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REVIEW PAPER

Primary Health Care Models Addressing Health Equity for Immigrants: A Systematic Scoping Review

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Abstract To examine two healthcare models, specifically "Primary Medical Care" (PMC) and "Primary Health Care" (PHC) in the context of immigrant populations' health needs. We conducted a systematic scoping review of studies that examined primary care provided to immigrants. We categorized studies into two models, PMC and PHC. We used subjects of access barriers and preventive interventions to analyze the potential of PMC/PHC to address healthcare inequities. From 1385 articles, 39 relevant studies were identified. In the context of immigrant populations, the PMC model was found to be more oriented to implement strategies that improve quality of care of the acute and chronically ill, while PHC models focused more on health promotion and strategies to address cultural and access barriers to care, and preventive strategies to address social determinants of health. Primary Health Care models may be better equipped to address social determinants of health, and thus have more potential to reduce immigrant populations' health inequities.

Keywords Primary care · Primary health care · Immigrants · Health equity · Health determinants · Refugees

Introduction

Effective and timely access to quality primary care is a critical resource for the health of immigrants [1]. In this study of healthcare models, we defined immigrants broadly, see "Box 1". Numerous studies reveal that immigrants, excluding refugees, arrive in better health than the general population [2, 3]. Their health status, however, tends to decline and converge with that of the native population during the integration process [4–6]. Refugees may have unique sociodemographic characteristics and suffer more infectious diseases, but we included them because, like other migrant groups, they also face barriers accessing and using healthcare services [7, 8].

"Health inequities are when inequalities in health are deemed avoidable, remediable, and unfair"[9]. The definition and measurement of health inequity requires a normative decision about social justice and fairness that may vary based on context [10]. Immigrants face barriers accessing health care [11–14]. Factors that may contribute to inequities include forced migration, limited official language proficiency, country of origin and education level, and other social determinants of health [1]. Limited education and health literacy are potential sources of immigrant health inequity [15]. Patient-practitioner interactions can build trust in a new system [16], but many barriers may intercede [17–19].

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Box 1: Key definitions

Immigrants individuals who moved from their country of origin into a new country for the purpose of settlement. This IOM-based definition includes those who arrive and stay through an irregular migration process [102]

Model or arrangement of care organization or array of health services provided to individuals or communities by health service providers for the purpose of promoting, maintaining, monitoring or restoring health [103]

Primary medical care (PMC) basic or general health care focused on the point at which a patient ideally initially seeks assistance from the medical care system. It is the basis for referrals to secondary and tertiary level care [103]. It refers to "*the 'family doctor –type' services delivered to individuals*"[20]

Primary health care (PHC) based on WHO definition: "*essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination*"[104]. It is a broader approach "*to health policy and service provision that includes both services to individuals and population level 'public health–type' functions*"[20]. Also equivalent to other terms such as Community-oriented primary care and Comprehensive primary health care [26, 100, 105, 106]

Globally, two broad models have emerged to provide primary care to immigrant populations (and the population in general); primary medical care (PMC) and primary health care (PHC) [20, 21]. Both incorporate health services and the two models commonly coexist in health systems [22, 23]. We used the framework described by Muldoon et al. [20] to distinguish the two models in providing health care to immigrants' populations. Muldoon et al. describes primary care (consider as PMC in this study), "a narrower concept of 'family doctor –type' services delivered to individuals"; and PHC "describes a model of health policy and service provision that includes both services to individuals and population level public health –type functions" [20] Hence, we defined PMC as the medically-oriented model and PHC as a community-oriented model. (see "Box 2").

Box 2: Models of primary care: primary medical care (PMC) and primary health care (PHC): differences and similarities

Characteristic	Primary medical care	Primary health care
Key concept	'Family doctor –type' services delivered to individuals	Include both services to individuals and population level 'public health–type' functions
Differences	1. Person-focused (not disease-oriented) care 2. Care over time 3. Sustained partnership with patients	1. Essential services/universal accessibility 2. Nucleus of country's health care system 3. Integral part of overall social and economic development of the country 4. Provided at a cost the community and country can afford/better use of resources 5. Brings health care as close as possible to where people live and work 6. Services provided to community as a whole 7. Services organized and adapted to needs of population served 8. High-quality services 9. Teamwork and interdisciplinary collaboration 10. Services decentralized to community-based organizations 11. Provided by health care professionals who have the right skills to meet the needs of individuals and the communities being served
Similarities	1. First contact of care 2. Accessibility 3. Comprehensiveness 4. Coordination of care	

Source Adapted from Muldoon et al. 2006 [20]

PHC models are more common in developing countries, while developed nations are more focused on the PMC model [24, 25], but these models frequently coexist in both development contexts. In Canada, for example, two models of primary care are recognized: a community-oriented approach, and a professional approach [26], and a set of attributes have been defined to characterize these models [27]. Expanding healthcare models may be helpful in responding to existing access and healthcare inequities among immigrant populations. The goal of this review

was to examine how these two primary care models, PMC and PHC, deliver healthcare to address immigrants' health needs and how it may affect health inequities.

