Bridging Gaps: The Role of eHealth Tools in Immigrant Health Care Transitions

Scholarly Paper, MSc in eHealth
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Spring 2025

Abstract

In 2022, Canada saw a significant influx of immigrants and non-permanent residents who despite contributing significantly to the economy, continue to face substantial health care challenges, including a decline in the “healthy immigrant effect”. This study examines the role of eHealth tools in facilitating immigrants’ health care transition in Canada, addressing a critical gap in existing research. Using a scoping review methodology, relevant literature was identified through the Web of Science, Scopus, and ProQuest databases, Ovid platform, and Google Scholar search engine. Twelve studies published between 2021 and 2024 met all criteria for inclusion. Thematic analysis was conducted using NVivo, Google NotebookLM, and DeepSeek. The findings highlight the potential of eHealth tools in chronic disease management, mental health support, and primary care access while also exposing disparities in eHealth adoption due to systemic barriers, limited digital literacy, and lack of awareness of existing solutions. The study underscores the need for culturally inclusive eHealth solutions, targeted digital literacy programs, and improved access to health care information. It calls for policy interventions and further research to ensure equitable health care access for Canada’s growing immigrant population and facilitate their integration into the health care system.

Keywords: Canada, immigrant population, eHealth, health care transition, equitable health care

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In 2022, Canada welcomed approximately 437,000 new immigrants and 608,000 non-permanent residents, which addressed labor shortages, fulfilled the demand for temporary workers, and drove population growth and diversity (Pandey et al., 2022; Statistics Canada, 2023). International students alone contributed CAD 37.3 billion to the economy that year, creating a pipeline of skilled workers (Government of Canada, 2022). However, despite their economic and social contributions, immigrants face significant health care challenges in Canada.

Notably, the "healthy immigrant effect"—where newcomers arrive in better health than long-term residents—has significantly declined (Ahmed et al., 2016; Tsai & Ghahari, 2023). Research shows a sharp decrease in self-reported health within the first two years of settlement, particularly among non-European groups (Kim et al., 2013). These disparities are strongly linked to social determinants of health, including poverty, food insecurity, unemployment, as well as post-immigration discrimination (Fuller-Thomson et al., 2011). Additionally, cultural, linguistic, and socioeconomic barriers limit health care access, with language obstacles reducing care quality and time constraints preventing medical visits (George et al., 2014; Kalich et al., 2016; Setia et al., 2011).

Addressing the health of Canada's immigrant population is essential for two key reasons. First, immigrants play a crucial role in shaping the overall health landscape. Given Canada's immigrant-friendly policies, they shape the cost and quality of the healthcare system (Ahmed et al., 2016; McDonald & Kennedy, 2004). Second, immigrant health serves as an indicator of the effectiveness of current immigration policies, raising concerns about potential strain on the predominantly publicly funded universal healthcare system. Ensuring equitable health care access is vital to maximizing the benefits of Canada's extensive immigration program.

Innovative health care strategies can help mitigate these challenges. eHealth—the use of digital technologies to deliver health care services—has been increasingly implemented in Canada to enhance access, quality, and safety (Goodridge & Marciniuk, 2016). eHealth tools are specifically designed to embody the principles of patient-centered and culturally appropriate care. Patient-centered care places the individual at the heart of health care, prioritizing their preferences, needs, and values, and ensuring that clinical decisions are driven by what matters most to the patient (Institute of Medicine (US) Committee on Quality of Health Care in America, 2001). Culturally appropriate care goes beyond basic understanding, integrating deep cultural awareness, knowledge, and skills to engage effectively with patients from diverse backgrounds, fostering trust and improving health outcomes (Campinha-Bacote, 2002).

When designed with user-friendly and equity-centered principles, eHealth tools enhance flexibility, minimize disruptions to daily life, and address barriers pertaining to digital literacy and culture that disproportionately affect immigrant populations (Jong et al., 2019; MacPherson, 2023). They also support immigrants in overcoming geographical and language barriers by providing culturally tailored information and resources often lacking in mainstream health care (Alghazali, 2023). eHealth tools' privacy and convenience help mitigate stigma and scheduling challenges, further improving accessibility (Narayan, 2021).

Rationale and Purpose

Despite growing interest in understanding the health care barriers faced by immigrants in Canada, research on how eHealth tools can support immigrant health care access—a promising solution—remains limited (Rabet et al., 2024). Addressing this gap is essential, as immigrants are underrepresented in health care research, particularly regarding their transition into primary care. Therefore, the purpose of this study is to examine how eHealth tools facilitate immigrants' health care transition in Canada.

Notably, no fixed timeframe defines the health care transition for immigrants. Given the ongoing health care barriers in Canada, many immigrants may still be transitioning into the healthcare system despite having lived in the country for an extended period. This study will aim to highlight a significant health disparity within the Canadian healthcare system, focusing on the challenges immigrants face in accessing timely, patient-centered, and culturally appropriate care. This exploration will also contribute to research on the role of eHealth in facilitating smoother health care transitions by improving access to primary care, chronic care management, and health literacy—ultimately aiming to mitigate the decline of the healthy immigrant effect. The study will also assess immigrant interest in using eHealth tools, evaluating its potential for the Canadian health care context. Finally, the findings will recommend targeted eHealth interventions and provide policymakers with insights into culturally inclusive eHealth strategies to promote a more equitable healthcare system for Canada's growing immigrant population.

