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Impact of the Relational, Built, Community, and Policy/Political Environments on Immigrant Child Health: A Narrative Review

Anna Zuckerman[1] · Perry Nagin[2] · Anisa Ibrahim[1] · Andrea E. Green[3] · Elizabeth E. Dawson-Hahn[1]

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Abstract

Purpose of Review We summarize recent evidence describing how the health of first-generation immigrant children (FGIC) is influenced by the relational, built, community, and policy/political environments after migration to the United States.

Recent Findings FGIC health is promoted and strengthened by family values, cultural ties, and positive peer relationships, while prior trauma, stressors in family relationships and discrimination detract from physical and mental health. While individual circumstances vary, some FGIC experience substandard built environments associated with poverty, including housing insecurity, food insecurity, and toxin exposures. Within community environments, FGIC receive support from their cultural communities, but may face challenges in navigating complex education and health systems. The policy/political environment often negatively impacts FGIC's mental health and their ability to access medical and social services.

Summary Healthcare provider awareness about health promoting and detracting factors for FGIC across multiple environments after migration can help inform comprehensive, trauma-informed care.

Keywords Immigrant child health · Environment · Migration · Post-migration · Health outcomes

Introduction

Healthcare providers are uniquely positioned to both care and advocate for immigrant children, from their arrival through supporting integration into their new community. In 2022, one in four children identified as part of an immigrant family; about 4% of all children in the United States, approximately 2.6 million, were estimated to be foreign born [1]. Immigrant children have different pathways to migration to the United States. It is estimated that in 2022, 40% of refugees entering the United States were under the age of 18 years, and similarly, around 40% of forcibly displaced individuals globally were children [2]. Between 2022 and 2024, over 100,000 unaccompanied children were released to sponsors through the Office of Refugee Resettlement [3].

Ties to community and one's culture serve as protective factors after migration, and most children are resilient despite a difficult past journey [4•]. Many children and families face traumatic experiences in their home country prior to migration; armed conflict, stress and trauma of displacement are associated with poor health and mental health outcomes [5–10]. Family support during migration is associated with higher levels of resilience.

There are several resources reviewing recommendations about initial screening and evaluation of immigrant children arriving in the US [11–14], the importance of their migration path, and general reviews detailing approaches to primary care for immigrant children [15–18]. There are fewer reviews, however, about the ongoing adjustment children face after migration and how their new environments impact their health. Once in the United States, immigrant children experience both health promoting and detracting factors. The experience of migration –both the path before and after US arrival – is a social determinant of health (SDOH) for children [19].

Despite interacting with many immigrant patients and families, pediatricians often report feeling unprepared to care for immigrant children, including not understanding the complexity of care needs and influences [20]. The goal of our narrative review is to assess the impact of environmental

✉ Perry Nagin
pnagin@montefiore.org

[1] Department of Pediatrics, University of Washington, Seattle, WA, USA

[2] Department of Pediatrics, Albert Einstein College of Medicine, Bronx, NY, USA

[3] Department of Pediatrics, University of Vermont, Burlington, VT, USA

factors on the adjustment of immigrant children after migration to the United States. This review summarizes recent evidence on the environmental factors impacting the health of foreign-born children under 18 years old arriving in the US (from now on referred to as "first-generation immigrant children" or FGIC), and the role healthcare providers can serve in supporting these children and families.

Methods

This review used narrative review methodology [21] to explore: what environmental factors impact the health of FGIC in the US, and how can healthcare providers promote the health of FGIC? This methodology is well suited to provide a general overview on this topic with room to interpret the findings and note research gaps; it is not an exhaustive literature review approach and it does not include grading the evidence quality.

The authors and a university librarian searched 3 databases (PubMed, Embase, and CINAHL) for English-language articles published in the last 5 years on the health of FGIC in the US. Search terms used included: immigrant, migrant, first generation, refugee, asylee, unaccompanied, undocumented, special immigrant visa, temporary visitor, legal permanent resident, child health, adolescent health, United States. When articles included both first-generation and later-generation immigrant children, or did not specify whether immigrant children were first-generation, articles were included per authors' discretion. In order to draw conclusions from the widest range of papers, the authors (familiar with the field) added articles by personal suggestion, articles through reference lists of previously found articles, as well as policy statements and guidelines from professional organizations. All included materials will be referred to as publications moving forward. Commentaries, editorials, and gray literature were excluded. The publication search and selection process were stopped when authors felt that topic saturation was reached.

Results

There were 349 publications identified for this narrative review; 10 additional publications were found through author suggestions, and 8 additional publications through reference lists of reviewed publications. AZ and PN reviewed publications to choose relevant ones based on relevance to the research question (focused on FGIC in the US) and the addition of a novel perspective to the review, yielding a total of 74 publications, which were included in the final review. Authors then categorized publications into one of four categories of environmental impact on the health of FGIC – relational environment (21 publications), built environment (21 publications), community environment (17 publications), and policy/political environment (15 publications). Eight publications addressed multiple environments. Figure 1 shows the definition of each environment. Authors then reviewed publications to describe each publication's population, methods, and health outcomes and associations considered (Table 1) and summarized main findings below.

Relational Environment

Relationships are a major source of resilience and well-being in the lives of all people, including immigrant children. A total of 21 publications in our search examined the impact of the relational environment on the health of FGIC. Most publications focused on the association between family relationships and mental health outcomes, and some addressed the association between relationships with peers and other adults in the community and physical health outcomes.