Methods

We used a systematic scoping review [28]. We followed the Arksey and O'Malley's scoping review framework [29] which includes: (a) identifying the research question; (b) identifying relevant studies (including a quality assessment in this step); (c) selecting studies; (d) charting data; (e) collating, summarizing, and reporting results.

Identifying Relevant Literature

The research question that guided this review was: what are the strengths and limitations of the two primary care models, in delivering healthcare to immigrants to address their health needs? The review focused on the health problems addressed by these models, the types of prevention strategies used, the types of barriers that the models targeted and the interventions used to target them.

To identify relevant publications, the search strategy included terms in three domains: primary care or primary health care, immigrants, and model of care; following the selection criteria defined in "Box 3". The search terms were: 'primary care' OR 'primary health care' AND 'immigrant' OR 'migrant' and 'model of care'. Medical subject heading (MeSH) terms and key words derived from those domains were used, (see Online Appendix 1).

Box 3: Inclusion and exclusion criteria

Inclusion criteria papers were included if:

- Study focused on a health care strategy for immigrant populations
- A primary care delivery model or strategy to provide health services for a specific disease or health problem is presented and discussed
- Type of study: review, research paper or a policy document
- Published from January 1st, 1990 to November 30th, 2013

Exclusion criteria papers were excluded if:

- Published in other language than English or French; or no abstract available in those languages
- Deemed "poor" in quality appraisal (score less than seven when applying a validated tool)

With the assistance of a librarian, an electronic search was conducted in the following eight databases: CINAHL, Cochrane Library, EBM Reviews, Embase, MEDLINE, PsychINFO, Web of Science and Global Health. The electronic searches included English language articles, published from January 1st, 1990 to November 30th, 2013. In addition, several journals and international resources or organizations relevant to migrants' health and health care were purposefully hand searched for same time period, using the keywords: 'primary care' or 'primary health care' and 'immigrant' or 'migrant' and 'model of care'. (Online Appendix 1) We screened, assessed full texts, and imported articles into Endnote X7.

Quality Appraisal

We critically appraised the selected documents using validated tools to ensure a minimum quality of the evidence [30, 31]. To that end, the studies were classified in three categories: quantitative, qualitative and systematic review. A fourth category that included other types of publications (conceptual papers, technical or policy reports, and non-peer reviewed) was included and a special quality assessment tool was developed for this, based on other appraisal guidelines [32–34]. We adapted a ten items checklist for each type of study based on key attributes (see Online Appendix 2). If seven or more items met the criteria, then we deemed the study of good quality and considered for further analysis, otherwise, they were excluded.

Data Extraction and Charting

The studies reviewed were classified as either of two models—PMC or PHC—guided by the principle framework outlined by Muldoon et al., based on the differences described in "Box 2". Briefly, when the study described family doctor—type measures delivered to individuals inside health services, it was classified as PMC; and when the study included interventions beyond the health services to reach out to the community and/or involved other social services (e.g. legal, food or school programs, transportation, etc.), then it was considered as PHC.

Data Analysis

We used a framework synthesis approach [35] to organize and synthesize the data and to discuss the results. For the purpose of describing and discussing the results, we focused on three dimensions of the health services described as follows: (a) type of health service provided, (b) type of barriers addressed; and (c) type of preventive measures applied (see details in Online Appendix 3). For the type of barrier or facilitator to access nine categories

were identified [11, 36, 37]: (1) insurance coverage or eligibility to receive service, (2) cultural issues, (3) language or communication issues, (4) organization of services and quality of care, (5) geographic access, (6) economic burden or costs of services, (7) education and health literacy, (8) social networks and support, and (9) patient-provider relationship [38–40]. Finally, we classified each study according to the type of strategies included to provide those services as: (a) health promotion strategy (HP); or (b) primary (PP), (c) secondary (SP) or (d) tertiary (TP) prevention strategy; following the model of stages of prevention [41]. (see "Box 4"). We also used the WHO-CSDH framework of actions on social determinants of health [42], to assess the potential of each model in tackling health inequities.

