



Access to Healthcare Among US Adult Refugees: A Systematic Qualitative Review

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Abstract

Refugees encounter numerous healthcare access barriers in host countries, leading to lower utilization rates and poorer health outcomes. In the US, social inequities and fragmented health systems may exacerbate these disparities. Understanding these factors is necessary to ensure equitable care of refugee populations. A systematic literature review of qualitative studies on US adult refugee healthcare access from January 2000 to June 2021 was performed in accordance with PRISMA. Studies were analyzed deductively and then inductively to incorporate previous findings in other resettlement countries and emergence of US-specific themes. 64 articles representing 16+ countries of origin emerged from the final analysis, yielding nine interrelated themes related to health literacy, cost of services, cultural beliefs, and social supports, among others. The main challenges to refugees' healthcare access emerge from the interactions of care fragmentation with adverse social determinants. Given diverse barriers, integrated care models are recommended in treating refugee populations.

Keywords Systematic review · Refugee · Asylees · Healthcare access · Barriers · Facilitators · Integrated care models

Introduction

In 2021, a combination of persecution, conflict, violence, and human rights violations displaced over 84 million individuals worldwide. This number represents a new all-time high, having increased by 2 million from the year prior and by 18.4 million since 2016 [1, 2]. These displacements have led to an increased number of refugees and asylees worldwide. The US in particular has admitted over 3 million refugees and asylees since 1975, and is anticipated to receive at least an additional 170,000 by the end of 2022 [3]. As defined under US law, a refugee is a person “outside any country in which such person last habitually resided, and who is unable or unwilling to return to, and is unable or unwilling to avail himself or herself of the protection of, that country because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion”, [4]. Asylees are defined as those who meet the definition of a refugee but are already present in the US or seeking admission at a point of entry. Given both the increasing number of refugees and asylees (hereafter, “refugees”) who are resettling or have already resettled in the US, it is imperative to

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understand their healthcare needs and experiences both upon arrival and over time.

Many refugees arriving to the US experience a higher disease burden than the general population due to the cumulative physical and psychological trauma of their migration journeys [5–7]. Refugees have been documented to arrive in host countries such as the US with high incidence of tuberculosis, gastrointestinal parasites, and chronic hepatitis B infection [8–14]. In addition to these common communicable diseases associated with the displacement process and under-resourced conditions of refugee camps, studies have shown that refugees additionally have high rates of mental health conditions and other chronic non-communicable diseases (NCD) upon arrival [15–18]. One particular study assessing recent arrivals in the Northeast US found that half of adult refugees had at least one NCD and one in five adult refugees had more than one NCD [15]. Further, refugee populations have been found to experience adverse health outcomes with a longer duration of stay in host countries. In the US, one study found that for each additional year post-resettlement, refugees had an estimated 12% increased odds of diabetes mellitus and 7% increased odds of hypertension [19]. The progression of NCDs in refugees is influenced by reduced healthy food intake, a more sedentary lifestyle, limited English proficiency, and reduced access to healthcare [19]. Refugees in the US thus experience greater disease burden not only upon arrival but over time as a result of an interplay among multiple factors.

Social determinants of health are defined by the World Health Organization and the US Department of Health and Human Services as non-medical factors, including conditions in the environments where people are born, live, learn, work, play, worship, and age, that influence health, functioning, and quality-of-life outcomes and risks [20, 21]. A lack of access to healthcare interacting with broader poor social determinants of health are the main drivers of both initial health disparities as well as the emergence of new health disparities for US refugee populations. Healthcare access and other social determinants of health, however, are both shaped by a multiplicity of factors. As we begin to better understand the challenges around these factors for refugees in the US, there is a need to synthesize this knowledge to create a strong foundation for intervention. We thus conducted a systematic review of the literature to assess factors affecting US adult refugee healthcare access and utilization across various countries of origin, resettlement areas, and other identities which intersect with the refugee identity. To our knowledge, this is the first review addressing this specific topic. Healthcare professionals, resettlement agencies, policymakers, and other relevant stakeholders should better

understand these factors and their interactions not only to better prepare for the large number of new refugees who will need to access healthcare within US health systems, but to also ensure equitable care of this growing population over time.

Methods

Search terms and strategies were devised for five topical areas: refugees/asylees, adults, health/disease, access/barriers/social determinants, and United States. The resulting systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [22].

Literature Databases and Search Strategies

A medical librarian (A.D.) conducted systematic searches using both text words and controlled vocabularies (e.g., Medical Subject Headings) in relevant bibliographic databases on March 11, 2021, with an update on June 25, 2021. A core search strategy was adapted for each database: Medline/PubMed, Wiley Cochrane Library, CINAHL with Full Text, PsycINFO, Web of Science Core Collection, and Academic Search Complete. The librarian also conducted a manual search of Google Scholar and hand searched the references of selected papers. Complete search strategies for each database can be found in Table 2 in “Appendix”.

Inclusion and Exclusion Criteria

All searches were limited to articles written since 2000, and in English. To be included in the review, articles had to describe studies of adult refugee participants in the United States, and address research questions related to barriers and facilitators to health services. Studies were excluded if: participants were under age 18; were focused on students or healthcare professionals' knowledge of refugee healthcare/curricula/educational outcomes; were interventions; or with an objective not related to facilitators and barriers to health or health services. We also excluded studies addressing mental health, as there are several recent systematic reviews that have explored refugees' barriers and facilitators to accessing and utilizing mental health services [17, 23–27]. Due to the volume of studies conducted on barriers and facilitators to refugee health services, we restricted this review to qualitative studies, which offer rich sources of contextual data and can help illuminate specific examples of barriers and how refugees experience their impact. By foregrounding lived

experiences of refugees in their own words (from a refugee perspective), qualitative studies also allow us to develop initial understandings on factors which can inform future quantitative reviews. In terms of sequential mixed methods understanding, starting with a qualitative review also ensures that a full range of factors are being included.

Data Screening

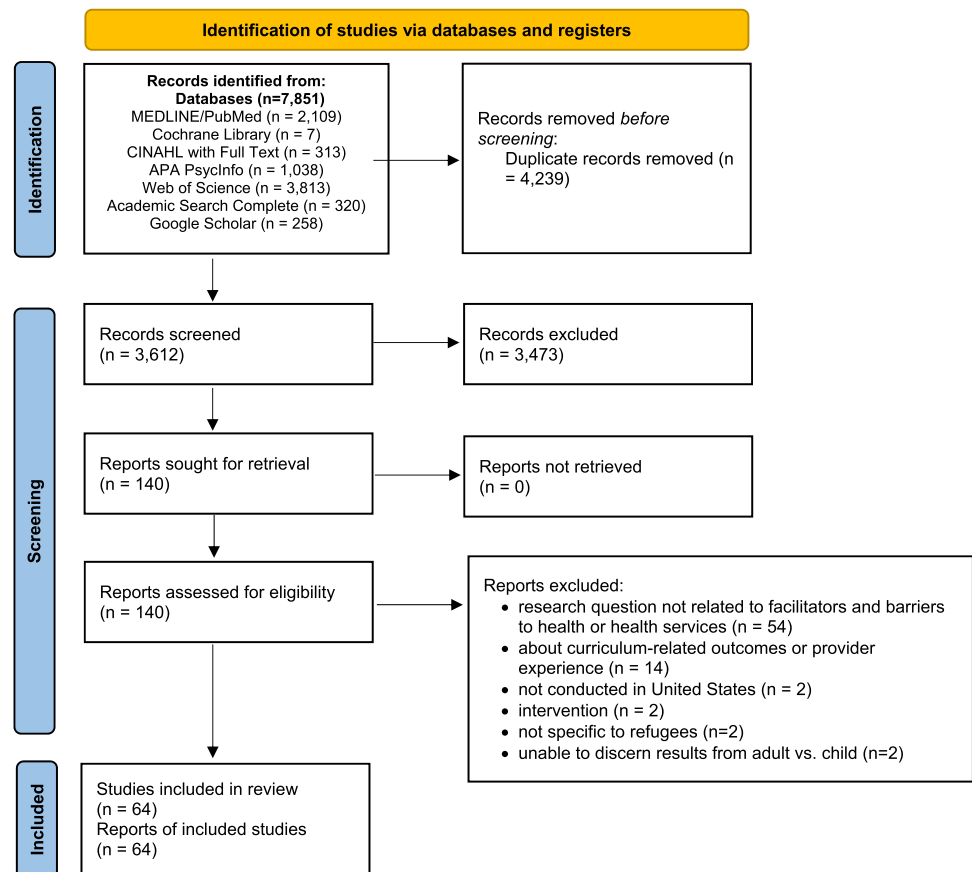
Database search results were imported into reference management software (EndNote X9.2), and de-duplicated [28]. Records were imported into a second reference management software (Zotero) for title and abstract screening. Records were screened in three stages. First, one team member (A.D.) reviewed titles of all imported results and removed any studies meeting exclusion criteria. A second round of screening involved reviewing titles and abstracts of remaining records to remove studies that were not excluded based on title, but met exclusion criteria. Two independent raters (C.H. and N.S.) performed this second round of screening by first confirming inter-rater reliability by independently screening the

same set of ten articles and aligning on results. A final full-text screening was performed by five team members (N.S., C.H., S.B., A.D., K.M.) after the whole team went over five articles together to ensure interrater reliability. During the full-text review, studies were assessed for quality using the Critical Skills Appraisal Programme (CASP) Qualitative Studies Checklist [29]. Only studies meeting criteria for high quality (score of ≥ 8) were included. The most common reasons for excluding articles in the final round of screening were that the objective/research question did not relate directly to health services, which was not clear just from reading the abstract, and the paper not meeting quality assessment standards.