In many immigrant families, strong family ties provide major sources of resilience, and separation from family before, during, or after the migration journey is a toxic stress for children. In a study of affidavits of minors seeking asylum in the US, most of whom reported migration-related family separation and multiple traumatic stressors in their home country, 80.5% presented with significant symptoms of trauma-related disorders, depression, and/or anxiety [22•]. Additionally, the well-being of parents is impactful on the well-being of children; for example, in a study of West African immigrant children, parental post-traumatic stress disorder (PTSD) was associated with externalizing behaviors in children, which was strongest in parent-child dyads that experienced more than 1 year of separation [23]. In a survey of Latinx middle schoolers in Atlanta (12% of whom were born outside the US), family member detention or deportation once in the US was associated with an increased risk of suicidal ideation, alcohol use, and externalizing problems in youth [24]. Even the fear of family member detention or deportation can negatively impact youth mental health [25, 26•]; Latinx youth with unauthorized parents have more internalizing symptoms and a higher allostatic load—a combination of physiologic parameters including BMI, blood pressure, pulse, glucose metabolism, lipid regulation, and inflammation [26•].

When immigrant children come to the US after a period of parental separation either before migration, during migration, or at the border, reunification brings its own challenges. Reunification with family is a sensitive process of reattachment, especially given prior trauma of separation [22•, 27]. Additionally, some unaccompanied minors resettle with non-parental relatives or with non-family caregivers; youth living with non-family caregivers had less sources of resilience and less friends, while those living with non-parental relatives reported having more friends [4•]. Challenges with family reunification or placement with a non-parent sponsor can

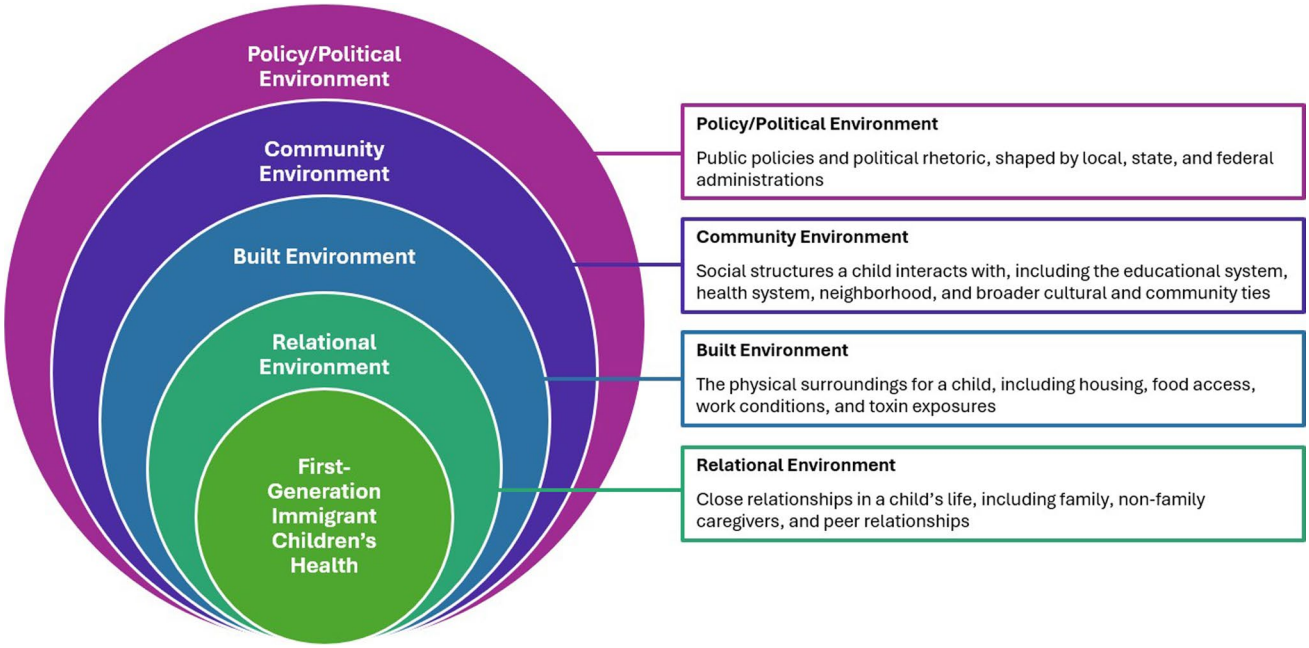

Fig. 1 Categories of environmental impact on the heath of first-generation immigrant children

also contribute to an increased risk for labor and sex trafficking/exploitation of unaccompanied immigrant children; other factors that increase the risk of exploitation for this population include exposure to xenophobia, adjustment challenges, lack of familiarity with new culture and laws, and trouble accessing resources [28].

Another theme of the relational environment is the impact of acculturation and parents' own mental health on parenting practices, parent-child relationships, and children's mental health. Both children and families face acculturation stress with a new environment, social norms, language, and systems. Children, however, often acculturate faster than parents [29], leading to changes in family power dynamics, challenging parents' abilities to uphold traditional family values [30] and monitor health behaviors such as substance use [31]. Additionally, in the US, families often have much less support from extended family and other community members compared to their home countries [30]. Parents of Syrian refugees voiced trouble finding time to spend with their family given long work hours, an experience likely shared by other immigrant groups [29]. Additionally, acculturation stressors are associated with increased risk of intimate partner violence (IPV) in immigrant populations, especially with more time spent in the US [32]. IPV negatively impacts children's mental health, including increased rates of PTSD, anxiety, and depression [32]. Given such high prevalence of IPV in immigrant families (30-60% self-reported rates) and barriers to seeking help, it is very important for healthcare providers to screen for IPV using culturally sensitive tools when taking care of immigrant children [32].

Acknowledging the impact of family relationships on children's physical and mental health, several publications examined interventions to support family well-being. The Family Strengthening Intervention for Refugees (FSI-R) demonstrated improved family power dynamics and child mental health [33, 34], and a culturally based intervention with the Filipino community demonstrated promising engagement by families [35]. Additional proposed sources of support are faith communities and nonparental adult mentors [36].