Box 4: Preventive strategies

1. Health Promotion (HP): strategies that enable people to increase control over, and to improve their health. Entails strategies on individuals, and their social and physical environment
2. Primary prevention (PP): measures seeking to prevent the onset of specific diseases
3. Secondary prevention (SP): procedures that detect and treat pre-clinical pathological changes and thereby control disease progression
4. Tertiary prevention (TP): measures seeking to soften the impact caused by the disease, once it has developed; helping with patient's function, longevity, and quality of life

Source AFMC primer on population health [41]

Results

We identified 1008 citations from the databases and 377 from the manual searches. (see Fig. 1) Out of the 39 studies selected in the review, 17 were categorized as PMC and 22 as PHC. A summary of selected studies is presented in Table 1, and Online Appendix 4.

A total of 22 studies (56%) were theoretical or discussion papers and policy or program reports, 15 were empirical studies (7 quantitative, 8 qualitative) and 2 were reviews. 14 studies targeted immigrant populations in general, including refugees; 24 studies focused on specific immigrant groups (Hispanic, Chinese, etc.) and one focused only on refugees. The immigrants groups more represented were Hispanic/Latinos (8) and Asians (Chinese and Koreans) (6). Three studies were dedicated to immigrant women and three to children. The majority of the studies (62%) were conducted in North-America with 24 studies (21 in the US and 3 in Canada); followed by Europe (6), Australia (2) and other countries (2). Only one study from a former low-middle income country was identified (Chile). Five studies involved several countries.

Both health care models have similar distribution on the type of health care problems or service provided. More than 60% of the type of services for both PMC and PHC were classified as primary care measures, including general medical care for acute or chronic conditions, prenatal care, immunization, disease screening, emergency care and other services (Table 2). Provision of preventive services, were reported in about 40% of the studies in both models, using preventive strategies for specific health problems, such as oral health [43], CVD [44], cancer screening [45, 46]; or preventive care for specific subgroups like children [47], or perinatal care [48, 49]. Mental health services (general mental care, or care for specific mental disorders such as depression) were provided in less than 20% of studies (three studies in each model) [50–55].

Targeting Barriers to Primary Health Care for Immigrant Populations

For PHC models, the main barriers addressed were those related to socio-cultural issues, as nearly all of those studies (20 out of 22) included strategies to tackle social barriers, such as attention to cultural norms and to religious background, [52, 56–59] the utilization of safety net models [60] and the use of interpreters and cultural brokers [61] (Table 3). Seventeen studies described strategies promoting social networks and support (78%), such as the involvement of ethno-cultural community leaders and organizations, [52, 57, 62] as well as implementing other social programs and services that helped immigrants with their integration [54, 59, 63, 64]. Strategies to address barriers concerning language and communication problems were reported by 14 studies, including the use of language services [52, 57], and a similar number described strategies for organizing services and quality of care issues (e.g. laboratory services, emergency care), as well as those that promote education and improvement of health literacy [65–67].

Among the PMC models, the top strategy was the organization of services and quality of care (71%), such as multidisciplinary and coordination of care [44, 60], integration of services [68], collaborative model of care [55], medical home model [69]. This was followed by strategies to address cultural barriers (53%) (language, health beliefs) patient-provider relationship (41%) [46, 50, 70], plans to improve access to insurance and entitlement to care (six studies) [44, 71, 72]; as well as tactics to tackle economic costs associated with care (five studies) [43, 73]. (Table 3).