Method

Study Design

A scoping review was selected due to the heterogeneity and scarcity of literature on eHealth tools for the immigrant population in Canada. Scoping reviews explore key concepts, theories, and knowledge gaps in areas where comprehensive overviews or system reviews are limited (Peters et al., 2015; Peters et al., 2022; Tricco et al., 2018). Following the Joanna Briggs Institute Manual for Evidence Synthesis, each stage of the review process was documented and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta

Analyses Extension for Scoping Reviews (PRISMA-ScR) Checklist (Aromataris et al., 2024; see Appendix B; see Figure 1).

Eligibility Criteria

The purpose of this review was used to define the scope and guide the eligibility criteria. Peer-reviewed empirical studies, master's dissertations, and doctoral dissertations published within the past five years in English were included. The study population focused on immigrants residing in Canada, while studies on refugees or asylum seekers were excluded. The concept centered on eHealth tools relevant to primary health care transition, access, utilization, barriers, and facilitators. Eligible eHealth tools included patient portals, telemedicine platforms, mobile health apps, electronic health records, health information exchanges, wearable devices, decision support systems, digital therapeutics, remote patient monitoring, online health communities and platforms, artificial intelligence (AI) in health care, and health data analytics platforms. Studies on non-digital solutions (e.g., paper-based records, in-person consultations without digital augmentation), generic productivity tools (e.g., Microsoft Word, Google Drive), offline educational materials (e.g., printed brochures), and standalone consumer electronics (e.g., pedometers) were excluded unless they were integrated with eHealth platforms. Traditional medical devices (e.g., manual stethoscopes and analog thermometers) and health care facilities and infrastructure (e.g., hospitals, clinics, and labs) were also excluded unless they incorporated eHealth technologies.

Search Strategy and Study Selection Process

The Web of Science, Scopus, and ProQuest databases and Ovid platform were searched for empirical studies published in the past five years, supplemented by Google Scholar to identify relevant master's and doctoral dissertations from Canadian universities. This approach ensured that only robust evidence informed the conclusions of this scoping review while also providing access to the latest and most accurate information. Search terms, including Boolean operators, were structured using the Population, Concept, and Context framework (see Table 1). The study selection followed the PRISMA-ScR framework, which included an automated duplication removal phase via Zotero and a thorough title, abstract, and full-text review (see Figure 1).

Analytic Framework

A thematic analysis was conducted using NVivo, supplemented by Google NotebookLM and DeepSeek AI tools, following the framework outlined by Braun and Clarke (2006; see Appendix A). In Phase 1, the data was thoroughly familiarized through repeated readings and systematic notetaking to gain an in-depth understanding. Phase 2 involved initial coding, where NVivo was used to organize the data into meaningful segments. These codes were systematically applied to capture relevant information for further analysis.

In Phase 3, codes were grouped into potential themes with the assistance of AI tools. Google NotebookLM and DeepSeek utilized natural language processing algorithms to identify latent patterns by analyzing large volumes of text and detecting recurring terms, phrases, and concepts. These AI tools enhanced the analysis by evaluating both frequency and contextual relevance.

In Phase 4, the identified themes were rigorously reviewed for coherence, relevance, and clarity. NVivo's visualization tools, including cluster analysis and thematic mapping, were used to refine the themes and explore relationships between codes, providing greater clarity on their structure and significance. Phase 5 involved defining and naming the themes. Each theme was labeled to accurately reflect its core focus, with AI tools precisely identifying key terms that best represented the themes.

Finally, in Phase 6, a comprehensive report was produced, detailing the themes with supporting evidence from the dataset. The data charting process, assisted by DeepSeek, involved organizing the themes, mapping relationships, and aligning them with the research questions and the theoretical framework (see Figure 2). The final report adhered to the PRISMA-ScR checklist to ensure rigorous documentation (see Appendix B).

The combined data analysis approach, integrating traditional thematic analysis with AI-supported tools, ensured a comprehensive, objective, and reflective examination of the dataset's core insights. It is important to acknowledge, however, that while such tools enhance consistency and broaden analytical scope, they may fail to detect subtle contextual nuances that a human reader might readily perceive. Although AI demonstrates considerable proficiency in pattern recognition, it lacks the interpretive nuance and contextual sensitivity that researchers contribute through close textual engagement. This methodological limitation warrants careful consideration in the interpretation of the findings presented in this paper.

Results

Search Results

A total of 168 records were collected: 34 from Web of Science, 4 from Ovid, 11 from Scopus, 6 from ProQuest, and 113 from Google Scholar. After removing 25 duplicates, 143 unique records remained (see Figure 1). Title screening excluded 67 studies, while an abstract review further removed 62, leaving 14 for full-text assessment. Two studies were ultimately excluded—one for focusing on all vulnerable populations in Canada rather than specifically on immigrants, and another for being a scoping review rather than an empirical study. This meticulous selection process resulted in 12 studies being included in the final scoping review.