For many children, especially adolescents, peer relationships are also incredibly impactful. Immigrant adolescents who reported greater peer and family social support reported greater resilience during adversity, and ethnic identity searching (learning about and engaging in activities related to one's culture) enhanced the relationship between peer social support and resilience [37]. Adolescents are more likely to form friendships with peers who share their immigrant generation status, and first-generation youth with more same-generation friends are less likely to report several risk-taking behaviors [38]. Peer relationships, however, can also negatively impact physical and mental health after arrival to the US. Through the process of acculturation, efforts to gain more peer acceptance can lead to conflict in family relations [39]. A study among first-generation Hispanic children had lower rates of obesity compared to later generations; having a social network with more second-generation friends was associated with a higher BMI among first-generation Hispanic children [40]. While rates of alcohol use were lower among first-generation Latinx youth at baseline compared

Table 1 Publications included in this narrative review: methods and health outcomes addressed

Author, Year	Article Title	Population*	Method	Health Outcome Addressed
Relational Environment				
Abdi et al. [39]	Promoting positive development among refugee adolescents	Refugee adolescents	Expert consensus statement based on literature review	Review of developmental tasks, acculturative tasks, and psychological adjustment of refugee adolescents
Anakwenze and Rasmussen [23]	The impact of parental trauma, parenting difficulty, and planned family separation on the behavioral health of West African immigrant children in New York City	Parents of West African Origin with at least one child ages 5-12	Quantitative surveys and published screening tools	Impact of parental trauma, parenting, and family separation on children's externalizing behaviors
Cole et al. [37]	Social support and resilience among Burmese adolescent refugees: Examining ethnic identity searching and belonging as moderators	Burmese adolescent refugees, ages 14-19, grades 8-12	Published screening tools	Impact of social support on resilience of adolescent refugees
d'Abreu et al. [29][a]	Hope for the future: A qualitative analysis of the resettlement experience of Syrian refugee adolescents and parents	Syrian adolescent refugees (ages 14-16) and their parents	Qualitative focus groups	Acculturation, mental health, and academic experience of adolescent refugees
Delgado et al. [27]	Community-Based Trauma-Informed Care Following Immigrant Family Reunification: A Narrative Review	Unaccompanied immigrant children reunifying with parents	Narrative review	Parent-child relationship and mental health during separation and reunification, strengths and benefits of two reunification programs for Latinx children and families
DiClemente-Bosco et al. [34]	Understanding mechanisms of change in a family-based preventive mental health intervention for refugees by refugees in New England	Bhutanese and Somali Bantu refugee families with children ages 7-17	Qualitative interviews	Intervention evaluation and impact of intervention on family relationships
Gonzalez et al. [40]	Associations of peer generational status on adolescent weight across Hispanic immigrant generations: A social network analysis	Hispanic adolescents (either first-, second-, or third-generation immigrants), 12-19 years old	Quantitative surveys	BMI (collected by self-reported height and weight)
Greenbaum et al. [28]	Exploitation, Labor and Sex Trafficking of Children and Adolescents: Health Care Needs of Patients	Children and adolescents in the US experiencing trafficking and exploitation	Clinical report	Guidance on identifying possible trafficking/exploitation and common physical and mental health problems experienced by affected individuals
Javier et al. [29]	Promoting Enrollment in Parenting Programs Among a Filipino Population: A Randomized Trial	Filipino caregivers of children ages 6-12	Quantitative surveys and program enrollment data	Effectiveness of video-based intervention on caregiver enrollment in parenting program
Lemon et al. [25][b]	"I Can Never Feel Safe": Latinx Youth Voices on Psychosocial Impacts of 287(g) in Georgia	Latinx adolescents ages 14-18 in Georgia	Qualitative photovoice sessions	Impact of immigration enforcement program on mental health of Latinx youth
McMillan [38]	Tied Together: Adolescent Friendship Networks, Immigrant Status, and Health Outcomes	National sample of adolescents in grades 7-12	Quantitative surveys	Impact of friends' immigration generation on adolescents' negative health outcomes and substance use

Table 1 (continued)

Author, Year	Article Title	Population*	Method	Health Outcome Addressed
Neville et al. 2019	Investigating Outcomes of a Family Strengthening Intervention for Resettled Somali Bantu and Bhutanese Refugees: An Explanatory Sequential Mixed Methods Study	Bhutanese and Somali Bantu refugee families with children ages 7-17, as well as interventionists	Quantitative surveys, qualitative interviews, and published screening tools	Impact of intervention on family dynamics and children's mental health, as well as intervention feasibility/acceptability
Orjuela-Grimm et al. [4•]	Household composition after resettlement and emotional health in adolescent migrants	Unaccompanied adolescents from Latin America arriving in NYC	Quantitative surveys, qualitative interviews, and published screening tools	Impact of household composition on adolescents' resilience and emotional well-being
Ormiston et al. [41]	Underage Alcohol Use by Intersectional Identity Among Alternative High School Students	Hispanic/Latino alternative high school students in California	Quantitative survey and published screening tools	Impact of gender, ethnicity, and immigrant generation status on alcohol use
Potochnick et al. [26•]	Immigrant Parent Legal Status and Children's Health in the Hispanic Community Health Study of Latino Youth (SOL Youth)	Hispanic/Latino youth (ages 8-16) in the Bronx, Chicago, Miami, San Diego	Quantitative surveys, physical exams, laboratory tests	Allostatic load (combination of waist circumference, BMI, BP, pulse, Hba1c, lipid panel, measures of inflammation and hemostasis) and internalizing disorders (depression, anxiety, disordered eating)
Prakash et al. [32]	Improving Health Outcomes for Immigrant Families Through IPV Screening: Resources and Recommendations for Pediatric Health Care Providers	Children exposed to intimate partner violence	Review	Impact of IPV exposure on lifelong mental health problems
Roche et al. [24][b]	Association of Family Member Detention or Deportation With Latino or Latina Adolescents' Later Risks of Suicidal Ideation, Alcohol Use, and Externalizing Problems	Latino/a middle school students ages 11-16 in Georgia	Quantitative surveys, published screening tools	Impact of family member detention or deportation on adolescent mental health and alcohol use
Rosenberg et al. [30][a]	Recently-Arrived Afghan Refugee Parents' Perspectives About Parenting, Education and Pediatric Medical and Mental Health Care Services	Recently arrived Afghan refugee parents	Qualitative interviews	Parents' experiences with parenting, education, and health care services
Sangmo et al. [22•]	The Experiences of Minors Seeking Asylum in the United States: A Modified Consensual Qualitative Research Analysis	Minors (<21 years old) seeking asylum in the US	Qualitative chart review of personal declarations and clinician medico-legal affidavits	Prevalence of psychological sequelae and physical injuries among minors seeking asylum
Wilhelm et al. [31]	Belonging to Three Worlds: Somali Adolescent-Parent Relationships in the United States and Implications for Tobacco Prevention	Somali professionals working with Somali adolescents and their families	Qualitative interviews	Impact of adolescent-parent relationship on adolescent tobacco use