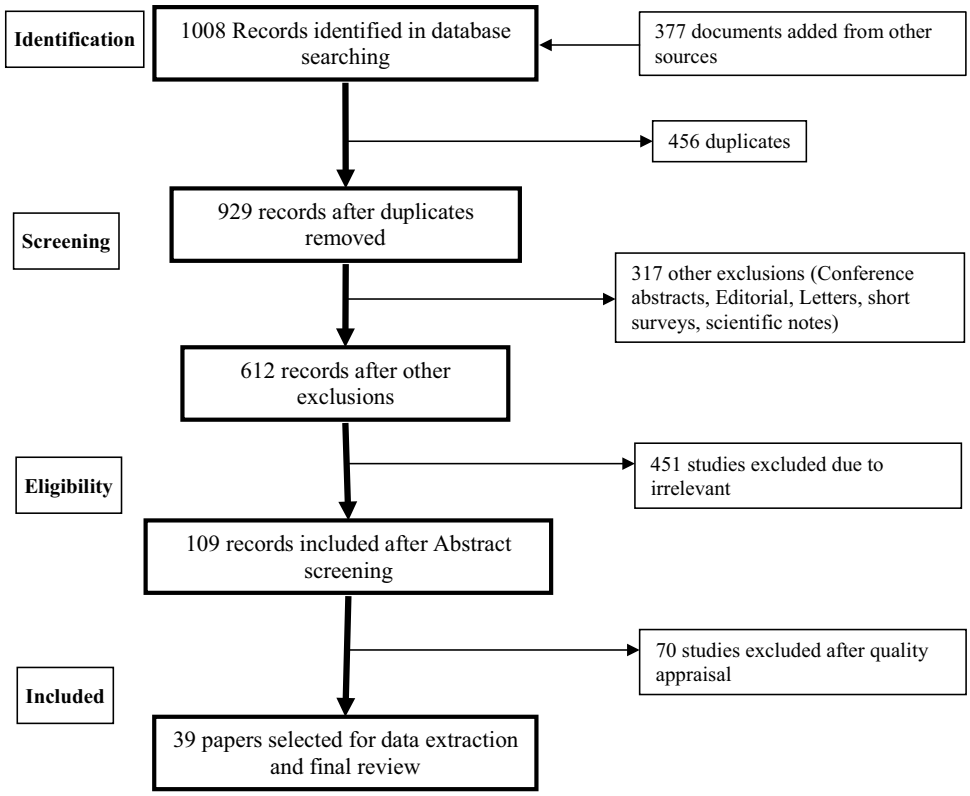

Fig. 1 Flowchart of the selection process

Implementing Health Promotion and Disease Prevention Strategies

All of the PHC studies included strategies of health promotion and social determinants, compared to only 71% of the PMC studies. Examples of those strategies were interventions to improve general education levels of the targeted population [52, 63, 74, 75], or their health literacy [65, 66, 76, 77]; as well as wide health promotion programs using community health workers [44, 57–59, 67]. With regard to primary prevention, all the PHC models encompassed typical primary prevention strategies, such as immunization, disease screening, perinatal care, [74] among others (Table 3). In contrast, only 88% of the PMC models employed primary prevention strategies as part of their bundle package of services; and were more consistent providing tertiary prevention strategies.

Discussion

Overall, the organization of primary healthcare in most countries consists of the provision of health and medical services to the general population, usually in health care facilities (public or private), mainly delivered by health care professionals (doctors, nurses, physiotherapists, dieticians, etc.). According to the emphasis of those services, the system can be mainly medical or curative-based, which corresponds to the PMC model; or can be more community-oriented, focusing on strategies outside the health care services, supported by or engaging other social services, which corresponds to a PHC model. In the actual healthcare practice of many countries, both approaches can coexist and an overlapping of strategies can be seen, but in many cases, specific projects or programs can be identified with a PMC or a PHC model.

Our findings reveal that the organization of services or strategies to deliver health care to immigrant populations at the entrance of the health system can be either through a PMC or a PHC model. Both models can address immigrant population health needs, but they differ in the scope of their strategies and the potential impact on immigrants' health transitions.

Addressing Barriers to Care

Regarding strategies to address barriers to care, PHC models were more consistent than those of PMC in developing strategies to challenge cultural barriers, such as language and communication difficulties, and in providing social support, and educational programs, [52, 56–59] while only half of the PMC models addressed those common newly arriving immigrant barriers [40, 78, 79].

Table 1 Summary of studies included in the review

Authors, date (country)	Type of study	Target group	Study goal	Type of care or service[a]	Type of prevention strategy[b]	Target barriers[c]
Primary health care (PHC) models						
Abreu et al. (2009) [63] (USA)	Theory discussion paper/other	Latino immig	Report results of a health insurance program that employs local community leaders as case managers, using culturally specific methods of outreach and education	Primary medical/clinical care	HP, PP, SP	1, 2, 3, 7, 8
Ahmed et al. (2000) [56] (USA)	Theory discussion paper/other	South Asian immig	Describe cultural aspects and the acculturation process relevant to establishing rapport and providing competent bio-psychosocial care to individuals and families	Primary medical/clinical care	HP, PP	2, 3, 7
Blewett et al. (2004) [60] (USA)	Qualitative study	Latino immig	Report an on-site visits program in three communities and document successful strategies to meet immigrants' health needs	Primary medical/clinical care	HP, PP, SP	2, 3, 4, 7, 8
Carrillo et al. (2011) [69] (USA)	Theory discussion paper/other	Latino immig	Report on a health collaborative program with a population-based health care model aimed to improve the health of residents in a large immigrant community	Primary medical/clinical care	HP, PP, SP, TP	2, 3, 4, 7, 8
Chin et al. (2006) [62] (USA)	Theory discussion paper/other	Asian-Pacific Islanders immig	Report findings of an evaluation of a community-based intervention to reduce disparities in care for immigrants with HIV/AIDS	Specific health care: HIV/AIDS	HP, PP, SP	1, 2, 3, 4, 7
De Jesus Diaz-Perez et al. (2004) [65] (USA)	Theory discussion paper/other	Mexican immig	Describe a program developed to improve access to health care among immigrants	Primary medical/clinical care	HP, PP, SP	2, 4, 5, 7
Fowler (1998) [57] (Canada)	Theory discussion paper/other	Immig. in general	Report a local experience of a primary health care program in an urban area	Primary medical/clinical care; Preventive care: health promotion and education	HP, PP, SP, TP	2, 3, 4, 8