Data Extraction

Using a standardized form, the team extracted the following study information from the final, included articles: country of origin/ethnic group of participants, study design and setting, sample size, gender of participants, age group of

Fig. 1 PRISMA Flow Diagram



participants, and objective/research questions. Types of barriers and facilitators noted in previous reviews [30–33] were used to guide the extraction process through a deductive process. The team also used an inductive approach to identify additional themes or modify themes from the guiding framework. For each article, researchers indicated the types of barriers and/or facilitators that were mentioned and provided a summary of the context and the findings. After the full-text extraction process was complete, one team member (C.H.) reviewed all extraction forms, merged feedback and created the final thematic categories which were reviewed by the team. Initial searches yielded 7,851 records, of which 3,612 were unique. Of these, 140 records were retained after title and abstract screening. After full-text review, 64 articles were included. See Fig. 1 for the PRISMA Flow Diagram.

Results

Demographic Characteristics of Sample

Sixty-four articles were included in the final analysis upon meeting inclusion and quality criteria [34–97]. Details about each can be found in Table 1. 58 unique first authors were identified among the 64 final included articles. The publication dates for the final included studies range from 2003 to 2021, with twice as many publications from 2012 to 2021 ($n = 44$) as there were from 2003 to 2011 ($n = 21$) (Fig. 2). All studies were published across 41 unique peer-reviewed journals. Refer to Table 1 for more publication information.

Publications included either focus on a singular country of origin ($n = 38$) or multiple countries of origin within their analysis ($n = 26$). Over 30 countries of origin were represented in our analysis, including representation from Eastern Europe (e.g., Russia, Bosnia, Turkey), Asia (e.g., Burma, Hmong, Vietnam), Central America (e.g., Mexico, Costa Rica), South America (e.g., Colombia), Africa (e.g., Egypt, Somalia, Ethiopia), and the Middle East (e.g., Iraq, Iran, Syria). Among all countries, the three most common refugee groups mentioned were Somali ($n = 34$), Bhutanese ($n = 9$), and Iraqi ($n = 9$).

The main methodologies commonly used were community-based participatory research ($n = 24$) [34, 38, 41, 42, 47, 48, 50–53, 55, 57, 61, 64, 65, 71, 73, 77, 79, 80, 87, 90, 93, 97] and ethnography ($n = 9$) [40, 45, 62, 67, 72, 73, 84, 88, 92]. One study [82] reported using a hermeneutic approach to qualitative research whereas the remainder did not specify the type of qualitative research approach. The main methods used among the studies included interviews

(e.g., semi-structured, in-depth) ($n = 19$) [38, 43, 44, 47, 49, 51, 53, 58, 60, 62, 64, 73, 74, 76, 82, 85, 86, 88, 96] and focus groups ($n = 16$) [35, 36, 50, 54, 57, 68, 70, 75, 77, 81, 83, 84, 93–95, 97]. It was common for studies to employ a combination of these methods ($n = 10$) [34, 35, 37, 39, 42, 52, 65, 87, 89, 91] in addition to surveys ($n = 4$) [56, 59, 61, 69] and participant observation ($n = 9$) [40, 45, 48, 67, 71, 72, 79, 90, 92]. Two studies also included use of artifacts (cultural or health literacy materials) to supplement participant data collection.

Many studies included key informants aside from refugees themselves ($n = 20$) [37, 40, 45, 46, 55, 56, 67, 72, 73, 76, 78–81, 88, 90–93, 96]. Key informants included family or neighbors ($n = 2$) [45, 88], healthcare professionals or other healthcare-related staff including interpreters ($n = 12$) [37, 40, 55, 56, 67, 72, 76, 80, 81, 90–92] and service providers (a broad category encompassing representatives from resettlement agencies or other organizations serving refugees, $n = 16$) [46, 55, 56, 67, 72, 73, 76, 78–81, 90, 92, 93, 96]. The majority of studies were conducted in the primary care setting ($n = 43$), though some were conducted in areas of practice such as women's health and reproductive medicine ($n = 14$) [34–36, 42, 43, 50, 55, 56, 62, 70, 84, 89, 94, 97] or at refugee or resettlement focused care centers ($n = 7$) [37, 58, 85, 86, 91, 95, 96].

When age was reported in publications, either the range of ages ($n = 41$) or the mean age ($n = 5$) was reported. Seventeen papers, however, did not specify the ages, instead stating that participants were over the age of 18 and categorized as adults [38, 40, 40, 50, 51, 53, 55, 62, 63, 69, 73, 75, 79, 83, 90, 93, 95]. Three of the articles had explicit focus on young adults, defining the range as either 18–25 [65, 66] or 18–30 years old [61]. In comparison, five articles focused explicitly on older adults [48, 49, 75, 88, 92]. Of those articles, three articles referred to elderly refugees as over 50 years old [48, 49, 88], whereas one article referred to elderly refugees as over 65 years old [92]. Another article did not provide age criteria for “elderly” [75].

Twenty-nine studies included both men and women, two studies focused solely on men [62, 64], 29 studies focused solely on women [34–36, 42–44, 47, 50, 52, 54–56, 59, 63, 68, 70, 77, 80, 82–89, 91, 94, 97] and three studies did not provide the gender composition of their participants [46, 92, 93]. One study with only male participants focused on sexual and reproductive health in terms of assessing infertility care [62] whereas the other focused on family planning in terms of the men's views on women's pregnancy-related health [64]. Of the articles focused on only women, five were specific to experiences with sexual and

Table 1 Characteristics of included studies

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/research questions
Agbemenu et al. [34]	Ethnicity & Health	Somalia, Kenya	Franklin County, OH community members	Survey, focus groups	Refugee women	30	F	18–55 +	Explore reproductive health decision-making processes, family planning and care during pregnancy and childbirth of Somali Bantu women living in Buffalo
Agbemenu et al. [35]	Journal of Clinical Nursing	Somali	Buffalo, NY Somali Bantu community organization	Interviews, focus groups	Refugees	40	F	18–42	Sought to identify perceived protective mechanisms used to avoid obstetric interventions as well as the underlying factors that influence aversion to obstetrical interventions by Somali refugee women
Allen et al. [36]	Journal of Transcultural Nursing	Somali	Minneapolis, MN multipurpose community center for East African refugees and immigrants	Focus groups	Refugees	31	F	23–84	Explore facilitators and barriers to cervical cancer screening and human papilloma virus (HPV) vaccination among Somali refugee women and their children

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Asgary and Segar [37]	Journal of Health Care for the Poor and Underserved	Cameroon (4), Chad (4), Guinea (4), Pakistan (3), Bangladesh (2), DR Congo (2), Kosovo (2), Senegal (2), Sierra Leone (2), Egypt (1), Eritrea (1), Ghana (1), India (1), Ivory Coast (1), Lebanon (1), Mali (1), Mauritania (1), Nepal (1), and Russia (1)	New York City Human rights clinic	Interviews, focus groups	Asylum seekers, healthcare providers, advocacy organization representatives	34	30 male, 4 female	Adults less than 40 years old	Identify barriers to health care access among refugee asylum seekers

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Assefa et al. [38]	Qualitative Health Research	Somali Bantu	Greater Boston, Massachusetts community-based center	Semi-structured interviews	Refugees	20	5 each: male youth, female adult, female adult	Adults (18 years and older) and first-generation refugee youth (between 10 and 17 years old)	Explore how do Somali Bantu believe, if at all, jinn possession affects the health of Somali Bantu refugees. Explore what, if any, kinds of traditional healing (e.g., traditional medicine and traditional healers) practices are integrated into Somali Bantu help-seeking behavior. Explore what, if any, pathways of care do Somali Bantu refugees resettled in the United States utilize to address health problems
Ayub et al. [39]	Journal of the National Medical Association	Liberia	Charlottesville, VA church	1-on-1 and group interviews	Refugees	12	6 male, 6 female	24–68	Understand the Liberian refugee populations' model of chronic disease
Bell [40]	Sociology of Health & Illness	Vietnam, Mexico, Somalia, Cambodia, Iran, South Africa (general), etc	Maine hospital outpatient clinics	Observations, informal conversations, semi-structured interviews	Refugees (patients) and hospital staff, medical interpreters	69	M/F	Not specified	Understand transnational dimension of place-specific hospital care for refugees/immigrants

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/research questions
Boise et al. [41]	Progress in Community Health Partnerships: Research, Education, and Action	West and East African countries (Benin, Burundi, Cameroon, Chad, DR Congo, Eritrea, Ethiopia, Ghana, Kenya, Nigeria, Senegal, Sierra Leone, Somalia, Togo)	Portland, OR community members	Focus groups (house meetings at facilitator's home), brief survey	Refugees, immigrants	56	33 male, 23 female	14–67 (mean 38)	Gather information about the perceived health needs and barriers to health of Africans living in the Portland (Oregon) metropolitan area
Brown et al. [42]	Journal of Transcultural Nursing	Somali	Rochester NY community-based sample	Interviews, focus groups	Refugees	43	F	18–53	Explore sources of resistance to common prenatal and obstetrical interventions
Carroll et al. [43]	Patient Education and Counseling	Somali, Somali Bantu	Rochester, NY community-based sample	In-depth interviews	Refugee women	34	F	18–53 (median 27)	Identify characteristics associated with favorable treatment in receipt of preventive healthcare services, from the perspective of resettled African refugee women
Carroll et al. [44]	Health Care for Women International	Somali	Rochester, NY community-based sample	Interviews	Refugees	34	F	18–53	Explore the health promotion and disease prevention experiences and belief both in established Somali refugee women and more recently in resettled Somali Bantu women