Table 1 (continued)

Author, Year	Article Title	Population*	Method	Health Outcome Addressed
Wilhelm et al. [36]	Key Informant Perspectives on Somali Adolescent Tobacco Use: Contextualizing Influences and Prevention Opportunities	Somali professionals working with Somali adolescents and their families	Qualitative interviews	Risk and protective factors in adolescents' tobacco use decision making
Built Environment				
Abunimer et al. [50]	Food Insecurity During the COVID-19 Pandemic: A Spotlight on Latinx Communities	Refugee and immigrant populations in Southern VA	Quantitative survey and published screening tool (Hunger Vital Sign)	Food insecurity
Arcury et al. [58]	Health and occupational injury experienced by Latinx child farmworkers in North Carolina, USA	Latinx child farmworkers under the age of 17 in North Carolina	Quantitative interviews	Occupational health and safety
Arcury et al. [59]	Pesticide exposure among Latinx child farmworkers in North Carolina	Latinx child farmworkers under the age of 17 in North Carolina	Longitudinal study including quantitative interview data and pesticide exposure	Occupational pesticide exposure
Arnold et al. [60]	Heat-Related Illness Among Latinx Child Farmworkers in North Carolina: A Mixed-Methods Study	Latinx child farm workers in North Carolina	Quantitative and qualitative interviews	Latinx child farmworkers' experience of working in heat and heat-related illness
Balza et al. [55]	Elevated blood lead levels of refugee children in the United States: a systematic review of recent literature (2011-2021)	Refugee children in US	Systematic review	Blood lead levels
CDC [57]	Screening for Lead during the Domestic Medical Examination for Newly Arrived Refugees	Refugee children in US	Screening guideline	Blood lead levels
Chang [51][a]	Social Determinants of Health and Health Disparities Among Immigrants and their Children	Immigrant population in US	Review	Social determinants of health
Choi et al. [49][a]	Neighborhood Environment and Child Health in Immigrant Families: Using Nationally Representative Individual, Family, and Community Datasets	Children from immigrant families in US	Quantitative surveys and census data	Neighborhood effects on socioemotional and physical health
Danaher et al. [46•]	Collateral Damage: Increasing Risks to Children in a Hostile Immigration Policy Environment	Children from immigrant families in US	Review	Impact of immigration policies on children's mental and physical health
Donley et al. [54]	Pesticides and environmental injustice in the USA: root causes, current regulatory reinforcement and a path forward	Black, Indigenous and People of Color (BIPOC) and low income communities in the US	Review	Pesticide exposure

Table 1 (continued)

Author, Year	Article Title	Population*	Method	Health Outcome Addressed
Farabi et al. [61]	Health Determinants of Asthma among Hispanic/Latino Children Enrolled in the Michigan Migrant and Seasonal Head Start Programs	Children in the Migrant and Seasonal Head Start (MSHS) Program in Michigan	Quantitative interviews and chart review	Prevalence of asthma
Halevy-Mizrahi and Harwayne-Gidansky. [45]	Medication confiscation: How migrant children are placed in medically vulnerable conditions	Children in US Detention	Case studies	Medication confiscation
Jones et al. [53]	Neighborhood and Behavioral Effects on Weight Change Across Immigrant Generations: Evidence from the National Longitudinal Study of Adolescent to Adult Health (Add Health)	Adolescents in US	Prospective longitudinal cohort of interviews from national data collection	Impact of neighborhood characteristics on weight
Kasten-Arias et al. [62][a]	Healthcare utilization for asthma exacerbation among children of migrant and seasonal farmworkers	Latino children of Migrant and Seasonal Farmworkers	Retrospective observational health study using EMR data	Acute outpatient clinic visits, ED visits and hospitalizations for asthma
Linton et al. [48]	AAP Policy Statement: Detention of Immigrant Children	Immigrant children seeking refuge in US	Policy Statement	Impact of detention on child health
MacLean et al. [44]	Mental health of children held at a United States immigration detention center	Children held in detention	Quantitative surveys and published screening tools	Mental health of children
Mares [43]	Mental health consequences of detaining children and families who seek asylum: a scoping review	Children detained across 6 countries (Australia, Canada, Hong Kong, Netherlands, the UK and the US)	Scoping review	Mental health of children detained
Nwadiuko [47]	Pediatric Hospitalizations from Immigration Detention in Texas, 2015-2018	Immigrant children detained in Texas, under 18yo	Chart review of hospital data	Admissions diagnoses and ICU stays of detained children
Sriraman [42]	Detention of Immigrant Children – A Growing Crisis. What is the Pediatrician's Role?	Immigrant children who experienced detention in US	Review	Scope of detention, impact on physical and mental health of children
Weith [52]	Practitioners' Perspectives on Barriers and Benefits of Telemental Health Services: The Unique Impact of COVID-19 on Resettled U.S. Refugees and Asylees	Healthcare providers serving refugee patients and non-refugee patients	Cross sectional survey	Access to telehealth
Wessel and Anderko [56•]	Assessment and Prevention of Lead Poisoning in Refugee Populations`	Refugee children in US	Analysis of screening guidelines and risk assessments	Lead screening
Community Environment				
Alwan et al. [66]	Beliefs, perceptions, and behaviors impacting healthcare utilization of Syrian refugee children	Syrian refugee parents with children under age 18 in Ohio	Qualitative interviews	Barriers to health seeking, resilience behaviors to address these barriers, and perceptions of healthcare system