Table 1 (continued)

Authors, date (country)	Type of study	Target group	Study goal	Type of care or service[a]	Type of prevention strategy[b]	Target barriers[c]
Frank et al. (2013) [58] (USA)	Theory discussion paper/other	Immig. workers	Report experiences to addresses health care access for immigrant workers in the agro-forestry-fishery sector, and the workforce providing care to these workers	Primary medical/clinical care; Preventive care: health promotion and education	HP, PP, SP	1, 2, 3, 4, 8
Isaacs et al. (2013) [61] (Canada)	Theory discussion paper/other	Immig. in general	Describe how broker organizations support a community-based network of services to address primary care needs of recent families of immigrants with children	Primary medical/clinical care	HP, SP	2, 8
Isralowitz (2000) [64] (Israel)	Theory discussion paper/other	Elder Ethiopian immig	Describe a model community-based eye care including the impact of eye glasses on the quality of life in a cohort of elderly immigrants	Specific health care: vision care	HP, PP, SP	4, 7, 8
Kaltman et al. (2011) [54] (USA)	Theory discussion paper/other	Immig. in general	Assess the effect of a behavioral health program and its implications for adaptation and implementation of evidence based mental health programs for vulnerable immigrant populations	Primary medical care/clinical care; mental health care	HP, SP	1, 4, 6, 8
Kim et al. (2002) [52] (USA)	Theory discussion paper/other	Korean immig	Describe an interdisciplinary primary health care project designed to make culturally sensitive primary care and mental health services, available to underserved immigrants	Primary medical/clinical care; Mental health care	HP, PP, SP	2, 3, 4, 7, 8
Kirmayer et al. (2011) [53] (Various)	Review	Immig. in general	Identify risk factors and strategies in the approach to mental health assessment and to prevention and treatment of common mental health problems for immigrants in primary care	Mental health care	HP, PP, SP	2, 3, 4, 8

Table 1 (continued)

Authors, date (country)	Type of study	Target group	Study goal	Type of care or service[a]	Type of prevention strategy[b]	Target barriers[c]
Levin-Zamir et al. (2011) [66] (Israel)	Theory discussion paper/other	Ethiopian immig	Describe the impact of a cross-cultural program for promoting health among immigrants in a developed country	Primary medical/clinical care	HP, PP, SP, TP	2, 7, 8, 9
Lyberg et al. (2012) [74] (Norway)	Qualitative study	Immig. women	Examine midwives' and public health nurses perceptions of managing and supporting prenatal and postnatal migrant women in a developed country	Preventive care: maternal or child care	HP, PP, SP, TP	2, 3, 7
McElmurry et al. (2003) [75] (USA)	Theory discussion paper/other	Latino immig	Describe the development and implementation of an urban outreach health program for immigrants; and the advocate partnership roles of -community-health nurses in primary health care delivery	Primary medical/clinical care; Preventive care: health promotion and education	HP, PP, SP	2, 4, 8
Morrison et al. (2007) [59] (USA)	Theory discussion paper/other	Immig. and refugees	Describe the scope of available human services resources relating to nutrition, physical health, and behavioral health for new and recent immigrants	Primary medical/clinical care; Preventive care: health promotion and education	HP, PP, SP, TP	2, 3, 6, 8
Priebe et al. (2011) [76] (Europe)	Qualitative study	Immig. in general	Assess the difficulties of professionals experience in providing health care to immigrants and their perceptions of good practice to overcome problems or limit their negative impact on the quality of care	Primary medical/clinical care	HP, PP, SP, TP	2, 3, 4, 7, 8
Ramos et al. (2006) [67] (USA)	Theory discussion paper/other	Latino immig	Describe the development of a program based on the utilization of promotores in community-based organizations to improve the provision of HIV prevention services to recent immigrants and the less acculturated	Preventive care: health promotion and education on HIV/AIDS	HP, PP, SP, TP	2, 3, 7, 8

Table 1 (continued)