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Chao and Kang [45]	Adult Education Quarterly	Bhutanese	Northeastern US city multisetid ethnography participants	Observations, semi-structured interviews, health literacy artifacts	Refugees; health literacy brokers (neighbors or relatives)	3	1 male, 2 females	49–65	Explore adult Bhutanese refugees' literacy practices and their connections to Bhutanese culture
Chavez [46]	Journal of Homosexuality	Not described, though author refers to Spanish-speakers	Southern Arizona LGBT community center	Short interviews and structured interviews	LGBTQ refugees, immigrants, and service providers; allies of LGBTQ migrants	Not described	Not described	Not specified	Assess needs in Southern Arizona with LGBTQ immigrants, refugees, asylees and their allies
Connor et al. [47]	Journal of Sex Research	Somalia	Minnesota large metropolitan area community-based sample	Semi-structured interviews	Refugee women	30	F	20–40	Explore values, attitudes, and beliefs that may affect sexual health among Somali women
Deckys and Springer [48]	Online Journal of Cultural Competence in Nursing & Healthcare	Somali Bantu	City in the Northwest US community members	Observations, interviews, focus group	Refugees	14	M/F	50+	Understand adjustment of the elderly Somali Bantu to the American healthcare system
Dubus [49]	Journal of Cross-Cultural Gerontology	Cambodian	City in the north east US Elder day care program	Interviews	RefuGees	32	4 males, 28 females	53–82	Deepen the understanding of the life course of refugees by exploring when do Cambodian elders perceive the beginning of old age

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Fang and Baker [50]	Journal of Health Care for the Poor and Underserved	Hmong	California women's association	Focus groups	Refugees	44	F	Adults	Examine barriers and facilitators for cervical cancer screening among women of Hmong origin in California
Filippi et al. [51]	Journal of Immigrant and Minority Health	Somali	Kansas City, KS Somali organization	Semi-structured interviews	Refugees, community leaders, health professionals, and students, interpreters, and health care recipients	11	5 males, 6 females	22–71	Identify the health priorities of the Somali community and to establish a working relationship between an academic medical university and the local Somali community
Fineran and Kohli [52]	Journal of Family Social Work	Muslim	Southern Maine social service agencies	Semi-structured interviews, focus group	Refugees, asylum seeker	16	F	23–73	Document the narratives of Muslim refugee women on IPV, and identify the barriers that stop refugee women from accessing culturally appropriate services
Freeman et al. [53]	Journal of Religion & Spirituality in Social Work: Social Thought	Somali and Somali Bantu	West Salt Lake City, UT Neighborhood partnership program	Semi-structured interviews	Refugees	20	M/F	Adults	This study sought to answer the question: How do religious beliefs inform health behaviors among Somali and Somali Bantu refugees?

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Ghebrendreas et al. [54]	Health Equity	Sub-Saharan African and Middle Eastern (Sudan, Somalia, Kenya, Ethiopia, Eritrea, Congo, Uganda, Syria, Iraq, Egypt, and Morocco)	San Diego, CA community members	Semi-structured focus groups	Refugees	53	F	20–50	Understand cervical cancer screening and prevention practices of refugee women in San Diego, California and identify desired components of a cervical cancer screening toolkit
Grimm et al. [55]	Pedagogy in Health Promotion	Somali	Omaha, NE community members	Focus groups	Refugees, health-care providers	14	F	Not specified	Assess cervical cancer screening and HPV vaccine knowledge
Gurnah et al. [56]	Journal of Midwifery & Women's Health	Somalia	Connecticut community members	Key informant interviews, focus group, and survey	Key informants: refugees, leaders of civic and religious organizations, service providers	14	F	22–45	Assess gap in knowledge and literature to identify potential barriers to Somali reproductive healthcare experiences

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Hailey et al. [57]	Journal of Community Health	Burmese	Worcester, MA community members	Focus groups	Refugees	18	11 males, 7 females	20–40	Explore what views do refugees from Burma settling in Worcester, MA hold about health and wellness. Do they understand the relationship between behavior and the development of poor health conditions, such as overweight/obesity, hypertension, cancer and diabetes?
Hauck et al. [58]	Journal of Immigrant & Refugee Studies	Burmese, Bhutaneese, Iraqi	Charlottesville, VA international family medicine clinic	Interviews	Refugees	46	M/F	18–24, 25–49, 50+	Explore the process of acculturation and resulting stress, as existing literature has suggested that acculturative stress may be associated with poor health outcomes

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Haworth et al. [59]	Journal Of Community Health	Bhutan	Omaha, NE community members	Surveys, focus groups	Refugee women	42 completed survey; 27 in focus groups	F	19–20	Explore to what degree are Bhutanese refugee women aware of cervical cancer and the Pap test, the relationship between knowledge/practices of testing and perceived susceptibility more severity to cervical cancer. What are the demographics and health practices (education, literacy, religion, age, etc.) that affect the outcome of having ever heard of or have had a Pap test? What are perceived barriers to going for a Pap test?

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Helsel et al. [60]	Journal of Transcultural Nursing	Hmong	Merced County, CA nonprofit agency	Interviews	Refugees	11	5 males, 6 females	45–65	The purpose of our research was to ascertain diabetic and hypertensive Hmong American patients' understanding of the nature, effects, and management of their chronic illnesses. Understand how they perceive their illnesses is, we believe, an essential first step toward crafting strategies and materials for effective patient education
Houston et al. [61]	Qualitative Health Research	Somalia	Boston, MA; Minneapolis, MN; Lewiston and Portland ME longitudinal survey participants	Mixed methods, in-depth surveys and semi-structured interviews	Young adult refugees	35	F	18–30	Explore Somali young adults' experiences with US health system
Inhorn and Fakhri [62]	Fertility and Sterility	Arab	Detroit, MI metropolitan area assisted reproductive technology treatment center	Semi-structured interviews	Refugees, immigrants	30	M	not specified	Investigate barriers to infertility care among Arab Americans

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Ivanov and Buck [63]	Journal of Immigrant Health	Belarus, Russia, and Ukraine	Central Virginia Russian-speaking church	Focus groups	Refugees, immigrants	30	F	20+	Learn about the experiences of various age groups of immigrant women from three former Soviet Republics (Belarus, Russia, and Ukraine) with women's health care services in the US
Johnson-Agbakwu et al. [64]	Ethnicity & Health	Somali	Maricopa County, AZ community members	Focus groups, interviews	Refugees	8	M	27–72	Explore the views of Somali men around Somali women's pregnancy-related health

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Kaczkowski and Swartout [65]	Culture Health & Sexuality	Afghanistan (1), Burma/Myanmar (7), Central African Republic (3), Colombia (1), DR Congo (6), Pakistan (1), Somalia (3)	Clarkston, GA refugee support service organization	Focus groups, interviews	Refugees	25	13 males, 12 females	18–24	Understand sexual health literacy, sources and barriers to access across groups of resettled refugee men and women, addressing: What do young refugees know about sexual health and how do they access sexual health information? Do young refugee men and women use different sources of information? What differences exist for young refugee men and women?
Kingori et al. [66]	Ethnicity & Health	Somali	Columbus, OH community centers	Semi-structured interviews	Refugees	27	13 males, 14 females	18–25	Identify sexual health knowledge barriers among Somali young adults
Lipson et al. [67]	Western Journal of Nursing Research	Bosnia, Soviet Union	Santa Clara County, CA community organizations	Observations, semi-structured interviews, focus groups	Refugees, health providers, interpreters, staff from service agencies that resettled refugees	36 Bosnian, 35 Soviet	M/F	Median ages 38 (Bosnian) and 60 (Soviet)	Examine health, illness, and health care use patterns of all refugees served by Clara County Health services

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Lor et al. [68]	Journal of Health Care for the Poor and Underserved	Burmese, Bhutanese	King County, WA health and social service organizations	Focus groups	Refugees	58 (31 Burmese, 27 Bhutanese)	F	20–65	Understand the factors contributing to Burmese and Bhutanese refugee women's decisions about cervical cancer screening
McHenry et al. [69]	Journal of Cultural Diversity	Burmese Chin	Indiana Public library, health fair, ESL course, resettlement agency and community organization	Survey, focus groups	Refugees	16	F	Adults and adolescents	Understand Burmese Chin refugees' experiences with and perspectives on the healthcare system in the US and to produce knowledge that could inform the development of educational interventions for healthcare providers to help provide culturally-competent care for these families
Mehta et al. [70]	Journal of Immigrant and Minority Health	Somalia, DR Congo	Boston, MA community members	Focus groups	Refugee women	31	F	18–59	Better understand decreased service utilization and address reproductive health disparities in Congolese and Somali immigrant communities