Descriptive Statistics

The studies were published between 2021 and 2024, with the highest number (35.7%) published in 2022, indicating a plateau in research interest in eHealth for immigrant health care in Canada. Qualitative studies consisting of interviews and focus groups were the most common (35.7%), followed by cross-sectional surveys (28.6%), and retrospective or mixed methods approaches (17.9% each). The total sample size was 5,727,633, largely influenced by Sierra-Heredia et al. (2024) and Toulany et al. (2023). Excluding these outliers, the average sample size was 2,300, with a median of 197. Studies primarily focused on general immigrant populations and specific ethnic groups (e.g., South Asian immigrants, Chinese Canadian cancer survivors)—reflecting diverse research interests. Primary health care access (28.6%), chronic disease management (28.6%), and digital literacy (14.3%) were key health focuses. The most studied eHealth tools were virtual care, digital literacy scales, and health apps or portals. Table 2 outlines the key characteristics of each selected study.

Discussion

This scoping review explores how eHealth tools can support immigrant populations during their transition into the Canadian healthcare system. Findings from the 12 selected studies highlight the potential of eHealth solutions, particularly in chronic disease management and prevention. Effective chronic disease care depends on timely access to health care, self-management support, and continuity of care. eHealth interventions provide flexible and efficient strategies for disease prevention and long-term management (Makowsky et al., 2022).

Mental health is also a critical component of chronic disease care, as individuals with long-term conditions often experience psychological distress. Young et al. (2023) found that cancer patients frequently report dissatisfaction with follow-up care due to inadequate mental health support. eHealth mental health (eMH) tools, such as symptom tracking, relaxation techniques, and mindfulness resources, can complement traditional care by addressing these unmet needs (Narayan, 2021). Users often engage with eMH resources to better understand their conditions or support others.

Despite their potential, eHealth tools face significant barriers, primarily due to a lack of awareness (Hyman et al., 2022). While 78.5% of respondents find the internet useful for health decision-making, health care organizations must play an active role in guiding patients to reliable online resources (Makowsky et al., 2022). The prevalence of online health information-seeking is high, with 47.8% of respondents actively searching for medical knowledge online and over 80% expressing interest in eHealth support. eMH solutions, such as mobile apps and virtual follow-ups, have also proven crucial in providing mental health support for immigrants and underserved populations (Narayan, 2021). Additionally, 75% of immigrant patients have expressed a desire to maintain virtual care options, including phone, email, and secure messaging, post-pandemic (Agarwal et al., 2022).

While eHealth tools hold great promise, their effectiveness depends on more than just availability. Awareness, digital literacy, and personalized support are essential for successful integration into immigrant patients' care routines (Hyman et al., 2022; Makowsky et al., 2022). A lack of these strategies is a key reason why eHealth adoption in Canada is not universal, with immigrant populations being less likely to engage with eHealth tools (Agarwal et al., 2022). For instance, Makowsky et al. (2021) found that South Asian immigrants with type 2 diabetes were less inclined to use app-based interventions, and those with chronic illnesses were less likely to own smartphones or tablets. This is particularly counterintuitive given that South Asian populations experience a higher burden of chronic diseases and could significantly benefit from eHealth tools designed for self-management (Hyman et al., 2022).

To ensure the successful implementation of culturally inclusive eHealth solutions, health care organizations, technology developers, and policymakers must focus on reducing systemic barriers, promoting cultural competency, improving eHealth literacy, and expanding access to health care information and resources. The following thematic analysis details key findings from the 12 selected studies, outlining both the opportunities and challenges of eHealth in immigrant health care.

Thematic Analysis

The themes were derived through a rigorous process of coding and categorizing data, using NVivo for qualitative analysis and supported by Google NotebookLM and DeepSeek AI tools. Patterns and recurring concepts were identified by analyzing the frequency and contextual relevance of terms within the dataset. Theme 1, “Promoting Cultural Competency to Address Systemic Barriers,” emerged from 40% of the codes related to cultural awareness and its role in overcoming health care disparities. Theme 2, “Enhancing Digital Literacy and Access for Immigrant Populations,” was generated by grouping 60% of the codes related to the challenges immigrants face with technology and digital health care. Finally, Theme 3, “Raising Awareness on Health Care Information and Resources,” was derived from 55% of the data highlighting the need for better access to health care information and resources for immigrant populations. Each theme was named to reflect its core focus and underlying data insights.

Theme 1: Promoting Cultural Competency to Address Systemic Barriers

Older immigrants are often overlooked in policies, while structural inequities—such as systemic racism and restrictive immigration policies—further hinder their access to health care (Hyman et al., 2022; Sierra-Heida et al., 2024). These challenges are exacerbated by the underrepresentation of immigrant groups in health care research, particularly those facing language barriers, lower income, and limited digital literacy (Maharaj et al., 2022). The findings of Toulany et al. (2023) reiterate these disparities, as socioeconomically disadvantaged children and adolescents used mental health care services less frequently than their wealthier counterparts.

Meherali et al. (2024) highlight that second-generation South Asian immigrants face unique sexual and reproductive health challenges. The researchers suggest this is because discussions on puberty changes and the transition to adulthood are often considered taboo in immigrant households. This reluctance extends into medical settings, where patients may withhold critical health information. Similarly, Chinese Canadian prostate cancer survivors reported feeling uneasy, unheard, and disregarded when expressing their needs to health care providers, leading to a breakdown in relational trust (Young et al., 2023). As a result, many viewed virtual care as merely a “better than nothing” (Young et al., 2023, p. 6) alternative rather than a truly effective solution. Furthermore, many eHealth platforms fail non-English speakers due to inadequate language support and Westernized imagery within the interface (Hyman et al., 2022; Makowsky et al., 2021).