Authors, date (country)	Type of study	Target group	Study goal	Type of care or service[a]	Type of prevention strategy[b]	Target barriers[c]
IOM (2013) [83] (International)	Theory discussion paper/other	Immig. in general	Describe the main global strategies and initiative for health care in each world region	Primary medical/clinical care; Preventive care: health promotion and education	HP, PP, SP, TP	1, 4, 7, 8, 9
WHO (2010) [84] (International)	Theory discussion paper/other	Immig. in general	Report the results of the 2010 Global Consultation on Migrant Health that were convened in the 2008 World Health Assembly Resolution on the Health of Migrants	Primary medical /clinical care; Preventive care: health promotion and education	HP, PP	2, 3, 4, 8
Sim et al. (2004) [77] (USA)	Theory discussion paper/other	Chinese immig	Assess the health needs of an immigrant working population in a large metropolitan city and its utilization of health care services	Primary medical/clinical care	HP, PP	1, 2, 6
Primary medical care (PMC) models						
Aragones et al. (2010) [45] (USA)	Quantitative study	Latino immig	Assess the effectiveness of a multilevel intervention in increasing the rate of colorectal cancer screening among immigrants	Preventive care: cancer screening	HP, PP	2, 3, 7, 9
Baarnhielm et al. (2000) [50] (Sweeden)	Qualitative study	Turkish immig	Explore structures of illness meaning and understanding among somatising immigrant women from a poor and low status in contact with local health care services	Primary medical/clinical care; mental health care	HP, PP	2, 3, 9
Belue et al. (2012) [47] (USA)	Quantitative study	Immig. children	Examine the relationship between medical home participation and receipt of preventive care among immigrant children	Preventive care: child care	HP, PP, SP	1, 4
Cabieses et al. (2012) [85] (Chile)	Quantitative study	Immig. in general	Explore healthcare provision entitlement and use of healthcare services by immigrants in a developing country and compare them to the native-born	Primary medical/clinical care	PP, SP	1, 6

Table 1 (continued)

Authors, date (country)	Type of study	Target group	Study goal	Type of care or service[a]	Type of prevention strategy[b]	Target barriers[c]
De Jonge et al. (2011) [48] (Netherlands)	Quantitative study	Immig. women	Assess whether midwives adjust their care if women are undocumented and have no health insurance	Preventive care: maternal care	HP, PP, SP	1, 4
Gould et al. (2010) [49] (Australia)	Theory discussion paper/other	Immig. in general	Describe a multidisciplinary primary healthcare clinic for newly arrived humanitarian entrants in regional and report health problems and issues during the initial period of operation	Primary medical/clinical care, reproductive care	HP, PP, SP, TP	2, 4, 6, 8
Guruge et al. (2010) [49] (Canada)	Qualitative study	Portuguese immig	Report the experiences of immigrant women who used a mobile health clinic for their reproductive health care	Preventive care: reproductive care	HP, PP, SP, TP	2, 4, 9
Jensen et al. (2013) [51] (Europe)	Qualitative study	Refugees	Investigate how general practitioners experience providing care to refugees with mental health problems	Mental health care	SP, TP	3, 4, 9
Ku (2007) [71] (USA)	Theory discussion paper/other	Immig. children	Examine common misconceptions regarding immigrants and the nation's health care problems, and describes potential policies to improve or weaken children's access to insurance and health care	Primary medical/clinical care for children	PP, SP,TP	1, 3, 6
Kwong et al. (2013) [55] (USA)	Quantitative study	Chinese immig	Describe a culturally relevant intervention of a collaborative depression care model to integrate mental health and primary care services for depressed low income immigrants in a community health center	Mental health care: depression	SP, TP	4
Lofvander et al. (2002) [70] (Scandinavian)	Review	Immig. in general	Examine regional studies concerning transcultural issues in primary care by reviewing the literature	Primary medical/clinical care	HP, PP, SP, TP	2, 4

Table 1 (continued)

Authors, date (country)	Type of study	Target group	Study goal	Type of care or service[a]	Type of prevention strategy[b]	Target barriers[c]
Singh-Franco et al. (2013) [44] (USA)	Quantitative study	Immig. in general	Determine the effect on surrogate endpoints for cardiovascular disease, through a retrospective chart review of patients seen by a multidisciplinary team that provided primary care services in a mobile clinic	Primary medical care/clinical care; specific health care: CVD; preventive care: health promotion and education	HP, PP, SP	4, 5, 6
Tapp et al. (2013) [73] (USA)	Theory discussion paper/other	Latino immig	Describe a collaborative research project that identified and addressed challenges faced by both immigrant patients and their primary health care providers, to establish best practices in a network of health service to the community	Primary medical/clinical care	HP, PP, SP	1, 2, 3, 4, 5
Taylor et al. (2009) [46] (USA)	Quantitative study	Vietnamese women	Provide information about Pap testing barriers and facilitators to be used developing cervical cancer control intervention programs for immigrant women	Preventive care: cancer screening, health promotion and education	HP, PP, SP	2, 7, 9
Telleen et al. (2012) [43] (USA)	Qualitative study	Latino immig. children	Examine the social context, structural, and behavioral factors within an immigrant community that contribute to increased access and use of oral health services by children of immigrant families	Primary medical/clinical care; specific health care: oral health; preventive care: health promotion and education	HP, PP, SP, TP	2, 4, 9
Han et al. (2006) [86] (Australia)	Qualitative study	Korean immig	Analyze GPs' views on the health of immigrants and the complex process of providing and seeking effective and satisfactory medical care, in an immigrant community	Primary medical/clinical care	HP, PP, SP, TP	2, 3, 9

