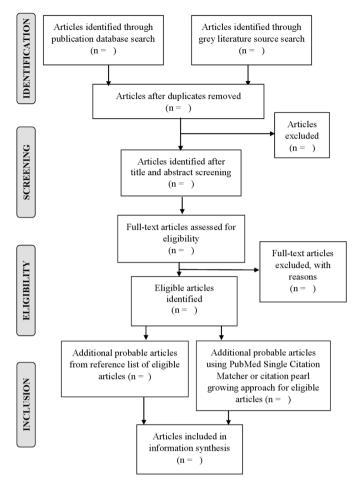


Figure 1 Flow diagram of search and selection process for the systematic integrative review.

findings, we will follow the five-stage process proposed by Ritchie and Spencer. $^{23}\,$

1. *Familiarisation*-becoming familiar with the content of the data.

Table 2	Inclusion and exclusion criteria
Inclusion criteria	 Studies: original research with any knowledge mobilisation/translation component. Populations: research focusing on immigrants. Design: any types of studies. Outcomes: include, but not limited to, improved knowledge mobilisation.
Exclusion criteria	 Studies not describing active knowledge mobilisation. If the description of the knowledge mobilisation lacked detail such that it was unclear if there was a knowledge mobilisation approach and/or activities. Focused on translational research (ie, from wet lab to clinical application) or collaborations between physicians and industry. No original studies, for example, publications in the form of editorials, reviews or opinion articles. Studies not in English.

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Table 3 Study characteristics							
Study	Objective	Location	Target population	Study design	Population size	Key findings	Key conclusions
###	###	###	###	###	###	###	###
###	###	###	###	###	###	###	###
###	###	###	###	###	###	###	###

- 2. *Identifying a thematic framework*-identifying key issues, concepts and themes.
- 3. *Indexing*-systematically applying the thematic framework to the data.
- 4. *Charting*-rearranging the data according to the appropriate thematic reference.
- 5. *Mapping and interpretation*-identifying the key characteristics of the data.

Full-text reports of all final selected studies and extracted information in the Excel spreadsheet will be given to all team members to permit familiarisation and coding of information as indicated by key issues, ideas, concepts and themes. Extracted information will be inspected for outcomes and practices, including approaches, procedures and tools for knowledge mobilisation among immigrant communities. Both inductive and deductive procedures will be used to code information and deliver organising themes. Familiarisation and coding will be carried out independently. The organising themes derived from the coded information will be discussed, compared and evaluated by the team members to create an a priori analytical framework of more extensive themes and categories. Indexing and outlining individual study information under the more extensive themes and categories will be performed by one of the study team members. The whole team will audit this proof through mapping and translating the key characteristics of the information provided. Also, the team will assess the accuracy and relevance of the findings to ensure precision of the results. This integrative review, due to its explorative nature, will offer an extended opportunity to determine relevant studies; we will then classify studies into groups according to the similarities of study designs and characteristics before synthesising the information. The 'framework' method will furnish a comprehensive approach for analysing and synthesising the evidence.²³

Stage 5: presentation

The results of study findings from the framework synthesis will be presented both narratively and in tabular format. Further, a detailed discussion about the current state of the knowledge in this research area, along with implications for health policy, education, clinical practice and future research, will be presented. In addition, a summary of the methodological quality of the studies and the strength of the evidence will also be presented.

Quality assessment of the selected studies

To check the credibility and transferability of the summarised and synthesised information from the selected studies, we will assess study quality. We are anticipating different types of quantitative studies that are methodologically diverse because of the unrestricted study design in our selection. The guidelines of the Cochrane Collaboration for health promotion and public health interventions will be used to assess quantitative studies.²⁴ Several parameters will be used for different aspects of study quality assessment, including appropriateness of study design, allocation methods, selective reporting, ascertainment of outcomes, attrition, key confounding factors, rigour of analysis and sample size. The Qualitative Research Quality Checklist,²⁵ a 25-point quality assessment checklist to evaluate credibility, dependability, conformability, transferability, authenticity and relevance of qualitative studies will be used to assess qualitative studies. The Mixed Methods Appraisal Tool will be used for assessing mixed-methods studies.²⁶ For credibility of the documents and sources, information derived from grey literature will also be assessed using the Authority, Accuracy, Coverage, Objectivity, Date, and Significance Checklist.²⁷ Grey literature resources such as Google provide vast amounts of material that sometimes becomes difficult to follow. As such, we will adhere to the recommendation presented by the Canadian Institute for Health Information,²⁸ whereby only the first 100 results