Table 1 (continued)

Author, Year	Article Title	Population*	Method	Health Outcome Addressed
Arora and Algios [74]	School-Based Mental Health for Asian American Immigrant Youth: Perceptions and Recommendations	Asian American immigrant high school students, ages 14-20	Qualitative focus groups and quantitative surveys	Perceptions of school-based mental health services and recommendations for better engaging students and addressing healthcare needs
Buitron et al. [71]	Mental health services use and social support among Latinx families with adolescents who engage in suicidal behavior	Latinx youth ages 12-17 recently admitted to psychiatric hospitalization and their caregivers	Qualitative interviews, quantitative surveys, published screening tools,	Association of acculturation and enculturation with mental health services use and social support
Carmine [68]	Current challenges in school-based health center care: COVID, mental health care, immigrant youth, expansion of telemedicine	School-based health centers nationally, including those serving immigrant children	Review	Societal issues in the last 4 years that have impacted the care provided at SBHCs
Cheng and Lo [69]	Factors Related to Use of Mental Health Services by Immigrant Children	First- and second-generation immigrant children and families	Quantitative survey data from National Survey of Children's Health	Association of demographic and health factors with likelihood of receipt of mental health services
Forster et al. [65]	Perceived Discrimination, Coping Styles, and Internalizing Symptoms Among a Community Sample of Hispanic and Somali Adolescents	Somali and Hispanic immigrant youth	Quantitative survey and published screening tools	Impact of perceived discrimination on mental health, and how coping strategies moderated the association
Kaplin et al. [73]	A Review of the Use of Trauma Systems Therapy to Treat Refugee Children, Adolescents, and Families	Children and adolescents in refugee families	Review	Strengths and limitations of the Trauma Systems Therapy for Refugees
Miller et al. [72•]	Leveraging community-based mental health services to reduce inequities for children and families living in United States who have experienced migration-related trauma	Immigrant children and families who have experienced migration-related trauma	Review	Description of the Trauma Systems Therapy for Refugees and evidence of its effectiveness
Stark et al. [63]	Correlates of Suicide Ideation and Resilience Among Native- and Foreign-Born Adolescents in the United States	High school students in Virginia and Michigan	Quantitative surveys	Impact of hope, school belonging, stressful life events, and being born outside of the US on resilience and suicidal ideation
Trent et al. [64]	AAP Policy Statement, Impact of Racism on Child and Adolescent Health	Children and adolescents in the US	Policy statement	Impact of racism on child and adolescent health
Valdez et al. [67][b]	Structural Racism and Its Influence On Sexual and Reproductive Health Inequities Among Immigrant Youth	Immigrant youth and youth service providers in Massachusetts	Qualitative interviews	Influence of structural racism on sexual and reproductive health inequities among immigrant youth
Zuckerman et al. [70]	Latino parents' perspectives on barriers to autism diagnosis	Parents of Latino children with Autism Spectrum Disorder ages 2-10	Qualitative focus groups and interviews	Barriers to Autism Spectrum Disorder diagnosis in Latino children

Table 1 (continued)

Author, Year	Article Title	Population*	Method	Health Outcome Addressed
Policy/Political Environment				
Caballero et al. [77]	Impact of Anti-Immigrant Rhetoric on Latinx Families' Perceptions of Child Safety and Health Care Access	Latinx families in the US	Cross sectional study, quantitative surveys	Impact of political rhetoric on healthcare access in pediatric population
Choi et al. [81]	Consequences of the 2019 Public Charge Rule Announcement and Publication on Prenatal WIC Participation Among Immigrant Families: Evidence of Spillover Effects	Immigrant women, infants and children in WIC program	Quantitative data on program enrollment	Participation in WIC after 2019 Public Charge Rule
El-Banna et al. [86]	The Intergenerational Health Effects of the Deferred Action for Childhood Arrivals Program on Families With Mixed Immigration Status	Undocumented immigrants	Qualitative interviews	Intergenerational health effects of DACA eligibility
Koball et al. [84•]	The Relationship Between States' Immigrant-Related Policies and Access to Health Care Among Children of Immigrants	Undocumented immigrants	Quantitative survey and policy data	Relationship between having a driver's license and unmet medical needs of child
Lipton et al. [83]	California's Health4All Kids Expansion And Health Insurance Coverage Among Low-Income Noncitizen Children	Non citizen children in California	Quantitative survey data	Impact of policy change on uninsurance rates
Lonquich at al. [79]	State-Specific Medicaid/CHIP Eligibility Criteria and Their Impact on Health Care Access for Foreign-born Children Living in the United States	Foreign-born children	Quantitative survey data from National Survey of Children's Health	Relationship between insurance coverage and numerous health care outcomes
Oparil and Scott [78]	State of the Art: the Not-So-Great Wall of America	Undocumented immigrants	Review	Impact of Donald Trump administration's rhetoric on healthcare outcomes
Patler et al. [87]	Uncertainty About DACA May Undermine Its Positive Impact On Health For Recipients And Their Children	DACA-eligible immigrants and their children in California	Quantitative survey	Self-reported health
Perreira and Pedroza [80]	Policies of Exclusion: Implications for the Health of Immigrants and Their Children	Immigrants in US	Review	Impact of public policies on immigrants' health
Raphael et al. [76]	Public Charge: An Expanding Challenge to Child Health Care Policy	Children in US	Brief review	Impact of public charge on broader child well-being