Table 1 (continued)

Authors, date (country)	Type of study	Target group	Study goal	Type of care or service[a]	Type of prevention strategy[b]	Target barriers[c]
WHO (2003) [72] (International)	Theory discussion paper/other	Immig. in general	Provide an overview of some of the key challenges for policy-makers in addressing the linkages between migration, health and human rights	Primary medical/clinical care	HP, PP	1, 4, 6

[a]Type of health care/services provided

Primary medical/clinical care basic primary care services, including acute or chronic care, immunization, screening, perinatal and child care, emergency, etc.

Specific health care health care for specific health problem or medical condition, such as CVD, HIV/AIDS, oral health, vision care, etc.

Mental health care health care for mental disorders such as depression, stress or other condition

Preventive care specific preventive strategies, such as maternal or child care, reproductive care, cancer screening, health promotion and education interventions

[b]Type of Interventions/Actions (Adapted from AFMC primer on population health 2010 [41])

HP health promotion, actions on SDH, *PP* primary prevention, *SP* secondary prevention, *TP* tertiary prevention

[c]Target barriers/facilitators (Adapted from Derose 2007 [12]; Access Alliance 2005 [39], McKeary 2010 [40])

Insurance/eligibility insurance status and eligibility to receive health care services, legal status, and right to health

Cultural barriers refers to relevant aspects affecting access and use of services such as perceptions about health and health care, preference for specific health care option, distrust, stigmatization and discrimination, isolation

Language/communication barriers low ability to speak the official language and communication difficulties

Organization of services/quality of care lack of knowledge of the health system, no regular source of care, long waiting lists, shortage of services, low quality of care

Geographic access unavailability of services in the area, long distances from health services, lack or difficulties with transportation

Economic issues/costs of services economic issues such a low income and costs of some health services

Education/health literacy low health education, lack of information on health risks

Social networks/support social networks and support, community participation

Patient-provider relationship patient-provider relationships, provider's cultural sensitivity, trust between patient and provider

Table 2 Type of care or services provided, by type of health care approach

Description	PMC (n = 17)		PHC (n = 22)	
	No.	%	No.	%
Type of care or services				
Primary medical/clinical care	11	64.7	17	77.3
Preventive care	7	41.2	8	36.4
Mental health	3	17.6	3	13.6
Specific illness or medical conditions	2	11.8	2	9.1

Table 3 Type of barriers/facilitators addressed and type of preventive actions offered, by type of health care approach

Description	PMC (n = 17)		PHC (n = 22)	
	No.	%	No.	%
Type of barriers/facilitators[a]				
1. Insurance/eligibility	6	35.3	6	27.3
2. Cultural barriers	9	52.9	20	90.9
3. Language/communication barriers	6	35.3	14	63.6
4. Organization of services/quality of care	12	70.6	14	63.6
5. Geographic access	2	11.8	1	4.5
6. Economic/costs of services	5	29.4	4	18.2
7. Education/health literacy	3	17.6	12	54.5
8. Social networks/support	2	11.8	17	77.3
9. Patient-provider relationship	7	41.2	2	9.1
Type of preventive strategies[b]				
Health promotion (HP)	12	70.6	22	100
Primary prevention (PP)	15	88.2	22	100
Secondary prevention (SP)	14	82.4	19	86.4
Tertiary prevention (TP)	9	52.9	8	36.4

[a]Adapted from Derose 2007[1] [12]; Access Alliance 2005[2] [39], McKeary 2010[3] [40]

[b]Adapted from AFMC Primer on Population Health 2010[4] [41]

The studies using the PMC model, however, were more consistent than PHC in implementing strategies to improve the organization and quality of clinical medical care and patient-provider relationships. This has been the focus of many primary care reforms [80, 81]. Some PMC models also integrated strategies to address cultural barriers, including measures to improve language and communication, which can make these services more migrant-friendly and culturally appropriate [19, 82].