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Miner et al. [71]	Journal of Immigrant and Minority Health	Somalia	Rochester, NY non-profit organization	Home visits (observations), semi-structured interviews	Refugee families with older adults	19	M/F	33–90+	Explore and describe Somali older adults' and their families' perceptions of home health services
Mirza and Heine-mann [72]	Disability and Rehabilitation	Cambodian and Somali	Large metropolitan city in the US Midwest community organizations	Interviews, social network survey, focus group, observations	Refugees, service providers, key experts on refugee resettlement	15	5 males and 10 females	Predominantly middle-aged with ten individuals aged 45–65	Examine the adequacy of existing service systems in addressing the needs of refugees with disabilities resettled in the US
Mirza et al. [73]	Journal of Immigrant and Minority Health	Iraqi, Burmese and Bhutanese	Large metropolitan city in the US Midwest Key informants	Semi-structured interviews	Key informants: refugees, community leaders and/or staff at resettlement agencies, refugee health clinics, or refugee-serving mutual aid associations	18	M/F	Adults	Understand health-care needs and barriers faced by disabled and chronically ill refugees in the US
Mitschke et al. [74]	Journal of Human Behavior in the Social Environment	Karen refugees from Burma	Large metropolitan city in the Southwestern US community members	Interviews	Refugees	21	8 males, 13 females	20–71	Uncover the health and wellness needs for recently resettled Karen refugees from Burma
Morioka-Douglas et al. [75]	Journal of Cross-Cultural Gerontology	Afghan	Fremont, CA geriatric education center	Focus group	Refugees, immigrants	9	F		Increase the information available for clinicians and educators to care for, and educate others to care for, elders from Afghan backgrounds more effectively

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Morris et al. [76]	Journal of Community Health	Somalia, Iraq, Vietnam, Sudan, Iran, Afghanistan, Ethiopia, Russia, Other	San Diego County, CA specific refugee communities	Interviews	Refugees, health-care providers, employees of refugee-serving organizations	40	M/F	No specific range stated, categories ranging from < 25y to > 55y	Understanding the structural and social barriers affecting resettled refugees from fully accessing health services
Murray et al. [77]	Journal of Health Care for the Poor and Underserved	Somalia, Sudan, Eritrea, Ethiopia, Tanzania	San Diego, CA community-based organizations serving East African communities	Focus groups	Refugee women	40	F	18+	Describe East African women's experiences with US health care services
Othieno [78]	Journal of Health Care for the Poor and Underserved	Somalia, Ethiopia, Kenya	Minneapolis-St. Paul Eligible Metropolitan Area, MN African-born community organizations	Observations, in-depth interviews, focus groups	African-born PLWH, service providers, and administrators and staff	15	M/F	18+	Assess care system in Twin Cities for African immigrant and refugee communities
Othieno [79]	Journal of Health Care for the Poor and Underserved	Africa (multiple, undefined countries)	Hennepin County, MN African-born people in care	Interviews, focus groups	Refugees, immigrants, cultural experts (service providers and community members)	35	M/F	19+	Understand factors affecting African born immigrants and refugees access to HIV care
Pavlish et al. [80]	Social Science & Medicine	Somali	Minnesota, MN Somali-operated organization, a community center, and a health organization	Focus groups, interviews	Refugees/immigrants, key informants from local health department, refugee assistance organizations, health care organizations, and healthcare providers	57 immigrant women and 11 key informants	F	18–80	Explore what are the health concerns for Somali immigrant women and girls and what are the health experiences of Somali women as they manage their health

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Renfrew et al. [81]	Journal of Health Care for the Poor and Underserved	Cambodian	Revere, MA large, multi-specialty community-based health center	Focus groups	Refugee patients with diabetes, healthcare providers, staff	15	60% females	Mean age 52	Explore the potential barriers to care for Cambodian patients with type 2 diabetes
Resick [82]	Journal of Nursing Scholarship	Russian-speaking from the former Soviet Union	Urban community in the Northeastern US community members	Semi-structured interviews	Refugees, immigrants	12	F	40–61	Describe the essence of the meaning of life for midlife Russian-speaking women and to provide an interpretive understanding of the ways in which they managed health during immigration
Ross Perfetti et al. [83]	Health & Social Care in the Community	Iraqi	Philadelphia, PA community clinic	Focus groups	Refugees	14	F	18+	Explore how cultural and structural realities intersect to influence utilization of preventative healthcare and cancer screening with the aim of understanding health disparities
Royer et al. [84]	Qualitative Health Research	Somali and Congolese	Utah community members	Focus groups	Refugees	66	F	18–68 years	Understand the family planning knowledge, attitudes, and practices of refugee women following third country resettlement

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/research questions
Saadi et al. [85]	Women's Health Issues	Iraqi	Chelsea, MA urban, multi-specialty community health center designated for refugee health assessment	Interviews	Refugees	20	20 females	< 30 to > 55 (mean 41.25)	Assess the perspectives of Iraqi women refugees on preventive care and perceived barriers to breast cancer screening
Saadi et al. [86]	Journal of Immigrant and Minority Health	Bosnia, Somalia, Iraq	Chelsea, MA urban, multi-specialty community health center designated for refugee health assessment	Semi-structured interviews	Refugees	57	F	18–75	Explore Bosnian, Iraqi, and Somali women refugees' beliefs regarding preventive care and breast cancer screening to offer insights into their experiences
Schuster et al. [87]	Journal of the National Medical Association	Somali Bantu and Karen	Buffalo, NY community members	Semi-structured interviews, interview-focus group hybrids	Refugees	30	87% female	Mean age 32.5 years for Somali Bantu and 36.6 for Karen	Characterize Somali Bantu and Karen experiences with cancer and cancer screenings prior to and subsequent to resettlement in Buffalo, NY in order to inform engagement by health providers
Siddiq et al. [88]	Journal of Cancer Education	Afghan	California community members and their families	Interviews	Refugees and family caregivers	19	F	50+	Examine socio-cultural factors that influenced cancer screening behaviors among aging Afghan refugee women

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Soin et al. [89]	Hawai'i Journal of Health & Social Welfare	Bhutanese, Burmese, and Iraqi	Philadelphia, PA urban family medicine clinic	Semi-structured interviews, focus groups	Refugees	32	F	Average age 40.7	Learn about family planning practices of the resettled refugee populations in the US and the influences that promote or hinder contraceptive use, and to learn about the patient-provider relationship and counseling practices that are considered effective from the patient's perspective
Springer et al. [90]	ANS, Advances in Nursing Science	Somali Bantu	Southwest Idaho community members	Informal encounters, observations, formal interviews	Refugees, community volunteers, healthcare providers	13 informal encounters 22 formal interviews	For formal interview: 4 females 8 males	Of the formal interviewees, 5 Somali Bantu self-described as "older", 7 self-described as "younger"	Complete a community and cultural assessment of Somali Bantu refugees in southwest Idaho that focused on their health needs
Upvall et al. [91]	International Journal of Nursing Studies	Somali Bantu	Southwestern Pennsylvania clients of a non-profit resettlement organization	Focus groups, one interview	Refugees, a physician	23	F	19–43	Explore healthcare perspectives of Somali Bantu refugees in relation to their status as women who have been circumcised and recently resettled in the US

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Van Son and Gileff [92]	Qualitative Health Research	Slavic emigres	Pacific Northwest metropolitan area of the US community class attendees	Observations, interviews, cultural artifacts	Refugees, family caregivers, key informants from social services, interpreters, healthcare providers, church)	12 emigres, 7 caregivers, 9 key informants		65+	Describe how older Slavic émigrés experience and manage chronic health conditions; examine how their life course (cultural, historical, personal, and social contexts) influences their health beliefs and behaviors; and identify barriers to managing chronic health conditions from older Slavic émigrés' as well as family caregivers' and selected key informants' viewpoints

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Wieland et al. [93]	Journal of Immigrant and Minority Health	Somalia, Sudan, Vietnam, Cambodia, Laos, China, Pakistan, Ukraine, Russia, Turkey, Mexico, Colombia and Puerto Rico	Rochester, MN community education center	Focus groups	Refugees, immigrants, adult education center staff	83	Not described	Not specified	Explore the perceptions and misperceptions about tuberculosis among learners and staff at an adult education center and how do relationships and social structures influence these perceptions. What are the perceived barriers and benefits to health seeking behavior for tuberculosis? Gain an understanding of the health practices and health care preferences of Somali refugee women in Minnesota and to learn about their experiences with the US health-care system
Wissink et al. [94]	Minnesota Medicine	Somali	Minnesota community members receiving health care	Focus groups	Refugees	26	F	22–74, mean 45.67	Gain better understanding of newly resettled refugees; perceptions of US health care since arriving to a city in the Midwestern US
Worabo et al. [95]	The Journal for Nurse Practitioners	Iraq, Eritrea, Somalia, and Bhutan	City in the Midwestern US urban Midwest refugee resettlement agency	Focus groups	Refugees	39	M/F	18+	Gain better understanding of newly resettled refugees; perceptions of US health care since arriving to a city in the Midwestern US

Table 1 (continued)

References	Journal	Country of origin/ethnic group(s)	Study setting	Study methods	Study population	Sample size	Gender	Age group	Objectives/ research questions
Zeidan et al. [96]	The Western Journal of Emergency Medicine	Syria, Bhutan, DR Congo, Burma, Sudan, Iraq, Iran, Central African Republic	City in the Northeast US refugee clinic and resettlement and post-resettlement agencies	Semi-structured interviews	Refugees, employees from resettlement and post-resettlement agencies	16	M/F	20–48	Understand barriers to access of acute care by newly arrived refugees
Zhang et al. [97]	Journal of Immigrant and Minority Health	Somali	King County, WA community centers, neighborhood groups, and mosque attendees	Focus groups	Refugees	53 women	F	18–49	Explore the knowledge, attitudes, and experiences of Somali refugee women with family planning in the US

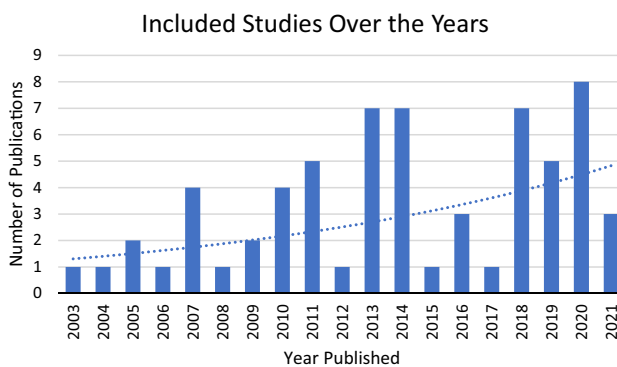


Fig. 2 Publication dates for final included studies

reproductive health [34, 47, 56, 70, 91], five to family planning [35, 47, 84, 89, 97], and ten to preventative cancer screenings (e.g., breast, cervical, colorectal) [50, 54, 55, 59, 68, 83, 85–88]. The six remaining articles with only female participants were focused on analyzing their general healthcare practices and preferences [43, 44, 77, 80, 82, 94].