Table 1 (continued)

Author, Year	Article Title	Population*	Method	Health Outcome Addressed
Sudhinaraset et al. [85]	The association between Deferred Action for Childhood Arrivals, health access, and mental health: the role of discrimination, medical mistrust, and stigma	Undocumented Latino and Asian and Pacific Islander young adults in California	Quantitative surveys	Impact of DACA eligibility on health-care engagement
Vernice et al. [75•]	The adverse health effects of punitive immigrant policies in the United States: A systematic review	Immigrant communities in US	Review	Impact of punitive immigration policies on immigrant health outcomes

*There is heterogeneity in percentage of FGIC included in the sample of each publication, and not all publications cited this explicitly

[a] Also cited in the Community Environment section

[b] Also cited in the Policy/Political Environment section

to their peers, rates of alcohol use were among the highest when reassessed two years post-resettlement [41]. Additionally, perceived discrimination by peers is a source of distress and isolation [39]. Thus, overall, peer relations can both promote and detract from physical and mental health outcomes.

Built Environment

In our search, 21 publications addressed the impact of the built environment on FGIC's health. The main themes that emerged were the poor conditions of immigration detention; the impact of poverty on immigrant children; and risks of toxin exposure.

One of the first environments that some FGIC are exposed to is the border of entry into the United States, and for some, the physical environment of detention. A significant portion of literature touches upon time in detention, which is correlated to poorer health outcomes for children, higher rates of developmental delays, hyperactivity and conduct disorder, as well as higher rates of PTSD and stress [42–44]. Reports of medication confiscation were also common, placing children at risk for medical crises both in detention and in the community without needed medications [45]. Congregate and unsanitary living situations increase the risk of infectious diseases, and requirements for safe and sanitary conditions in Customs and Border Protection custody do not include provision of soap [46•]. Numerous publications discussed that the physical environment of detention is not safe for children and should be avoided at all costs [47]; these sentiments are further supported by the American Academy of Pediatrics' policy statement, reaffirmed in 2022 [48].

Upon arrival into a community in the US, neighborhood poverty was found to be a risk factor for parent-reported poor physical health of children [49]. Food insecurity is higher among some immigrant communities compared to US-born communities [50], and food insecurity is associated with poorer socioemotional health for children [49]. Food insecurity screening rates were as high as 75% amongst some immigrant families in the US, and one publication found food insecurity as high as 100% in asylum seeking families [50, 51]. FGIC are reported to also have lower access to telehealth services than non-immigrant children due to barriers to accessing stable internet [52], which has implications for schoolwork, parental work options and healthcare access.

FGIC face numerous challenges due to pollution and toxin exposures as well, making physical activity unsafe or less healthy [53, 54]. FGIC are at increased risk of elevated lead levels both from pre-migration exposures, particularly in those who spent time in refugee camps [55], as well as in post arrival environments. One study found that 30% of refugee children had elevated lead levels at repeat screening after arrival in the US, suggesting ongoing exposures post arrival such as paint, pipes, pots, make-up, and toys [56•].

Current recommendations highlight the importance of repeat screening three to six months after arrival given such risks [57]. Parents and children are often under pressure to take jobs with poorer working conditions and fewer protections, such as agricultural work, which increases risk for pesticide exposure, heat stroke and asthma exacerbation risks [58–61]. Even if not the agricultural worker themselves, having a parent involved in farm work increases exposure risks [61, 62]. Children in migrant seasonal worker families are also more likely to live in environments with more asthma triggers [62].

Community Environment

In addition to the immediate relationships in immigrant children's lives, the community environment within which they live influences health. A total of 17 publications in our search addressed community impact on the health of FGIC. The main themes of these publications included the health impacts of the school environment, neighborhood culture, discrimination, and healthcare utilization.

In the school environment, belonging amongst peers was a common theme across the included publications. In a cohort of US high school students, 43% of whom were FGIC, a higher level of perceived school belonging for students was associated with higher resilience and lower suicidal ideation, while an increased number of stressful life events and specific regions of birth were associated with increased risk for suicidal ideation [63]. In qualitative interviews with Syrian refugee adolescents and parents, they reported several challenges in the new school environment that impact their sense of belonging, including language barriers, different social norms, and trouble communicating with the school system [29]. Additionally, FGIC are more likely to experience isolation and victimization in the classroom than their nonimmigrant peers [30], and perceived discrimination can impact mental health [64]. In a study of Somali and Hispanic immigrant youth, perceived discrimination was associated with symptoms of depression and anxiety [65]. Further, youth who used problem-focused coping strategies, rather than emotion-focused coping strategies, had less symptoms, providing a possible avenue for intervention to enhance coping strategies [65].

Neighborhood community characteristics influence immigrant child health as well. Some parents of Syrian refugees perceived their neighborhood to be unsafe, which made them afraid to leave the house and was a barrier to seeking healthcare services [66]. In a survey of children with foreign-born parents, neighborhood trust (feeling like people can be trusted and help each other) was associated with parental reports of increased overall physical and socioemotional health for children [49]. Parents of Syrian refugees reported that having their cultural community living around them is helpful in maintaining values and identity [29], and members of the cultural community can assist with answering questions, transportation, translation, and emotional support [66].