Focusing on Health Promotion

Regarding the application of preventive interventions, all studies using the PHC model included health promotion and primary prevention strategies as part of their organization and delivery of services, while among the PMC models around 80% included those types of interventions. Consistent with the barriers addressed, the PHC models were also more consistent in implementing health promotion strategies through culturally-oriented health care interventions and educational programs, promoting and fostering social support, as well as developing community networks in organizing primary care to immigrant populations.

Potential to Impact on Health Care Inequities

Using the WHO-CSDH framework of actions on social determinants of health [42], we identified that PHC models were better able to implement strategies to address *contextual factors* (i.e. socioeconomic and political context) and *structural mechanisms* (e.g. social position, education, income, occupation, ethno-cultural factors); that may contribute in reducing immigrants health inequities. For example, the PHC models more frequently implemented strategies to address and accommodate cultural and social values through comprehensive experiences of social and community health services for immigrants,[52, 54, 57–59, 66, 69] as well as education and health literacy programs, than the PMC models [65, 67, 74]. Those structural factors have also been reinforced by international organizations and global consultations on migrants' health and health care as part of migrant-sensitive health care systems [83, 84].

The PHC models were also better able to roll out strategies to alter key *intermediary factors* such as material circumstances (housing, financial capacity for consumption) that can have a meaningful influence on how immigrants deal with the new environment as well as psychosocial circumstances that can act as significant stressors during their settlement process. Also, some health programs based on PHC models have developed strategies of social participation and established partnerships with organizations outside the health sector, such as legal services, food distribution and transportation [63, 69]. Experiences of community health centers (CHC) have also provided evidence on the value of intersectoral collaboration to improve health outcomes [57, 58]. Research in Canada and United States has acknowledged that CHCs are serving disadvantaged populations, including a great number of immigrants [87, 88]. For example, a large proportion of immigrants and refugees in urban areas of Ontario are receiving healthcare from CHCs [89, 90]. A recent study in China evaluating CHC models in China, revealed the value of community-based primary care models to improve access, comprehensiveness, and quality of care [91].

Another intermediary factor shaping the health of the population and a potential contributor in reducing health inequities is social capital [92, 93]. Research in the last

three decades has explored the influence of social factors and social networks on the health status of individuals and populations [94, 95]. Furthermore some studies also support the importance of social capital in the integration of immigrants into the new society [96]. In line with that, key strategies offered by the PHC models to strengthen social networks and social cohesion to help immigrant families in dealing with integration challenges included access to health services [67, 69, 75, 76, 97]. Finally, another key feature of PHC models is the involvement of community health workers (CHW) or health promoters, [58, 60, 67, 75] who have an essential role as an educator, a health broker, and also as a connector between the community and the health services.

Inequities in health can only be partially tackled by addressing and improving health care, but appropriate health services can have an impact on people's health status, not only for migrants but also for the population in general [97, 98]. This review reveals that both models have strengths and limitations in providing health care to immigrant populations. Although a mix of strategies from both types of models can be seen in some contexts, the PMC models applied more strategies to enhance the quality of medical services, where the PHC models were more persistent in including strategies to address social and cultural needs of immigrant populations. These results seem to be consistent with growing evidence indicating that health systems grounded on the PHC principles can be effective in tackling health inequities by acting upon the social determinants of health [99–101].

Strengths and Limitations

To the best of our knowledge, no previous research has compared these two models on their capacities to respond to immigrants' health care needs, neither examined their strategies to address the barriers of access to primary care services nor assessed their potential to tackle health inequities.

However, the analysis has some limitations. None of the studies reported the effectiveness of their interventions or measured the impact on inequities in health care to immigrant populations. Also, these results were limited to the search terms "model of care", "primary care", and "primary health care", which may not have identified all models or bundles of primary care services to. In addition, as these two models can coexist, an overlapping in the use of these services by immigrants can also occur, since health care systems are more and more applying a blend of strategies and interventions to enhance the quality of health care. Finally, we restricted the review to literature published in English.

Conclusions

This systematic scoping review shows that immigrant populations receive a variety of primary health care services in the host country. These services come from a mix of PMC or a PHC approaches. Both models can be helpful in responding to immigrants' health needs. However, the PHC model was more consistent in applying strategies to address critical factors that affect immigrants in their settlement process. Hence PHC models may be better suited to address social determinants of health and might have more potential capacities to reduce health inequities among immigrants. Despite the differences identified in this study, the two models could act synergistically in responding to immigrants' healthcare needs. Further research is needed to assess the actual impact and interaction of these models on immigrant health inequities.

Compliance with Ethical Standards

Conflict of interest The authors declared no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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