In addition to focusing on the refugee identity, four studies explicitly explored intersecting identities of disability [72, 73], gender identity [46], and religion [52, 53]. Several other studies focused on refugees with specific diagnoses such as having multiple chronic conditions [92], HIV/AIDS [79], and type 2 diabetes mellitus [81]. Other studies focused on refugees who were currently pregnant [47], those with children [36], and those who were married [56]. These identities within broader refugee identity may further shape refugees’ unique experiences. Further, of the studies which reported time of immigration, five studies focused on new or recent arrivals [37, 57, 74, 95, 96], whereas only one study focused on refugees who have been resettled for at least 4 years [48].

Study Results

Our inductive analysis led to the finding of nine inter-related main themes related to refugee healthcare access: financial affordability of health services, health literacy, understanding of the healthcare system, perception of healthcare service and quality, medical (mis)trust, cultural and religious factors, transportation, use of social support networks, and immigration status.

Financial Affordability of Health Services

This theme is defined as factors affecting the ability to pay for services, including access to insurance or

out-of-pocket funds. Access to healthcare for refugees was largely dependent on access to insurance, which was often reported to be expensive and difficult to navigate [41, 44, 51, 59, 61, 67, 68, 74, 76, 90, 95, 96]. Despite some refugees qualifying for public assistance, a lack of awareness of such resources along with difficulty enrolling due to challenges understanding and filling out the paperwork were barriers to affording health services [65, 67, 74, 90]. Employment also played a meaningful role in refugees' ability to financially access health services. Not only did studies find that employment impacted refugees' access to employment-based insurance, but it also impacted their ability to afford out-of-pocket medical expenses on top of other financial priorities [61, 76]. Inability to pay was a key contributor to the decision of not seeking medical care or turning down treatment [37, 48, 61, 62, 65, 68]. Availability of publicly funded health insurance like Medicare and Medicaid, charity care, and other financing options expanded healthcare access and was viewed favorably in addition to policies which enabled care before payment [39, 44, 49, 67, 74, 75, 95].

Health Literacy

Health literacy is defined as factors affecting the ability to obtain, read, understand, and use healthcare information to make health- and treatment-related decisions. Multiple studies indicated that a lack of interpreters in clinical and pharmaceutical settings negatively influenced health literacy, leading to barriers accessing information, understanding when and how to take medication, and scheduling appointments or obtaining refills [41, 45, 67, 69, 91, 96]. When interpreters were available, under qualification of such interpretation services and worries around potential privacy issues associated with community interpreters were noted to reduce refugees' usage of such services [40, 41, 94]. Limited knowledge about certain diseases (e.g., cervical cancer, tuberculosis, HPV) also led to both limited awareness and testing, but also led to misconceptions about disease origins [36, 43, 50, 65, 93]. Two studies additionally found that limited understanding of acute versus chronic disease treatment differences led to lack of adherence because patients were unable to understand why certain treatments were not curative or required ongoing use of medications despite symptoms no longer being present [39, 60]. Although home healthcare services and resettlement resources were seen as essential for improving health literacy, a few studies noted that resettlement agencies often were overburdened and underfunded, leading to inadequate assistance and failure

to identify prior disability-related or other health needs [59, 71–73, 89, 96].

Understanding of the Healthcare System

Understanding of the healthcare system is defined as factors related to the ability of refugee patients to navigate healthcare system processes and services as it pertains to knowledge possessed about such processes and services. Unfamiliarity with the American healthcare culture and practices as well as lack of previous exposure to preventative care and certain services (e.g., HIV services, prenatal care) in home countries led to difficulty navigating the healthcare system, as stated across multiple studies [44, 54, 64, 68, 78, 80, 87, 95]. The complexity of the US healthcare payment system as well as the need to book appointments in advance and receiving care at multiple facilities further contributed to navigation difficulties [39, 41, 67, 90, 96]. Community health workers and caseworkers, however, were seen as facilitating navigation by helping to book appointments and enrolling clients in insurance programs [74].

Perception of Healthcare Service and Quality

Influenced in large part by refugees' personal experiences with healthcare systems from their origin countries and in host countries such as the US, perception of healthcare service and quality are factors affecting how refugees view the effectiveness and general quality of healthcare services. Several studies found that expectations of US healthcare before arrival to the US conflicted with actual healthcare experiences, often leading to decreased perceived quality of care [42, 69, 76, 91]. Lengthy wait times for appointments and delays in care, for example, were associated with decreased perceived quality of healthcare services [83, 92, 95]. Multiple studies also noted that the brevity of time spent with doctors also led refugees to believe that doctors were not listening and were being quick to resort to intrusive interventions, such as with the labor and delivery process [42, 69, 71, 80]. One study in particular noted how refugees saw high costs for health services as being the cause behind impersonal visits, and felt the priority was more related to business than providing quality care [37]. Unfriendly staff in addition to impatience or visible frustration by clinicians or staff due to language barriers further negatively shaped refugees' healthcare experiences [44, 50]. Another study found that some refugees believed that they were receiving poorer quality of care due to being on public health insurance [92, 95]. Constant cycling of doctors and interpreters also negatively

impacted refugees' perception of healthcare quality due to increased concerns over privacy and decreased trust [43, 46, 78]. A lack of healthcare professionals' understanding of patients' culture and cultural practices alongside inadequate explanation of testing requirements by healthcare professionals led to decreased quality of care. Meanwhile, patient advocacy and adequacy of explanation by providers regarding care plans were reported to positively influence perceived quality of care [39, 41, 69, 78, 86]. Other positive influences on perceived quality of care included increased availability of quality medical equipment and medicines [48, 85].

Medical (Mis)Trust

The theme of medical (mis)trust includes factors influencing the confidence or lack of trust in medical professionals and/or medical systems that could alter perception of healthcare quality. Perceived and experienced discrimination and stereotyping based on race and ethnicity by healthcare professionals were often cited in studies as the main reasons behind refugees' decisions to avoid or forego care [34, 37, 41, 61, 69, 80, 83, 94]. Many refugees, in particular, expressed concerns about not being taken seriously during visits or being perceived as crazy or unintelligent [61, 80, 83]. Lack of discretion and privacy concerns were noted by several studies as other key factors negatively affecting trust [34, 41, 46, 47, 50, 92]. Having long-term relationships with consistent clinicians and staff, however, was seen as a way to build trust [44, 46, 78].

Sociocultural and Religious Factors

Sociocultural and religious factors affecting healthcare access include norms, values, and practices around health and healthcare related to refugees' customs in their countries of origin. This section also discusses aspects of refugees' experiences and backgrounds that are normative and not normative (i.e., culturally acceptable or not acceptable) compared to their host countries. One finding across several studies highlights how the low importance placed upon preventative services in home countries compared to in the US impacts healthcare utilization, where seeking health services is seen as a last resort rather than routine activity [41, 45, 54, 70, 77, 82, 87]. Refugees were also reported to use prayer and other traditional practices as complementary and sometimes primary methods of treating disease or increasing wellbeing, especially when they were dissatisfied with their healthcare visit [38, 40, 41, 48, 53, 56, 67, 70, 83]. To

this end, herbalists and religious clerics were often seen as additional sources of health services [41, 83]. Beliefs around modesty and privacy also impacted refugee patients' health preferences and experiences, such as female refugees preferring female physicians or refugee patients experiencing stigma around certain health topics like sexual and reproductive health [65, 70, 77, 78, 86].

Transportation

Transportation refers to the factors affecting physical access to health services and treatment. Thirteen studies noted that refugees lacked access to reliable transportation, leading to difficulty attending healthcare appointments [41, 44, 48, 51, 59, 60, 65, 70, 71, 78, 86, 87]. Studies noted challenges associated with being unable to drive, experiencing physical difficulties in walking to bus stops or far-away clinics, or being unable to communicate with bus and taxi drivers [48, 87]. Access to community programs with ride services, home health services, and family members, friends, or neighbors with cars, however, mitigated these transportation issues [60, 71, 86].