To address these systemic barriers, Nisa et al. (2024) recommend enhancing information access, increasing government support, and improving housing options. For example, policy-level changes, like subsidizing internet access for low-income households, can further promote equitable access to eHealth platforms (Sierra-Heida et al., 2024). Alghazali (2023) further emphasizes the importance of provider training to address cultural biases, strengthen communication, and foster transparent clinical environments. Community-based strategies, such as peer support networks, play a crucial role in building trust and disseminating health information in culturally relevant ways (Makowsky et al., 2021; Narayan, 2021).

While language barriers at the system-level continue to hinder immigrant health care access, generic translations alone are nothing but an “easy fix” that fails to meet the complex needs of immigrant populations. Culturally responsive interventions in eHealth must go beyond basic language translation to incorporate the lived experiences of diverse populations (Narayan, 2021). Therefore, it is critical to advocate for eHealth tools designed with cultural nuances and developed with input from immigrant communities (Makowsky et al., 2021).

Theme 2: Enhancing Digital Literary and Access for Immigrant Populations

Much of the immigrant population in Canada struggles to navigate government websites, use virtual care platforms, and assess the reliability of online health information, hindering their ability to manage their own and their loved ones’ health (Makowsky et al., 2021; Hyman et al., 2022). Language barriers, financial constraints, and limited access to smartphones or stable internet make these challenges even more difficult for patients, especially in low-income and rural communities (Agarwal et al., 2022; Sierra-Heida et al., 2024; Toulany et al., 2023).

While virtual care has expanded access in some ways, it has also widened health disparities. Immigrants with lower digital literacy and limited experience with online health resources are less likely to engage with virtual health care services, leading to delays in seeking medical advice and difficulties in managing chronic conditions (Maharaj et al., 2022; Toulany et al., 2023). A lack of confidence in interpreting online health information further discourages its use, reinforcing reliance on traditional and often less accessible health care options (Makowsky et al., 2021). This digital divide particularly affects older immigrants and those with lower education levels, limiting eHealth adoption among these demographic groups (Alghazali, 2023; Nisa et al., 2024).

A hybrid model that combines in-person care with digital services is crucial for supporting individuals facing digital literacy and access barriers (Agarwal et al., 2022). Integrating digital skills training into settlement and health care services, such as providing educational pamphlets at the end of appointments, can help immigrants with basic English proficiency develop the skills needed to navigate clinical situations.

eHealth programs should primarily focus on health literacy training to better equip users in assessing online health information, followed by targeting the technical skills necessary to navigate eHealth tools effectively (Alghazali, 2023; Hyman et al., 2022). These programs must be tailored to varying education levels, ensuring accessibility for those with minimal exposure to eHealth tools. Peer-led training, community partnerships, and participatory action research can help ensure eHealth solutions reflect the lived experiences of diverse populations (Makowsky et al., 2021).

Theme 3: Raising Awareness on Health Care Information and Resources

Access to health care information and resources is a key determinant of health outcomes, particularly for immigrants unfamiliar with the Canadian healthcare system. Older immigrants face additional challenges navigating the system, often due to limited familiarity with health care services and the absence of strong social support networks (Nisa et al., 2024). These barriers were further magnified during the COVID-19 pandemic, as disparities in primary care access became more pronounced among older immigrants with limited official language proficiency compared to non-immigrants (Agarwal et al., 2022; Sierra-Heida et al., 2024). Furthermore, 30.5% of patients delayed care during the pandemic due to a lack of awareness about available services (Maharaj et al., 2022).

Health care is not just about the availability of eHealth tools but also about effective communication and targeted outreach to marginalized groups. Many patients are unaware of the eHealth options available to them, whether it be a centralized application for managing appointments or the ability to have phone consultations for follow-ups on lab results. Notably, among the 21% of immigrant participants who did not use eMH services, half were unaware these resources existed (Narayan, 2021). This lack of awareness undermines the effectiveness of these tools, representing a systemic failure that limits their potential to improve health outcomes.

To address this gap, it is essential that primary care providers, who serve as the central point of contact for patients, are well-informed about available services, as many are not (Narayan, 2021). Health care governing bodies must take responsibility for disseminating information to health care workers, who can then relay it to their patients. Culturally tailored outreach and social media-driven engagement can play a vital role in reducing disparities, ensuring that all patients, regardless of socioeconomic or immigration status, are aware of and can access the health care information and services they need. As one South Asian patient aptly stated in an interview, “If the awareness is not there, no one is going to use it” (Narayan, 2021, p. 47). This comment underscores the critical need for health care systems to prioritize awareness and accessibility in the eHealth landscape.

Thematic Relationships

Each theme displayed in Figure 2 aligns with one of the three core disciplines of eHealth: health care, technology, and management, and these disciplines played a crucial role in shaping the thematic analysis. The first theme, addressing systemic barriers and promoting cultural competency, pertains to the healthcare system. This theme underscores the importance of policies and structural changes that can reduce barriers for immigrants, ensuring they have better access to care. The health care discipline is central here as it focuses on improving how health care services are delivered and making them more equitable, especially in managing chronic diseases, which are prevalent within immigrant populations.