Health system access is also a part of the community environment. Health insurance coverage is a key factor influencing health system access (discussed in the policy/political environment section), and there are many additional barriers for families to access medical care. These include linguistic barriers (English-language automated reminders, lack of interpreters, difficulty understanding available interpreters, lack of adequate translation and cultural considerations in health education), limited health literacy, disjointed or non-existent care coordination, and difficulties with transportation [66, 67]. When families interact with the health care system, there are also individual, family, and cultural level factors that interplay with the community environment such as cultural perceptions of health care, family members' mental health and prior experiences with the system which may have been traumatic, and the need to have time away from work [29]. Such barriers make it more difficult for immigrant children to access preventive health services, and immigrant children have lower immunization rates, lower likelihood of being prescribed preventative asthma medications, and higher rates of infectious diseases compared to native US born children [51]. Language barriers and lack of culture-centered support have also been shown to contribute to sexual and reproductive health inequities among immigrant youth [67]. However, the presence of a primary care physician in the neighborhood was associated with improved parent-reported child health status [49], and the ability to access acute visits for asthma in Federally Qualified Health Centers (which often have culturally and linguistically concordant services) was associated with lower emergency department visits and hospitalization rates among children of migrant seasonal farm workers [62]. Access to a medical home and school-based health can help mitigate some of the barriers to care that FGIC and their families experience [66–68].

There are parallel and additional barriers to accessing mental and behavioral health services for children in immigrant families. FGIC are less likely to access mental health services, and speaking a language other than English at home was associated with decreased access [69]. Parents of Latino children (not limited to immigrant children) reported language barriers, poverty, lack of empowerment, and confusion about the diagnostic process as contributors to delays in autism spectrum diagnosis among Latino children [70]. In a study of Latinx youth admitted for suicidal behavior to psychiatric hospitals, 20% had not accessed any formal mental health services prior to hospitalization (including outpatient mental health care, primary care support, school staff support) [71]. Being a FGIC and higher caregiver enculturation (maintaining the beliefs and values of one's

culture of origin) were associated with lower likelihood of use of formal mental health services, and speaking Spanish was associated with lower social support [71].

In contrast to the many challenges in accessing mental health services, there is a growing focus on solutions. For example, the Trauma Systems Therapy for Refugees (TST-R) is a multi-tiered prevention and intervention model developed with community-based participatory research that provides mental health services in a community-based, trauma-focused, culturally responsive way by collaborating with the school, family, and cultural brokers [72•, 73]. TST-R addresses stressors in a social ecological framework and has been successfully implemented across cultural groups including with youth in the Somali and Bhutanese communities in the US [72•]. This model demonstrates promise in reducing inequities to accessing mental health services among immigrant populations [72•]. A study among Asian-American immigrant youth showed that even when school-based mental health services are available, it is important to provide education about mental health services, engage families, and explain confidentiality to decrease inequities in utilization [74].

Policy and Political Environment

Immigration policy shapes not only legal outcomes for FGIC and their families but also health outcomes through access to programs and services. The policy/political environment that a child interacts with may extend from their first experience entering the US to the rhetoric and policies in place at the community, state, and federal levels. Our search resulted in 15 publications addressing the impact of the policy/political environment on an FGIC's health, with an emphasis on the influence of negative political rhetoric on healthcare seeking behaviors, and impact of insurance coverage on health outcomes.

The policy/political environment an FGIC is welcomed into has a significant impact on family and child acclimation and sense of belonging. Negative immigration rhetoric and anti-immigrant legislation (defined as legislation that "serves to restrict immigrant access to basic services, public benefits, or employment, or increase the threat of legal consequence or deportation" [75•]) impacts family stress levels and limits access to medical and social services through the "chilling effect": regardless of true eligibility for services, such rhetoric and policies instill fear, confusion about eligibility, and fear of becoming a public charge [76], decreasing willingness to access services families are eligible for [77–82]. Insurance rates are lower in communities with more restrictive access to health care benefits, and medical insurance is a positive predictor of health outcomes [79]. The impact of immigrant unfriendly policy/political environments on mental health, in particular, has been an area of active research [80]. The presence of harsher state-level and national immigration policies and stricter enforcement is associated with negative mental health impacts on children [24, 25], as well as decreased health-seeking behaviors and decreased access to social services [75•, 80].

On the contrary, policy/political environments that were viewed as friendly or inclusive to immigrants were associated with positive health outcomes, largely due to increased insurance rates, resulting in improved preventative care and decreased morbidity, as well as improved self-assessment of mental health [79, 83, 84•]. One publication by Koball showed a positive correlation between the ability of an undocumented immigrant to receive a driver's license and positive health outcomes [84•]. The Deferred Action for Childhood Arrivals (DACA) program eligibility among adolescents had a positive impact on their mental health and health seeking behaviors [85, 86]; however, uncertainty about the future of DACA due to changes in federal administration led to worsening in parent-reported child health to pre-DACA levels among DACA-eligible immigrants and their children [87]. More publications focus on negative policies and a gap that remains is further studying the impacts of friendly, sanctuary policies on health [80].

Discussion

This narrative review summarizes recent evidence about the impact of the relational, built, community, and policy/political environments on the health of FGIC and their families after arrival to the United States. Based on our literature review and our collective clinical experience, table 2 summarizes our recommendations for how providers can screen for environmental factors that may influence FGIC health and best support the well-being of FGIC and their families. It is critical to remember that establishing a trusting therapeutic relationship over time and multiple visits is the cornerstone of effectively partnering with families of FGIC to help families adjust to their new environments. It is also imperative to continually incorporate cultural humility, cultural safety, and cultural sensitivity into clinical care to reduce healthcare disparities [88–90].