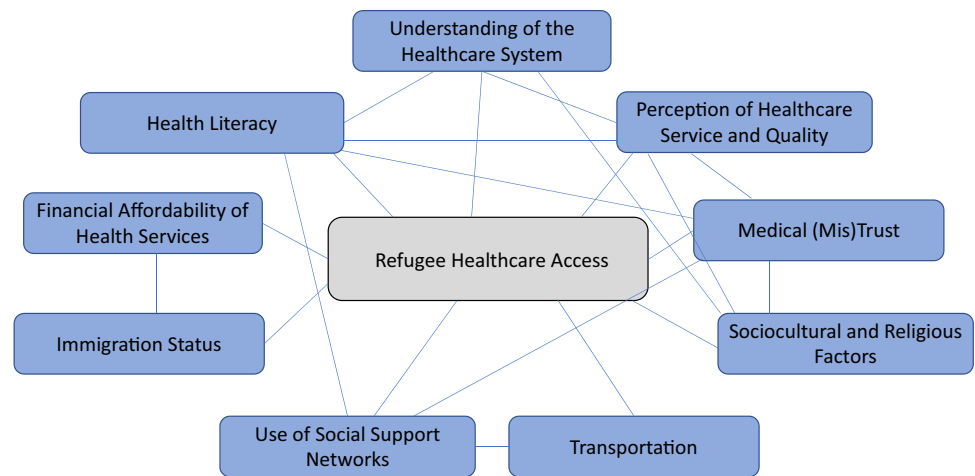
Use of Social Support Networks

Use of social support networks is defined as factors related to engagement with individuals and communities outside the formal healthcare network. Families were noted by studies to be an important form of support when it came to seeking health information and arranging transportation to health appointments [57, 60, 68]. Herbalists and religious clerics were additional sources of health services [41, 83]. Finding a community of others from their country of origin also helped refugees navigate health systems by helping with medical costs and serving as interpreters [56, 76]. Adolescents in the community, in particular, were found to be important interpreters to refugee patients [69]. Although one study found that refugees were skeptical of health information from unofficial sources like the internet or family members, other studies noted that family and friends were an important source of health information as well as support [54, 57, 61, 68, 88]. However, attending to family needs was often cited as a competing priority to good health [83].

Immigration Status

This theme refers to factors related to citizenship status and formal assimilation processes. Three articles detailed how fear of deportation led to avoidance of healthcare utilization

Fig. 3 Interconnectedness of themes as identified in this review



[37, 78, 92]. Citizenship status also affected refugees' ability to enroll in public insurance or buy insurance, which impacted their healthcare access [37, 92]. Although immigration medical testing requirements helped some refugees address identified diseases early, another study highlights that a lack of service integration and coordination led to lack of identification and addressal of other health needs of newly arrived refugees, particularly those living with disabilities [47, 73]. In addition to these challenges, one study details how prioritization of other resettlement challenges also led to decreased healthcare utilization [37].

A Note on the Interconnectedness among Themes

We have identified nine key distinct themes related to refugee healthcare access that are interconnected in nature. Although each theme distinguishes a key unique factor that shapes refugee healthcare access, there are elements within each theme that are related to other themes. Figure 3 illustrates the interconnectedness of the themes. The theme of medical (mis)trust, for example, is related to perception of health service and quality, sociocultural and religious factors, as well as the use of social support networks. Medical (mis)trust is related to sociocultural and religious factors in that clinical interaction expectations—and thus perceptions of trust and mistrust based on those interactions—are often times shaped by the sociocultural and religious norms and values refugees hold. Taboos against giving blood, for example, was found to influence some refugees' decisions to remain in care and led to mistrust when clinicians did not communicate about reasons behind blood tests such as during prenatal visits [79, 95]. These negative interactions can then, in turn, impact refugees' perceptions of health

services as being of poor or insufficient quality [44, 80]. Given these negative perceptions, refugees may then turn more to their social support networks for care-related support to fill perceived care gaps [38, 56]. Another example of how the theme of transportation is similarly related to use of social support networks includes the lack of access to personal transportation resulting in higher reliance on family members and neighbors to provide rides to healthcare appointments [60, 87].

Discussion

Main Findings

This systematic review of 64 articles synthesized the factors affecting adult refugees' healthcare access and utilization in the US. Overall, our results reveal that refugees' healthcare access is shaped by diverse interacting factors both within and outside of clinical spaces that are multi-level in nature. We also found that the identified themes were interwoven in nature, with many themes often overlapping. This varying dimensionality of our findings also correlate with previous literature assessing factors affecting refugees' mental health and well-being [98]. Overall, when it comes to healthcare access and utilization, we found that refugees reported that their main challenges to healthcare access stemmed from the fragmented nature of the US healthcare system interacting with provider bias and adverse social determinants. This interrelationship among healthcare access factors and broader social determinants of health and social attitudes has been well-documented in other systematic reviews on healthcare access for marginalized health populations such

as low-income individuals, racial and ethnic minorities, people living with disabilities, and LGBTQ+-identifying persons [99–102]. Although refugees may often also hold one or multiple of these identities, there are some experiences that may be unique to only refugees such as the experience of immigrating involuntarily and additional burdens associated with setting up a new life in a foreign country. Refugees' challenges to healthcare access thus may have much overlap with yet also nuanced distinction from the challenges of these aforementioned communities. Given the complex and interconnected nature of factors affecting refugees' healthcare access, interventions that seek to expand access and improve quality of care for US refugee patients cannot be performed in isolation. Instead, contextualized multi-level solutions that are created and executed collaboratively between healthcare systems, policymakers, and community partners are necessary to fully address the layered ecosystem of factors refugee patients face when accessing healthcare.

Our analysis revealed that care inconsistency and fragmentation within the US healthcare system served as a main barrier to healthcare access for refugee patients by decreasing trust and increasing patient work. Within the hospital setting, frequent changes in healthcare professionals and short clinical encounters strained relationships between refugee patients and their providers, leading to low levels of trust. Trust was a particularly important theme given that low levels of trust or mistrust was a key influencer in refugee patients' decision to postpone or forego care. Healthcare professionals' cultural awareness and attitudes contributed significantly to this trust-building as well, with perceived stereotyping and bias decreasing trust and repeated interactions and culturally-informed care increasing trust. In studies on healthcare access among racial minorities, people with disability, and LGBTQ+-identifying individuals, discriminatory attitudes of healthcare professionals and other prior negative experiences with healthcare systems led to reduced trust that have similarly been cited as barriers to care [101, 103, 104]. One distinctive aspect of the refugee experience, however, is that refugees must navigate new cultures and healthcare systems on top of other migration-related tasks in an accelerated timeline compared with other marginalized communities within the US. Not only may there be reduced trust, then, but it may also be especially difficult to establish trust in the first place. This is particularly the case when there is a further lack of representation of healthcare professionals with similar backgrounds within healthcare spaces.

Some ways institutions have been successful in cultivating trust in patient populations have been through cultural

competency training like Morehouse School of Medicine's CRASH course as well as targeted training for working with specific populations. These programs inform and orient healthcare professionals to the perspectives and needs of patients from backgrounds other than their own, while also providing actionable tools to more conscientiously interact with these less familiar patient populations [105]. In our current environment of heightened awareness in cultural competency, though, this increased training has mainly been focused on racial minorities and LGBTQ+-identifying patient populations [106, 107]. Training for refugee patients has been more limited and needs to be expanded alongside efforts to increase general diversity of representation within the medical field (e.g., those who come from a refugee background, are familiar with refugee experiences, or share a similar cultural background to refugees). Additionally, refugee-specific trainings need to also attend to the other previously mentioned intersecting identities of refugees like age, race, class, gender, and disability status. Kimberlé Crenshaw's work on intersectionality highlights how these different social categorizations create independent yet overlapping systems of disadvantage which further shape refugees' experiences [108]. Highlighting these additional elements in refugees' identities within cultural competency trainings is thus essential to further educate clinicians and other healthcare professionals on how to anticipate refugees' various needs when navigating healthcare systems. Further, by including a subset of the literature which explored intersecting identities (i.e., being a refugee woman or a refugee with disabilities), our themes reflect the needs of some refugees who simultaneously hold other marginalized identities. There is thus opportunity for significantly more work exploring intersectionality around socioeconomic class, education status, and sexual identity, among others to gain an even broader understanding of the range of barriers and facilitators to healthcare access that are experienced.

In addition to decreased trust, care fragmentation also led to increased patient task burden, which was similarly associated with decreased perceptions of quality of care and decreased healthcare utilization. The need for patients to book their own appointments and navigate between multiple independent facilities and long wait times led to coordination-related stresses in accessing care, especially when compounded with refugees' limited familiarity with US healthcare processes. This patient burden has been documented in other studies on healthcare access but may not include the additional patient work of someone who has just

moved to the US and must balance and coordinate healthcare needs with other layers of work such as language access [109, 110].

On the subject of coordination, transportation to appointments was especially challenging for refugees, who often did not own cars and were also unfamiliar with public transportation systems. Colocation of services, expanded transportation services, and streamlined appointment scheduling are thus further necessary interventions for expanding refugees' healthcare access. These are all elements of the patient experience that remain invisible across many marginalized communities, but may be especially pronounced for refugee populations. Whereas the process of balancing multiple tasks and prioritizing different needs exist for everyone, this process is especially challenging for refugees who must do so without their normal social supports and on an accelerated timeline. Managing different tasks all at once is already difficult enough, but refugees must also face a steep learning curve with learning what tasks to do. Their unfamiliarity with US systems makes tasks like seeking medical services, applying for different social services, finding a job, and learning a new language, among others, especially challenging. In addition, the emphasis on prevention and healthcare maintenance in the US is a new concept for most refugees, and thus they may decline costly and sometimes uncomfortable or lengthy procedures without fully understanding why they need them when feeling well. Refugee patients thus need programs that help them understand and navigate these systems both within and beyond healthcare spaces.