The second theme, enhancing digital literacy skills, falls under the technology discipline. This theme examines the relationship between eHealth tools and the immigrant population, emphasizing that digital literacy is key for effective utilization of these tools. Immigrants often face challenges in navigating digital platforms, and improving their digital literacy is essential to ensuring they can engage with and benefit from eHealth solutions, particularly in managing health remotely.

The third theme, raising awareness of health information and resources, is tied to the management discipline. This theme highlights the role of strategic decision-making in ensuring that all stakeholders—health care providers, policymakers, and immigrants—have the necessary knowledge and access to health care information. Effective management strategies are critical in creating an informed healthcare ecosystem where immigrants can make empowered health decisions and engage with available resources.

Together health care, technology, and management can work synergistically to improve immigrant health outcomes. Strengthening each discipline can lead to better integration of immigrants into the healthcare system, greater access to eHealth tools, and more effective health management within these populations. By dismantling systemic barriers, equipping immigrants with digital health skills, and raising awareness about available health care resources and services, immigrants can more effectively navigate the healthcare system, adopt preventive care practices, and adhere to treatment plans.

One effective strategy for addressing systemic barriers is the use of community health worker (CHW) programs, where individuals from immigrant communities are trained to assist others in navigating healthcare systems, advocating for their needs, and overcoming cultural or language barriers. Research has shown that CHW programs improve access to care and chronic disease management by bridging gaps in health care (Islam et al., 2017). It may be worth exploring whether these programs have the capacity to deliver digital health literacy interventions, equipping immigrants with the skills to navigate telemedicine and online health resources. This could enhance their health literacy and promote more effective engagement with health care technology (Fernández-Gutiérrez et al., 2019). Finally, raising awareness about health care resources can be achieved through culturally tailored health information campaigns. By providing translated materials and utilizing culturally relevant outreach, these campaigns have been shown to increase immigrants’ engagement with healthcare services, ensuring they are better informed and more likely to access the care they need (Gany et al., 2017). Together, these evidence-based strategies contribute to improving health care access and outcomes for immigrant populations.

This holistic approach not only improves health outcomes but also supports the immigrants’ integration into society, fostering greater workforce participation and social inclusion. Thus, addressing these three themes is crucial for ensuring a smoother transition into the host country and enhancing the long-term well-being of immigrant populations.

Limitations

Despite the strength of the evidence, several limitations affect the scope and applicability of the studies reviewed. Many studies rely on convenience sampling, which introduces potential bias and limits the generalizability of the findings. For instance, Makowsky et al. (2021, 2022) recruited participants from a survey conducted in Edmonton, Alberta, while Young et al. (2023) employed a convenience sampling strategy by issuing invitations through group administrators. Although these sampling methods are practical, they may not accurately reflect broader populations, particularly in more diverse or rural settings. Moreover, qualitative studies often involve small sample sizes, such as Alghazali's (2023) study of 32 immigrants and six health care providers, which may not fully capture the diversity of experiences within the targeted communities.

The use of focus groups, while effective in gathering qualitative data, may limit participants' openness, especially on sensitive topics where cultural or social stigmas might make them uncomfortable sharing personal information (Meherali et al., 2024). Additionally, the reliance on self-reported data introduces the risk of recall and social desirability biases, which can affect the accuracy of responses. The cross-sectional design of studies like those by Makowsky et al. (2021, 2022) further limits the ability to draw causal inferences or observe trends over time, underscoring the need for longitudinal studies to better understand how cultural competence and eHealth interventions impact health care access and outcomes.

Furthermore, some studies focus on specific ethnic or cultural groups, such as South Asian Canadians or Chinese Canadian prostate cancer survivors, providing valuable insights but limiting the generalizability of findings to other populations (Hyman et al., 2022; Makowsky et al., 2021; Makowsky et al., 2022; Young et al., 2023). Future research should address these limitations by employing different sampling methods, incorporating larger and more diverse samples, utilizing culturally sensitive data collection techniques, and adopting longitudinal study designs.

Research Gaps and Future Directions

Several research gaps and future directions emerge at the intersection of cultural competence, eHealth, and health care access for immigrant populations.

Research Priorities

One key gap is the need for culturally responsive eMH resources tailored to diverse populations, ensuring effective linguistic and cultural adaptation for improved care (Narayan, 2021). There is also a significant lack of eHealth interventions specifically designed for immigrant adolescents' sexual and reproductive health in Canada (Meherali et al., 2024). Future studies should focus on co-designing culturally relevant eHealth solutions to address these unique needs, enhance trust, and improve the health outcomes of immigrant populations (Campinha-Bacote, 2002). Additionally, high-quality randomized controlled trials are needed to assess the effectiveness of culturally tailored interventions on health outcomes. Expanding sample sizes and diversifying participant recruitment across metropolitan, suburban, and rural areas will further enhance the generalizability of the findings. Studies should also extend eligibility criteria to include long-term immigrant residents to capture a broader range of experiences and examine the relationship between effective eHealth interventions and the healthy immigrant effect.

Further research is required to assess the impact of cultural competence training on health care providers' communication skills and patient care experiences (Alghazali, 2023). Comparative studies should also explore health and eHealth literacy levels among recent immigrants, established immigrants, and non-immigrants in Canada, leveraging newly available assessment tools.

Policy Recommendations

To increase the uptake of eHealth interventions, it is critical to prioritize theory-driven, culturally, and linguistically tailored approaches. Key policy recommendations include expanding access to health care information, implementing government income support programs, offering language classes tailored for older adults, and increasing affordable housing options to address gaps in social support services. Additionally, providing education and support to immigrant patients in using information and communication tools for health care communication will help enhance their digital health literacy.