While our search yielded publications with a variety of methods and health outcomes which are clinically useful in the care of immigrant children and families, we also identified several gaps in recent literature based on our clinical experience. Identified gaps include exploring the relationship between physical and mental health outcomes and the role of: care coordination between schools and health systems; early childhood and infant learning; communities of faith; social media; job environments, adultification, and employment off record; and sanctuary policy impact on health. From our collective experiences, housing instability also plays a significant

Table 2 Addressing environmental impacts with first-generation immigrant children and their families during routine clinical care

Environment	Questions to ask [a]	Screening topics to consider and possible screening tools to use [b,c]	General Recommendations
Relational	• Migration history [15], inviting to share as much or little as comfortable • Social history: who did you live with before, who did you travel with, and who do you live with now • Current family dynamics, potential stressors, and immediate concerns • Sources of support and resilience • Experiences with peers, both positive and negative • Substance use	• Child/adolescent mental health symptoms (for example, the SDQ and RHS-15, others [see link for others [91]) and resilience factors [92] • For younger children, consider using the SWYC [93] • Parents' mental health • Intimate partner violence [94] • Child sex trafficking [95]	• Interventions that improve the mental health of parents and family dynamics positively impact children's mental health; educate about and connect to mental health supports for children and parents (examples: dyad therapy, behavioral health integration program in clinical sites) • Connect guardians to resources to support acculturation (language classes, financial literacy, systems awareness, parenting classes) to avoid adolescent adultification [96] • Family Preparedness Plan [97, 98]
Built	• Time spent in detention • Housing conditions, including lead, heating/cooling, water, electricity • Food access • Work environment of child and parent, including possible occupational hazards • Access to technology (phone, internet) • Access to transportation • Access to recreational/outdoor spaces	• Use a structured Social Determinants of Health screener - for example, WE CARE [99], Health Leads [100] • Consider using the Hunger Vital Sign [101] • Lead screening on arrival for all children ≤16yo, or deemed higher risk; and 3-6 months later for all children ≤6yo, or those higher risk [57]	• Connect patients to social workers, legal supports, and community resources for food and housing assistance • Educate patients on health topics such as hand hygiene, lead exposure risk, food resources, food storage and safety, tenant rights. • Advocate for better physical environments and social services, from internet access to food security and lead-free living spaces [102]
Community	• Language learning and supports • Experiences with the school system and peers at school • Feeling of safety and belonging in community • Connection to ethnic/cultural/spiritual community • Experiences with accessing healthcare system, including language, transportation, and other logistical barriers • School absenteeism	• Consider using the Strengths and Difficulties Questionnaire [103]	• Educate about ways to connect to the school system and offer support with school communication if needed • Educate families about the local healthcare system, including preventative care • Use interpreters and address other places where patients may encounter language barriers (ex: automated reminders) • Advocate for diverse language options in health materials • Connect families to resources to overcome barriers such as transportation, ideally engaging a social worker or care coordinator • Advocate for ongoing education for healthcare providers and community about FGIC • Advocate for community health centers and school-based health services • Connect to local cultural community organizations • Advocate for ongoing research on successful community-based interventions such as TST-R • Find ways to learn about the communities you serve, including resources such as EthnoMed [104], CORE [105], CDC Refugee Health Profiles [106]

Table 2 (continued)

Environment	Questions to ask [a]	Screening topics to consider and possible screening tools to use [b,c]	General Recommendations
Policy/political	• Need for legal services • Connection to programs a patient is eligible for, including food assistance and health insurance • Experiences of discrimination/victimization	Authors are not aware of formal screening tools	• Look for opportunities to learn about local and broader policy/political environment, to both assess impact on patient's mental health as well as connect patients to available resources • Vote • Advocate for permanent policies to reduce the harms of uncertainty • Provide "know your rights" cards [107] • Consider immigrant-friendly posters in healthcare spaces • Connect to legal supports, ideally embed legal supports through medical-legal partnerships (example: [108]) • Connect to health insurance • Be mindful of secondary trauma to healthcare providers taking care FGIC

[a] Obtaining this history requires establishing a trusting relationship across multiple visits; always review confidentiality and patient's autonomy over how much to share.

[b] Most screeners are not validated for non-English speakers, and with FGIC, are often verbally administered with interpreters. Using Bicultural, Bilingual Family Navigators can help with screening [109]. The PolicyLab has developed guidance for healthcare providers on effectively translating standardized pediatric questionnaires [110].

[c] Given that multiple screening tools exist, start by picking a few and getting comfortable with them.

role in health outcomes for families, and we did not identify any publications focused on this area. While a few publications discussed community and family-based interventions, these were limited and there is an opportunity for more health promotion and resiliency fostering interventions. On the contrary, the experience of detention felt more frequently studied, with less publications studying other pathways of migration and health outcomes. While several research gaps were identified, it is important to acknowledge that the environments surrounding FGIC are dynamic, and evidence gaps are inevitable. In these cases, healthcare providers can lean on their collective clinical expertise, including consultations with colleagues and adapting evidence from other patient populations and professional fields as appropriate.

Conclusions

The health of FGIC is influenced by a myriad of ever-changing environmental factors within the United States. Providers caring for FGIC must continually reassess not only the influences of pre-migration environments and the migration journey, but also the environments that become home for FGIC and their families in the US. More research is needed to elucidate the impact of different post-migration environmental factors on FGIC's health, considering the heterogeneity of this large group of children, including different migration journeys, legal status designations, and resources post-resettlement. Additional research, ideally rooted in community participation, will help hone and refine best practices for immigrant child health care.

Author Contributions A.Z. and P.N. reviewed publications to choose relevant ones based on relevance to the research question. All authors then reviewed the list of included publications and made final contributions based on previous experience. A.Z. and P.N. then categorized publications into one of four categories of environmental impact on the health of FGIC; all authors reviewed the final list and groupings. A.Z. and P.N. then reviewed publications to describe each publication's population, methods, and health outcomes and associations considered and summarized main findings in Table 1. All authors contributed to the writing and editing of the manuscript, as well as the creation of table 2. A.Z. created figure 1 with the input of A.G., and all authors then reviewed and gave final input. All authors reviewed the manuscript, figure and tables.

Declarations

Competing Interests The authors declare no competing interests.

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