Medical interpreters were proven to be critical assets to the care team when it comes to expanding healthcare access for refugee patients. Not only should they be present to assist with interpretation during clinical visits, but they may also alleviate language barriers in transportation coordination and appointment scheduling. When using interpreters, however, it is important to be mindful of their impact on trust-building with refugee patients. We found that constant cycling of interpreters, underqualified interpreters, or use of only community-based interpreters have been identified as key reasons for the development of mistrust due to both undermined confidence in care quality and privacy concerns. Previous studies on the use of interpreters have also shown that in-person and video interpretation were preferred over telephone interpretation services [111]. It is essential to ensure that interpretation services are not only made available but that they are also high quality and secure.

Immigration status is another distinct barrier to healthcare access for refugee patients, particularly those who came as asylees. Unlike refugees who must have legal

documentation for their stay in the US before arrival, all asylees by definition will not have received official documentation upon arrival to the US. During this process of seeking asylum, which typically lasts anywhere from 6 months to several years, such asylum seekers are technically in the US without documentation until they receive either pending asylee status or official asylee status [112]. Consequently, some challenges associated with accessing healthcare stems from this confusing interim status, including fear of deportation resulting in avoidance of medical visits and lack of official documentation rendering marketplace insurance plans inaccessible [113]. It is unsurprising, then that the asylum-seeking process itself have been additionally flagged in refugee mental health literature as negatively impacting refugees' overall well-being [98]. It is important to note, however, that in the United States, Emergency Medicaid (a limited form of Medicaid) is available to asylees during this stage. Once their formal application for asylum has been received by the United States Citizenship and Immigration Services, they are then eligible for Permanent Resident Under the Color of Law (PRUCOL) status which qualifies their eligibility for Medicaid [114]. Absent legality issues, though, the process of migration itself poses significant challenges to care coordination. Limited health service integration and coordination between refugee camps and the US may lead to a lack of identification of health needs of newly arrived refugees including those with prior health conditions. Although there exist early testing requirements for communicable diseases such as tuberculosis and hepatitis B, and some non-communicable conditions such as lipid disorders, additional health intakes should be incorporated into immigration policy to assist with care transitions.

Overall, our findings underscore the need for an integrated care model to address the diversity of challenges that refugee patients face when accessing healthcare. Integrated care models have been shown to be effective in addressing multiple levels of need by bringing together an interdisciplinary team that is connected to community resources [115, 116]. In the mental health space, integrated care models have been shown to further reduce racial and ethnic disparities [117]. The International Family Medicine Clinic (IFMC) within the University of Virginia Family Medicine Clinic is one example of how this team-based care model can be leveraged to specifically expand care for refugee patients [118]. Primary care professionals at the IFMC work closely with an ambulatory pharmacist, a nursing team which includes a nurse care coordinator (RN-CC), a social worker, and a behavioral health team of psychiatrists and clinical psychologists. The

RN-CC serves a key role as liaison between the clinic and the health department, resettlement agency, and other community resources. The RN-CC additionally helps patients navigate their care within the larger hospital system, which includes providing education on logistics of the clinic flow at initial visits, and in this role also helps facilitate urgent referrals for specialty care when needed. The IFMC team, in conjunction with the resettlement agency, further helps patients with transportation to the clinic and medical center. By working collaboratively across agencies to address refugees' complex needs both inside and outside clinical spaces, the integrated care model has potential to expand refugee healthcare access in multifaceted ways.

Strengths and Limitations

One main limitation of this study is that the literature search conducted may have still missed relevant articles that relate to refugee healthcare access but did not include any of the words in our search strategy or were published in a language other than English. Although we mitigated this limitation by doing manual searches for relevant literature from related articles and conducting searches at several points in time, there is still a chance that potentially relevant articles may have been missed. An additional limitation of this study emerges from the fact that literature in the refugee healthcare access space typically focuses on particular subpopulations of refugees within states that already have established refugee care centers. Experiences of these refugees may not directly translate to the experiences of refugees settling in states without these centers, where challenges with healthcare access may be further pronounced by the additional lack of focus on refugee patient populations. Further, a vast majority of studies were conducted in the primary care setting. Despite these limitations, notable strengths of this study include the focus on qualitative studies allowing for rich exploration of the themes and inclusion of only high-quality studies based on the CASP.

Future Research

Although our primary goal was to focus on the healthcare system, in doing so, much of what we found suggest that healthcare access is deeply intertwined with other social determinants of health. There is thus a need to conduct additional literature reviews that focus explicitly on social determinants of health outside the clinical setting. An example of this would be to search for articles on refugees' access to safe housing, healthy foods, or jobs that provide health insurance. Future research should further

seek to expand upon our literature review by including searches for articles in journals which are not directly categorized under healthcare access but instead relate directly to social determinants of health which may affect healthcare access. Our focus was also specific only to qualitative studies and those with refugees' firsthand experiences, and could benefit from future research that includes quantitative studies as well as perspectives from those who interact with refugees (e.g., family members, friends, neighbors, healthcare professionals, service providers). In addition to these expanded literature reviews, primary research should further investigate the impact of time in the host country on care. There is a need to investigate whether health outcomes remain the same for those who have resettled for differing amounts of time. Although much of the literature was focused only on country of origin, future research may benefit from capturing other ways experiences of refugees may differ based on time of resettlement, disability status, age, gender, and race. Lastly, additional research should focus on refugee populations outside of areas with established refugee care centers and in specialty care settings, where limited research has been conducted.

Conclusions

The results of this literature review highlight that refugees have a unique constellation of needs that both overlap with yet are also distinct from other marginalized communities when it comes to accessing healthcare. The diverse nature of these needs indicate that multilevel interventions are necessary to improve refugee healthcare access. Our results suggest that refugee patients not only require expanded healthcare access policies and better service integration within hospital settings, but they also require additional support outside of the clinical space, including support navigating social welfare programs and accessing transportation, among others. The implementation of integrated care models similar to the University of Virginia's IFMC may help bridge both the medical and social needs of refugee patients while eliminating several access barriers related to care coordination.

Appendix

All searches conducted on March 11 2021 and updated June 17 2021 (Table 2).

Table 2 Literature search strategies on qualitative studies on access and barriers to healthcare for refugees in the United States