Practice and Implementation

Focus group discussions with health care providers could offer valuable insights into their perspectives on communication challenges and best practices when working with immigrant patients. More research is also needed on specific minority language groups, such as Tamil-speaking communities, to understand how barriers and facilitators differ across cultural and linguistic demographics. Examining policies, systems, and design practices in eHealth tools is essential to ensure they facilitate equitable and effective care for immigrant populations.

Conclusion

Despite the growth of eHealth in Canada, this research reveals that eHealth tools are not sufficiently adapted to meet the specific needs of immigrant populations. The thematic analysis of the 12 selected studies highlights how systemic barriers, limited digital literacy, and a lack of awareness about available health care resources significantly hinder the effective use of eHealth tools among immigrants. To facilitate a smoother health care transition for immigrants, it is crucial to enhance cultural competency, improve digital literacy, and raise awareness of available health information and services. Key recommendations include addressing systemic barriers through policy reforms and training health care providers to reduce cultural biases, strengthening digital literacy by integrating digital skills training into settlement and health care services, and raising awareness of eHealth tools through culturally tailored outreach and social media campaigns. By addressing these gaps and implementing these recommendations, Canada can create a more inclusive and effective healthcare system that better supports the health and well-being of its diverse immigrant population.

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Tables and Figures

Table 1

Study Selection Search Terms

Category	**Search Terms**
Population	(“`immigrants`” OR “`migrants`” OR “`newcomers`”) NOT (“`refugees`” OR “`asylum seekers`”)
Concept	(“`eHealth`” OR “`digital health`” OR “`telehealth`” OR “`mHealth`” OR “`telemedicine`” OR “`digital health literacy`” OR “`eHealth literacy`”)
Context	(“`Canada`” OR “`Canadian healthcare system`” OR “`transition`”)

The search string used in every database to conduct the scoping review was: (`immigrants` OR `migrants` OR `newcomers`) NOT (`refugees` OR `asylum seekers`) AND (`eHealth` OR `digital health` OR `telehealth` OR `mHealth` OR `telemedicine` OR `digital health literacy` OR `eHealth literacy`) AND (`Canada` OR `Canadian healthcare system` OR `transition`).

Table 2

Characteristics of Included Studies

First Author's Last Name	Publication Year	Aim	Study Design	Target Population	Sample Size	Health Focus	eHealth Tool
Meherali	2024	To explore the sexual and reproductive health experiences of immigrant adolescents in Canada within their cultural and religious contexts	Qualitative – Thematic Analysis	Immigrant adolescents in Alberta, Ontario, and British Columbia	58	Sexual and reproductive health (SRH) education and access to information	Digital resources as a source of SRH information
Nisa	2024	To explore the settlement challenges of Arabic-speaking immigrant newcomers and refugee older adults in Edmonton, Canada, and discuss policy and service implications	Qualitative – Descriptive Study	Arabic-speaking immigrant newcomers and refugee older adults in Edmonton, Alberta	12	Settlement and integration challenges affecting healthy aging	Digital literacy support was evaluated
Sierra-Heredia	2024	To examine how access to virtual and in-person primary care in British Columbia varied by immigration status, time in Canada, language proficiency, and age during the COVID-19 pandemic	Retrospective Analysis	Immigrants and non-immigrants in British Columbia	3,707,248	Access to primary healthcare	Virtual care and telemedicine
Toulany	2023	To evaluate the relationship between social determinants of health, including factors relevant to immigrants, physician-based mental healthcare utilization, and virtual care use among children and adolescents in Ontario, Canada, during the COVID-19 pandemic	Cross-sectional Survey	Children and adolescents living in Ontario and eligible for provincial health insurance	2,500,000	Mental health, virtual care utilization	Virtual care
Young	2023	To explore the experiences of Chinese Canadian prostate cancer survivors with follow-up and virtual care and assess the implications for culturally adapting the Ned Clinic follow-up care app	Qualitative – Exploratory Study	Chinese Canadian prostate cancer survivors and their caregivers in Canada	14	Follow-up care and survivorship support for prostate cancer	Virtual care and the Ned Clinic follow-up care app