Table 4 Description of knowledge mobilisation initiatives in included studies						
Study	Content of Knowledge knowledge mobilisation tudy mobilisation activities Settings		······································		Partners from knowledge users	
###	###	###	###	###	###	###
###	###	###	###	###	###	###
###	###	###	###	###	###	###

of each search string will be considered. Considering only the first 100 results from a Google search is appropriate as Google's search algorithm is developed in such a way that emphasis is placed on the relevancy of search yields. While most web pages or online portals identified in the search will be individual websites, reports, evaluations or other types of materials rather than research studies, we expect very few will discuss methodology, limitations or data collection procedures. Consequently, credibility evaluation will focus mainly on authority. 'Technical criteria',²⁹ a domain-dependent criteria that focuses on the question of how the information is presented or what metainformation is provided, will be also applied. Quality of the included studies will be assessed by two reviewers independently using a defined set of questions. Any disagreement will be resolved through further discussion. A third reviewer will be involved if deemed necessary.

DISCUSSION

Anticipated outcomes

The purpose of this comprehensive integrative review was to synthesise all existing literature on knowledge mobilisation focusing on immigrant populations. Several specific objectives will be achieved through this review, including being able to describe different approaches (ie, strategies, methods and frameworks/models) used to perform research on knowledge mobilisation among immigrant populations, as well as being able to identify the patterns, modes or structures best suited for each specific purpose. We will also be able to assess feasibility and acceptability of the different approaches, concerns and queries about initiating, implementing and managing knowledge mobilisation. This review will also help to assess whether using a specific approach has any relation or significance to a particular immigrant population or specific objective. The research question and the purpose for gathering information are clearly identified in the Introduction section of this protocol. The Methods section documents the study selection procedures, presents the necessary steps to gather, code and aggregate the findings from the individual studies, as well as how to evaluate the evidence robustly for meaningful outcome and reproducible review. The inclusion criteria outlined in the protocol is applicable, regardless of the types of studies or types of knowledge engagement processes. By taking into account all of the different study types (eg, quantitative, qualitative and mixed methods) in our review, we plan to deliver an in-depth review and to make recommendations that are applicable to stakeholders. The findings from this integrative review will significantly contribute to generating knowledge to inform and guide practice and policy. Researchers can benefit from this review by learning how to adopt, implement and evaluate multifaceted and meaningful knowledge mobilisation targeting immigrant populations. We believe our integrative review will generate a list of strategies and tools associated with knowledge mobilisation in immigrant communities. This

will refine multidimensional and multifarious knowledge mobilisation activities into those components that are of the utmost importance for comparing alternative approaches and promoting clear communication vital for immigrants. This review will give us an opportunity to define different domains and dimensions of immigrant community-oriented knowledge translation in the context of purpose, strategies, depth and breadth of engagement, partners, outcomes and other potential aspects that are likely to arise during the process. Lastly, this review will inform us about the research that has been conducted to date, together with any gaps in knowledge mobilisation targeting immigrant community-based research, and will help direct future research in this area.