Database	Search strategy
PubMed	<p>((refugee[tiab] OR Refugees[mesh] OR asylee*[tiab] OR "asylum seeker"[tiab] OR "asylum seekers"[tiab] OR "asylum seeking"[tiab]) NOT ("child"[Title] OR "adolescen*[Title] OR "youth*[Title] OR "infant"[Title] OR newborn[Title] OR pediatr*[Title] OR paediatr*[Title] OR preschool[Title] OR neonat*[Title] OR minors[Title] OR perinatal[Title]) NOT (("infant"[mesh] OR "child"[mesh] OR "adolescent"[mesh]) NOT ("adult"[mesh]))) NOT (africa[mesh] OR asia[mesh] OR oceania[mesh] OR europe[mesh] OR "south america"[mesh] OR "central america"[mesh] OR canada[mesh]) NOT ("united states"[mesh]))</p> <p>Limit 2000-present; English language</p> <p>Manually excluded studies from non-US countries</p>
CINAHL Plus with Full text (EBSCOhost interface)	<p>(refugee* OR asylee* OR "asylum seeker" OR "asylum seekers" OR "asylum seeking" OR (MH "Refugees"))</p> <p>Turn off Expanders, including Apply Equivalent Subjects</p> <p>Limits: Geography USA; Language English; Year Range 2000 – 2021; Source Types Academic Journals; Exclude MEDLINE records; Age Groups All Adult</p>
Web of Science Core Collection (including: SCI-EXPANDED, SSCI, AHCI, CPCI-S, CPCI-SSH, SSH, ESCI)	<p>TS="refugee*" NOT (TI="child*" OR TI="adolescen*" OR TI="youth*" OR TI="infant*" OR TI="newborn*" OR TI="pediatr*" OR TI="paediatr*" OR TI="preschool*" OR TI="neonat*" OR TI="minors*" OR TI="perinatal*" OR TI="pregnan*") AND ((TS="health" OR TS="healthcare" OR TS="health care" OR TS="health service*" OR TS="well being" OR TS="wellness" OR TS="preventive" OR TS="prevention" OR TS="health maintenance" OR TS="screening" OR TS="outpatient*" OR TS="out patient*" OR TS="general practi*" OR TS="primary care" OR TS="ambulatory care" OR TS="emergency OR TS="clinic" OR TS="clinics" OR TS="hospital*" OR TS="service prov*" OR TS="care prov*" OR TS="acute" OR TS="chronic" OR TS="adherence" OR TS="health personnel" OR TS="nurse" OR TS="nurses" OR TS="doctor*" OR TS="physician*" OR TS="general practitioner*" OR TS="specialist*" OR TS="surgeon*" OR TS="rehabilitat*" OR TS="occupational therap*" OR TS="physical therap*" OR (TS="Dental" OR TS="dentist*" OR TS="caries" OR TS="periodontal" OR TS="oral health" OR TI="medication*" OR TI="medicine*" OR TI="pharmac*" OR TI="drug" OR TI="drugs" OR TI="prescrip*" OR TS="medication compliance" OR TS="medication non compliance" OR TS="medication noncompliance" OR TS="medication adherence" OR TS="medication nonadherence" OR TS="pharmacist*" OR TS="pharmacy" OR TS="pharmacies") OR (TS="cardiovascular" OR TS="heart" OR TS="coronary" OR TS="cardiac" OR TS="hypertension" OR TS="hypertensive" OR TS="rheumatic" OR TS="atherosclerosis" OR TS="arteriosclerosis" OR TS="stroke" OR TS="hemorrhage" OR TS="vascular" OR TS="gastrointestinal" OR TS="digestive" OR TS="Gastroesophageal reflux disease" OR TS="GERD" OR TS="bowel" OR TS="stomach" OR TS="colon" OR TS="intestin*" OR TS="colorectal" OR TS="constipat*" OR TS="gastritis" OR TS="peptic ulcer" OR TS="liver" OR TS="hepatitis" OR TS="cirrhosis" OR TS="pancreas" OR TS="pancreatitis" OR TS="gallbladder" OR TS="fatty liver" OR TS="Thyroid" OR TS="hyperthyroid*" OR TS="hypothyroid" OR TS="diabet*" OR TS="endocrine" OR TS="blindness" OR TS="vision loss" OR TS="trachoma" OR TS="cataract*" OR TS="glaucoma" OR TS="eye disease*" OR TS="hematologic" OR TS="lymphatic" OR TS="anemia*" OR TS="hemoglobinopath*" OR TS="sickle cell" OR TS="thalassemia*" OR TS="G6PD" OR TS="GPD" OR TS="immun*" OR TS="autoimmun*" OR TS="lupus" OR TS="infectio*" OR TS="communicable" OR TS="tropical disease*" OR TS="enteric" OR TS="parasitic" OR TS="vector borne" OR TS="viral" OR TS="diarrhea" OR TS="coronavirus" OR TS="COVID-19" OR TS="SARS-CoV-2" OR TS="dengue" OR TS="nematod*" OR TS="loaiasis" OR TS="malaria" OR TS="influenza" OR TS="HIV" OR TS="AIDS" OR TS="acquired immunodeficiency syndrome" OR TS="tuberculosis" OR TS="helicobacter" OR TS="H pylori" OR TS="sexually transmitted infection*" OR TS="arthritis" OR TS="osteoarthritis" OR TS="rheumat*" OR TS="bone disease*" OR TS="joint disease*" OR TS="musculoskeletal" OR TS="spinal" OR TS="osteoporosis" OR TS="gout" OR TS="cancer" OR TS="cancers" OR TS="malignanc*" OR TS="neoplas*" OR TS="tumor" OR TS="tumors" OR TS="tumour" OR TS="tumours" OR TS="carcinoma*" OR TS="leukemia*" OR TS="lymphoma*" OR TS="melanoma*" OR TS="nervous system" OR TS="neurologic" OR TS="neurodegenerative" OR TS="neuromuscular" OR TS="migraine" OR TS="meningitis" OR TS="dementia*" OR TS="alzheimer*" OR TS="intellectual disabilit*" OR TS="nutrition*" OR TS="malnutrition*" OR TS="deficienc*" OR TS="vitamin*" OR TS="metaboli*" OR TS="hyperlipidemia" OR TS="hypercholesterolemia" OR TS="dislipidemia*" OR TS="lipid*" OR TS="disabilit*" OR TS="occupational*" OR TS="work-related" OR TS="Environmental Exposure" OR TS="Otitis" OR TS="hearing loss" OR TS="hearing impairment" OR TS="mastoiditis" OR TS="otorhinolaryngologic" OR TS="Headache" OR TS="backache" OR TS="pain" OR TS="heartburn" OR TS="underweight" OR TS="overweight" OR TS="obesity" OR TS="body mass index" OR TS="chronic obstructive pulmonary disease" OR TS="asthma" OR TS="respirat*" OR TS="lung" OR TS="pulmonary" OR TS="bronchitis" OR TS="pneumonia" OR TS="skin" OR TS="dermatolog*" OR TS="dermatitis" OR TS="urinary" OR TS="infertility" OR TS="kidney" OR TS="renal" OR TS="neph*" OR TS="genital*" OR TS="urogenital" OR TS="testicular" OR TS="urogenital" OR TS="Testosterone" OR TS="hypogonadism" OR TS="gynecol*" OR TS="uterine" OR TS="ovarian" OR TS="cervical" OR TS="estrogen" OR TS="progestin" OR TS="menopaus*" OR TS="postmenopaus*" OR TS="pap smear" OR TS="mammogra*" OR TS="colonoscopy" OR TS="fecal occult blood" OR TS="Cholesterol" OR TS="prostate screening" OR TS="alcohol screening" OR TS="Immuniz*" OR TS="Vaccin*" OR TS="poisoning" OR TS="substance use" OR TS="Illicit drug*" OR TS="drug use" OR TS="alcohol use" OR TS="alcohol abuse" OR TS="nicotine" OR TS="vaping" OR TS="e-cigarette"</p>

Table 2 (continued)

	<p>OR TS="tobacco use" OR TS="Palliative" OR TS="end of life" OR TS="Terminal Care")</p> <p>Refined by: [excluding] DOCUMENT TYPES: (CHRONOLOGY OR LETTER OR NEWS ITEM OR RETRACTED PUBLICATION OR BOOK CHAPTER OR REPRINT OR DATA PAPER OR MEETING ABSTRACT OR BOOK REVIEW OR BIOGRAPHICAL ITEM OR RETRACTION OR EDITORIAL MATERIAL)</p> <p>Refined by: COUNTRIES/REGIONS: (USA) AND LANGUAGES: (ENGLISH)</p> <p>Limit 2000-present; English language</p> <p>Manually excluded studies from non-US countries</p>
<p>Academic Search Complete</p>	<p>(refugee* OR asylee* OR "asylum seeker" OR "asylum seekers" OR "asylum seeking") AND (access* OR accept* OR attitude* OR aware* OR barrier* OR boundar* OR challenge* OR deliver* OR disadvantage* OR dissatis* OR disparit* OR enable* OR gap OR engage* OR experience* OR facilitat* OR gaps OR "help seeking" OR helpseeking OR "health policy" OR inequality OR inequalities OR equity OR inequity OR inequities OR knowledge OR motivat* OR obstacle* OR perceiv* OR perception* OR perspective* OR promotion OR satisf* OR trust OR understand* OR uptake OR usage OR unmet) NOT (TI child* OR adolescen* OR youth OR infant OR newborn OR pediatr* OR paediatr* OR preschool OR neonat* OR minors OR perinatal* OR student*)</p> <p>Turn off Expanders, 2000-2021</p> <p>Limit to Scholarly Journals, Geography United States, English</p> <p>Manually excluded studies from non-US countries</p>
<p>PsycInfo</p>	<p>(refugee* OR asylee* OR "asylum seeker" OR "asylum seekers" OR "asylum seeking" OR (DE "Refugees")) AND</p> <p>(access* OR accept* OR attitude* OR aware* OR barrier* OR boundar* OR challenge* OR deliver* OR disadvantage* OR dissatis* OR disparit* OR enable* OR gap OR engage* OR experience* OR facilitat* OR gaps OR "help seeking" OR helpseeking OR "health policy" OR inequality OR inequalities OR equity OR inequity OR inequities OR knowledge OR motivat* OR obstacle* OR perceiv* OR perception* OR perspective* OR promotion OR satisf* OR trust OR understand* OR uptake OR usage OR unmet OR utilis* OR utiliz* OR "electronic access" OR "medical record" OR "electronic health" OR insurance OR insured OR uninsur* OR underinsur* OR interpret* OR education OR communication OR literacy OR "social isolation" OR "social marginalization" OR "social environment" OR "social conditions" OR determinant* OR psychosocial OR sociodemographic OR discrimination OR caregiv* OR caregiver* OR incarcerat* OR socioeconomic OR income OR employment OR workplace OR work-related OR unemploy* OR impoverished* OR poverty* OR cost OR costs OR neighborhood* OR liveable OR livable OR "built environment" OR housing OR foreclosure OR eviction OR mortgage OR "physical activity" OR exercise OR "sedentary behavior" OR walkability OR walkable OR transportation OR food OR crime OR violence OR (DE "Built Environment") OR (DE "Acculturation") OR (DE "Social Isolation") OR (DE "Marginalization") OR (DE "Health Disparities") OR (DE "Health Care Services") OR (DE "Health Care Delivery") OR (DE "Health Care Costs") OR (DE "Health Care Seeking Behavior") OR (DE "Health Service Needs") OR (DE "Prevention") OR (DE "Underinsured (Health Insurance)") OR (DE "Uninsured (Health Insurance)") OR (DE "Health Literacy") OR (DE "Social Equity"))</p> <p>Limit to United States (PL US) (location field)</p> <p>Turn off Apply related words; Also search within the full text of the articles; Apply equivalent subjects</p> <p>Limit to: Years 2000 – 2021; Source Type Academic Journals; Language English Age adulthood</p>
<p>Google Scholar</p>	<p>refugee "United States"</p> <p>access accept attitude aware barrier challenge deliver dissatisf enable engage factors gaps helpseeking knowledge literacy motivation obstacle perception satisfaction determinant uptake usage use utiliation boundary enable unmet</p>

Author Contributions F.H., R.S.V., and C.H. conceptualized the study. A.D. performed the literature review. C.H. and N.S. screened abstracts. C.H., A.D., S.B., N.S., and K.M. screened studies, performed the quality assessment, and coded the articles. C.H. synthesized the codes into themes and drafted the manuscript. F.H., R.S.V., M.O., N.S., and K.M. provided feedback on the manuscript. All authors reviewed and approved the final version.

Declarations

Conflict of Interest The authors declare that there are no conflicts of interest in conducting this review.

Ethical Approval The authors declare that all authors have reviewed this manuscript and have approved it for submission.

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