Agarwal	2022	To understand patients' care-seeking behaviors, their use and perceptions of virtual care modalities during the early COVID-19 pandemic, and whether these differed by sociodemographic factors	Cross-Sectional Survey	Patients from 13 academic primary care teaching practices in Canada, including newcomers	7,532	Access to and comfort with primary healthcare	Virtual care modalities, including phone, video, email, and messaging
Hyman	2022	To understand the barriers to and facilitators of digital health tool uptake among South Asian community members in Canada	Qualitative – Focus Groups & Photovoice Methods	South Asian community members in British Columbia	197	Chronic disease management	Digital health tools for self-management of chronic diseases
Maharaj	2022	To determine whether self-reported COVID-19-like illness from a participatory surveillance tool corresponded with laboratory-confirmed COVID-19 case trends in Ontario	Retrospective Longitudinal Analysis	Ontario residents who used the Outbreaks Near Me online tool	11,185	COVID-19 surveillance and population monitoring	The online participatory surveillance tool Outbreaks Near Me
Makowsky	2022	To describe perceived eHealth literacy and explore its association with sociodemographic, health status, and technology use variables in South Asian Canadians	Cross-Sectional Survey	South Asian community members in Alberta	301	Cardiovascular disease and diabetes prevention and management	eHealth Literacy Scale
Alghazali	2023	To examine how health care organizations use cultural competence strategies and Information and Communications Technologies (ICTs) to enhance communication between health care providers and immigrant patients.	Mixed-Methods Design	Recent immigrants and health care providers in Canada	144	Healthcare disparities	ICTs
Makowsky	2021	To explore the prevalence, patterns, and predictors of internet, digital device, and app use for health purposes among South Asian Canadians	Cross-Sectional Survey	South Asian community members in Alberta	706	Cardiovascular disease and diabetes prevention and management	Internet, smartphones, tablets, and health apps
Narayan	2021	To investigate the use of eHealth mental health (eMH) services for anxiety and depressive disorders among culturally diverse populations, focusing on cultural responsiveness, digital health literacy, and usage	Mixed-Methods Design	Ethnic minorities, including immigrants, in British Columbia	136	Anxiety and depressive disorders management	eMH technologies

Figure 1

Illustration of PRISMA-ScR Flow Diagram.

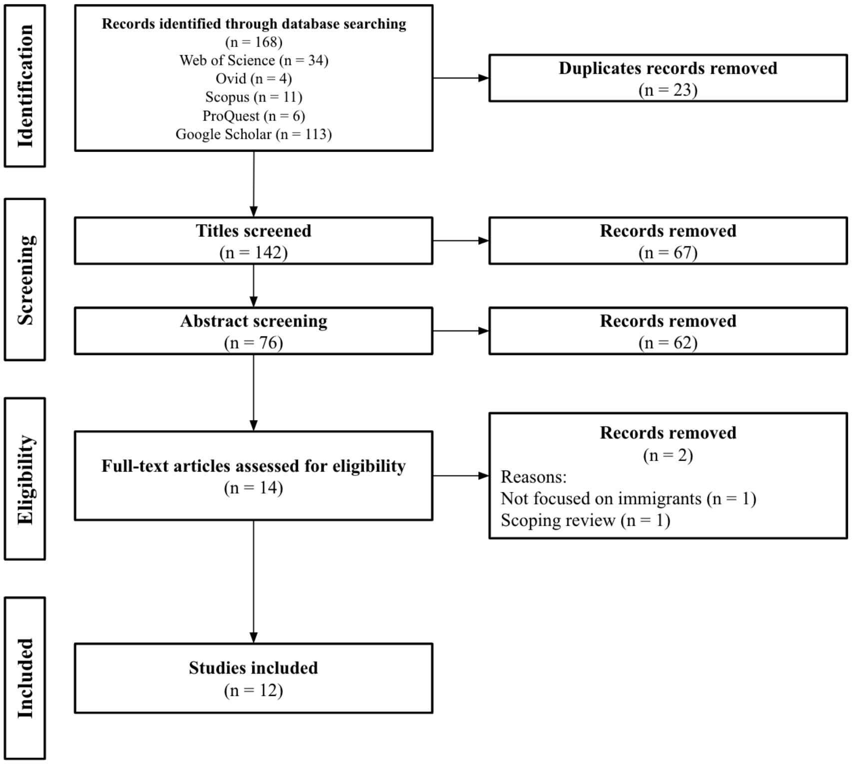
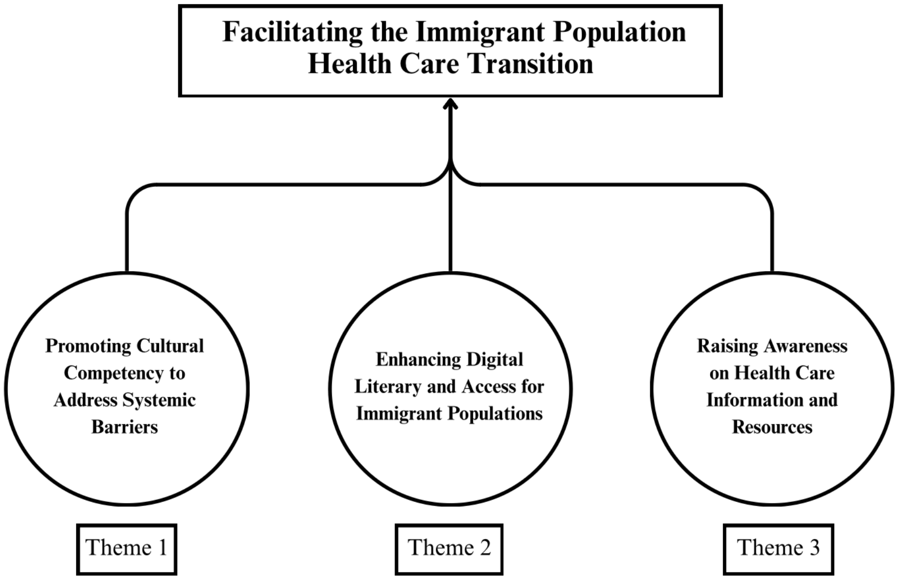