Strengths and limitations

One of the main strengths of this review is the depth of the search process and applying a comprehensive methodological outline to answer the research questions. This approach will benefit us by maximising knowledge engagement and mobilisation at the community level. The research team undertaking the proposed work is experienced. Among others, the team includes a librarian (MV) who has vast experience conducting comprehensive systematic, grey and web searches. Besides crafting the search strategy, the librarian also helped formulate a data extraction template and provided a flexible approach to data acquisition. The involvement of the citizen researchers and community champions in the research group from the brainstorming phase is another key strength of this study. Nevertheless, there are also some limitations of this study. By excluding non-English studies, we will be limiting the capturing of knowledge mobilisation activities in other languages. In addition, there are a few challenges associated with conducting the proposed research. First, considering the complexity and level of activities involved in knowledge mobilisation, we need to be careful to ensure the best evidence is identified in solving the research queries. Second, it could be difficult to find relevant literature, considering that knowledge mobilisation is a relatively new concept. However, the breadth of our search strategy can potentially lessen the impact by covering an extensive literature area. Third, it also may be difficult and challenging to synthesise and interpret the data due to a lack of research focusing directly on immigrant community knowledge mobilisation. Despite the potential limitations, our proposed study is the first of its kind in establishing a practical base for developing a strategic approach to effective and meaningful knowledge mobilisation within immigrant communities.

PATIENT AND PUBLIC INVOLVEMENT: INVOLVEMENT OF CITIZEN RESEARCHERS FROM INCEPTION

We partnered with leaders and citizen researchers at the community level from the beginning of our study to examine our research idea and to formulate the proposal. We met regularly to discuss the proposed research and to obtain input on our questions via constructive feedback. In addition, leaders and citizen researchers will also play an active role in interpreting our findings and will be at the forefront of all knowledge mobilisation activities. Further, they are committed to helping and guiding us in several aspects of this research, such as creating infographics, leaflets and other disseminating materials, and

Table 5 Logic	map for the proposed syste	ematic integrative review	,	
Project	Goal	Focus area	Action items	Output
Knowledge mobilisation in bridging community practice- academia	 i. To map the publications on knowledge mobilisation among immigrants in Canada. ii. To outline the range, content and modes of 	Knowledge creation/ research	 Multidimensional research collaborative team. Synthesis of existing literature through a comprehensive systematic integrative review methodology. 	 Core team building. Academic publications.
policy through meaningful engagement in immigrant communities	knowledge mobilisation activities among immigrants in Canada. iii. To determine the extent and depth of engagement of knowledge users within the knowledge mobilisation activities.	Engaged knowledge mobilisation/integrated knowledge translation	 Involvement of knowledge users from the inception of the project idea. Regular coordination with engaged partners. Contextualising synthesis results through partner involvement. 	 Core team building. Academic publications. Dissemination material/ product (meetings, infographics and workshops).
	 iv. To find out the barriers and facilitators that influence exertion of knowledge mobilisation activities. v. To summarise the outcomes of different 	Stakeholder engagement	 Resettlement-related governmental organisations (of different level of governance). Immigrant service providing organisation engagement. Further stakeholder identification based on the synthesis results. 	 Extended partnership. Policy briefs, white papers. Dissemination material/ product (meetings, infographics and workshops).
	 knowledge mobilisation activities. vi. To identify any gaps in knowledge mobilisation research among immigrants for the purposes of designing future studies and policy implications. 	Grassroots community engagement	 Engaging ethnic media outlets on the findings. Engagement of community organisations, including religious, cultural, as well as social platforms. Using social media targeted towards the immigrant communities for knowledge engagement. 	 Extended partnership. Dissemination material/ product (meetings, infographics and workshops).
		Community capacity building	 Provide opportunity to citizen researchers Mini health champions (youths in the community) engagement. Community champions/ leadership capacity building on knowledge engagement. 	 Core team building. Extended partnership. Community-based capacity building/ bridging programme. Dissemination material/ product (meetings, infographics and workshops).
		Education/academia capacity building	 Creating opportunities for university students (of different levels) towards community engaged experiential. learning on knowledge mobilisation Involvement of less experienced academic researchers in the activities. 	 Extended partnership across academia. Community-engaged teaching and learning programme. Dissemination material/ product (meetings, infographics and workshops).
		Policy	 Inform the policymakers through creating policy briefs on population-level knowledge engagement gaps through summarising potential challenges and opportunities of working among immigrant communities. Inform service provider organisations to inform practice and policy. 	 Extended partnership. Policy briefs, white papers. Dissemination material/ product (meetings, infographics and workshops). Policy informed research initiatives.

the types of processes to use for knowledge exchange. They have ensured us they will use their connections with the extended community for knowledge translation. Involvement with this research project is a great opportunity for community leaders and citizen researchers to learn and gain insight on the different aspects of knowledge synthesis and knowledge mobilisation.

ETHICS AND DISSEMINATION

We intend to publish the results of the systematic review protocol in academic and non-academic outlets to contribute information about knowledge mobilisation. This will not require ethics approval. Through our comprehensive knowledge engagement approach, the end users of our research are already engaged in our research process, dissemination plan and implementation plan. The logic map is shown in table 5. We will follow the core philosophy and tools of integrated knowledge translation³ or community-based participatory research.² We will disseminate our research findings to the community through creating appropriate infographics, pamphlets and posters with the help and proper guidance of team member citizen researchers. Our research findings will be broadcast through social media, ethnic language newspapers and ethnic online news portals in lay terms targeting community members. In addition, knowledge translation materials will be circulated during different social and cultural events. We will continue to perform this during every step of the project to maintain constant involvement with the community. We believe this will help encourage community-level participation and assist us in moving further toward more enhanced community engagement research. It is anticipated that the proposed integrative review will inform future directions and help identify an improved procedure for more focused and effective community-engaged research initiatives.

Through this study, we intend to inventory and summarise the different knowledge mobilisation or knowledge engagement research/activities that the immigrant and refugee health researchers have used for their research dissemination purpose. We aimed to describe the extent, nature, content, mode and settings of knowledge engagement pertaining to the health and wellness of the immigrants through a systematic exploration of the relevant literature. We have engaged with community-based citizen researchers from the inception of our research from the step of research objective development and plan for continuous engagement through the result synthesis and dissemination activities. As knowledge mobilisation turns research-derived knowledge into action, our community-engaged approach to conduct this study has made sure that we have taken up a topic that's meaningful for our target audience and engaged our academic team in a mutually beneficial partnership with the community to enhance the uptake of the results for teaching and learning, social innovation, implementation and integration.

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Contributors TCT is the guarantor and conceived the study idea. TCT, MV, NC and MZIC contributed to the development of the search and assessment strategies. TCT created the draft of the manuscript. NC, MV, MAAL, NR and MZIC contributed to further development of the manuscript. All authors read, provided feedback and approved the final manuscript.

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REFERENCES

- 1 Boström A-M, Slaughter SE, Chojecki D, *et al*. What do we know about knowledge translation in the care of older adults? A scoping review. *J Am Med Dir Assoc* 2012;13:210–9.
- 2 Social Sciences and Humanities Research Council, Canada. . guidelines for effective knowledge mobilization., 2019. Available: http://www.sshrc-crsh.gc.ca/funding-financement/policiespolitiques/knowledge_mobilisation-mobilisation_des_connaissanceseng.aspx [Accessed 2 Oct 2019].
- 3 Canadian Institutes of Health Research. Guide to knowledge translation planning at CIHR: integrated and end-of-Grant approaches., 2015. Available: http://www.cihr-irsc.gc.ca/e/45321. html [Accessed 2 Oct 2019].
- 4 Alberta Health Services: Knowledge Management. Knowledge Moblization Frequently Asked Questions. (n.d.). Available: https:// insite.albertahealthservices.ca/Main/assets/tms/grh/tms-grh-km-faq. pdf - search=knowledge%20mobilization [Accessed 20 Nov 2019].
- 5 Kitson A, Harvey G, McCormack B. Enabling the implementation of evidence based practice: a conceptual framework. *Qual Health Care* 1998;7:149–58.
- 6 McCormack B, Kitson A, Harvey G, et al. Getting evidence into practice: the meaning of 'context'. J Adv Nurs 2002;38:94–104.
- 7 Why WV. Whose, what and how? A framework for knowledge mobilisers. *Evidence & Policy* 2017;13:477–97.
- 8 Waddell C. So much research evidence, so little dissemination and uptake: mixing the useful with the pleasing. *Evid Based Ment Health* 2001;4:3–5.
- 9 Denis J-L, Hébert Y, Langley A, et al. Explaining diffusion patterns for complex health care innovations. *Health Care Manage Rev* 2002;27:60–73.
- 10 Rubens-Augustson T, Wilson LA, Murphy MS, et al. Healthcare provider perspectives on the uptake of the human papillomavirus vaccine among newcomers to Canada: a qualitative study. *Hum Vaccin Immunother* 2019;15:1697–707.
- 11 Hawa RN, Underhill A, Logie CH, *et al.* South Asian immigrant women's suggestions for culturally-tailored HIV education and prevention programs. *Ethn Health* 2019;24:945–59.
- 12 Lamanna F, Lenormand M, Salas-Olmedo MH, et al. Immigrant community integration in world cities. PLoS One 2018;13:e0191612.
- 13 Statistics Canada. Census report 2016, 2017. Available: https:// www12.statcan.gc.ca/census-recensement/index-eng.cfm?HPA=1 [Accessed 2 Oct 2019].