Figure 2

Diagram of the Relationships Between the Three Themes



Appendix A

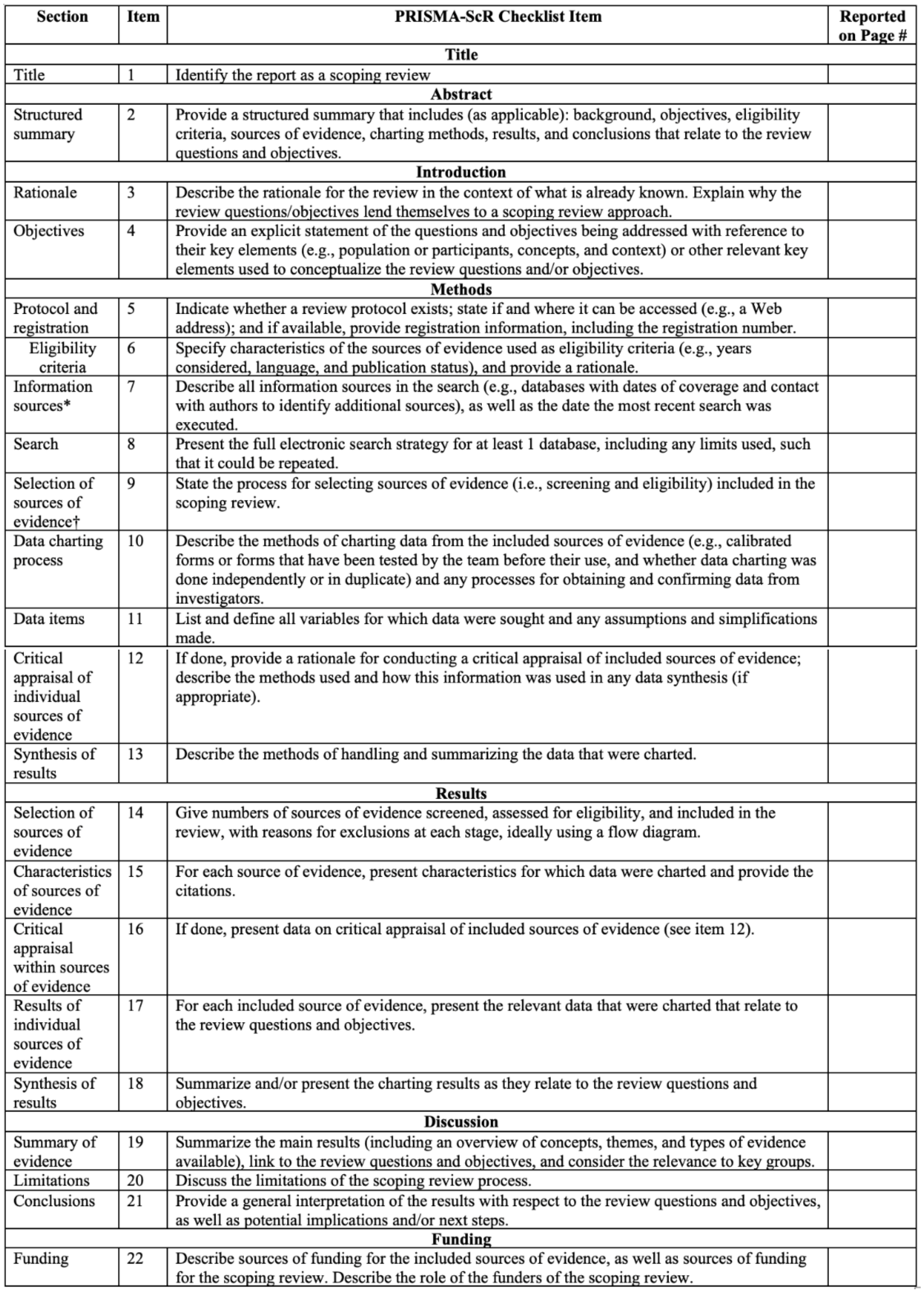
Braun and Clarke (2006) 6-step Guide to Good Thematic Analysis

Phase	Examples of Procedure for Each Step
1. Familiarization	Transcribe the data (if necessary), then read and re-read the material to become deeply familiar with its content. Note down initial impressions and ideas for coding.
2. Generating Initial Codes	Systematically identify and code significant features across the entire dataset. Group relevant data segments under each code for organization and comparison.
3. Searching for Themes	Collate related codes into broader patterns or potential themes. Begin organizing the data into meaningful thematic categories.
4. Reviewing Themes	Examine whether the themes accurately represent the coded data and the dataset. Refine the thematic structure and construct an initial thematic map.
5. Defining and Naming Themes	Conduct detailed analysis of each theme to determine its scope and focus. Develop concise, descriptive names that capture the essence of each theme.
6. Producing the Report	Finalize the analysis by selecting vivid, compelling examples for each theme. Interpret findings in relation to the research question and relevant literature and present them in a clear and coherent report.

Note. Adapted by the work of Braun and Clarke (2006).

Appendix B

PRISMA-ScR-Checklist



Section	Item	PRISMA-ScR Checklist Item	Reported on Page #
		Title	
Title	1	Identify the report as a scoping review	
		Abstract	
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	
		Introduction	
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	
		Methods	
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	
Data charting process	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	
Critical appraisal of individual sources of evidence	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	
		Results	
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	
		Discussion	
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	
Limitations	20	Discuss the limitations of the scoping review process.	
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	
		Funding	
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	

Note. Adapted by the work of Peters et al. (2022).