- 14 Honein-AbouHaidar GN, Baxter NN, Moineddin R, et al. Trends and inequities in colorectal cancer screening participation in Ontario, Canada, 2005-2011. Cancer Epidemiol 2013;37:946–56.
- 15 Choudhry UK. Health promotion among immigrant women from India living in Canada. *Image J Nurs Sch* 1998;30:269–74.
- 16 Ganann R. Opportunities and challenges associated with engaging immigrant women in participatory action research. *J Immigr Minor Health* 2013;15:341–9.
- 17 Beiser M. The health of immigrants and refugees in Canada. *Can J Public Health* 2005;96:S30–44.
- 18 DesMeules M, Gold J, Kazanjian A, et al. New approaches to immigrant health assessment. Can J Public Health 2004;95:I22–6.
- 19 Macaulay AC, Commanda LE, Freeman WL, et al. Participatory research maximises community and lay involvement. BMJ 1999;319:774–8.
- 20 Whittemore R, Knafl K. The integrative review: updated methodology. J Adv Nurs 2005;52:546–53.
- 21 Soares CB, Hoga LAK, Peduzzi M, *et al.* [Integrative review: concepts and methods used in nursing]. *Rev Esc Enferm USP* 2014;48:335–45.
- 22 Broome ME. Integrative literature reviews for the development of concepts. In: Concept development in nursing: foundations,

techniques and applications. Philadelphia: WB Saunders Company, 2000: 231–50.

- 23 Ritchie J, Spencer L. *Qualitative data analysis for applied policy research*. Analyzing qualitative data: Routledge, 2002: 187–208.
- 24 Armstrong R, Waters E, Jackson N, et al. Guidelines for systematic reviews of health promotion and public health interventions. Australia: Melbourne University, 2007.
- 25 Saini M, Shlonsky AX. Systematic synthesis of qualitative research. USA: OUP, 2012.
- 26 Pluye P, Gagnon M-P, Griffiths F, et al. A scoring system for appraising mixed methods research, and concomitantly appraising qualitative, quantitative and mixed methods primary studies in mixed studies reviews. Int J Nurs Stud 2009;46:529–46.
- 27 Tyndall J, Tyndall J. AACODS checklist. Adelaide, Australia: Flinders University, 2010.
- 28 Canadian Institute for Health Information (CIHI). Urban physical environments and health inequalities: literature search methodology paper. Available: https://www.cihi.ca/sites/default/files/cphi_upe_ litsearch_method_en_0.pdf [Accessed 18 Oct 2019].
- 29 Eysenbach G, Powell J, Kuss O, et al. Empirical studies assessing the quality of health information for consumers on the world wide web: a systematic review. JAMA 2002;287:2691–700.