

Impact of Inclusive Policies on Health and Clinical Outcomes of Noncitizen Migrants: A Systematic Review

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A thesis

submitted in partial fulfillment of the
requirements for the degree of
Master of Public Health

University of Washington

2020

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Program Authorized to Offer Degree:

Department of Global Health

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Abstract

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Background: Globally, authorized international migration and unauthorized border crossings are on the rise, especially from developing countries to More Economically Developed Countries (MEDCs). This surge in immigration has led to changing demographics, increased anti-migrant sentiments, and hostile policies towards noncitizen migrants within MEDCs. Receiving countries are instituting policies at multiple levels to restrict noncitizen migrants from accessing public benefits including health care. These exclusionary policies have been widely investigated and noted as a determinant of poor health and clinical outcomes amongst noncitizen migrants. However, migrant-inclusive policies geared towards mitigating the unintended and intended consequences of unequal access to public benefits (including health care) for noncitizen migrants are understudied. We defined key concepts and operationalized descriptors of migrant inclusive policies and policies to ensure access to publicly-funded health interventions for noncitizen migrants as inclusive policies. The purpose of this study is to comprehensively review the current

evidence on the impact of inclusive policies on health and clinical outcomes of recently arrived and undocumented migrants in MEDCs.

Methods: This Systematic Literature Review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. We searched PubMed, CINAHL and ECHOHOST for English only peer reviewed publications conducted in MEDCs between 1998 and 2018. Three reviewers screened titles, abstracts and full texts using Covidence systematic review software. Data on study characteristics, outcome categories, policy type, direction of health impact and study quality were extracted.

Results: We identified 8,318 potentially relevant citations from which 598 articles were retrieved for screening. Twenty-three publications were included in the final analysis (15 from United States, 6 from other countries and two Pan-European studies.) Of these, nine studies described maternal and child health outcomes, ten studies examined mental health and general wellbeing, three studies assessed chronic disease treatment outcomes and one study reviewed outcomes associated with early access to preventive services and routine care. At the policy level, only one study examined the impact of sanctuary cities on health and clinical outcomes of non-citizen migrants. In general, inclusive policies were associated with increased prenatal services utilization, reduction in mental health issues, improvement in self-rated health and reduction in socioeconomic vulnerabilities amongst non-citizen migrants. Concerns around health insurance interruption, problematic referral pathway, legacy of racism and social stress associated with inclusive policies were noted.

Conclusion: Although most previous studies focused on the health impact of restrictive and exclusionary policies on migrants, this study synthesizes current evidence on inclusive policies. A consistent finding was that inclusive policies were positively associated with health and clinical outcomes of noncitizen migrants except in three out of the twenty-three included studies where they were found to have neutral or negative associations. Continuous investments in inclusive policies could be key in the achievement of the global vision of ensuring healthcare for all and furtherance of global health goals. Future studies on inclusive policies could benefit from innovative data collection strategies, incorporation of new inclusion and integration assessment tools as well as epigenetic and cultural intelligence studies. We anticipate that findings from this study will enhance inclusive policy efforts and help policy makers in designing appropriate supportive health interventions that target noncitizen migrants. Also, it could better inform various stakeholders in MEDCs as they deliberate on the future of existing inclusive policies. In all, with political commitment, progress towards ensuring a minimal global standard for migrant health that is right-based and rooted in the public health concepts of safety and equity is attainable.

Public Health Implications: In view of the surge in international migration and apparently increasing exclusionary policies within MEDCs, innovative policies to ensure continued access to healthcare to all vulnerable groups including noncitizen migrants are vital to reducing the global burden of diseases, decrease the cost of healthcare and ultimately attain health equity goals.

INTRODUCTION

Within the last two decades, authorized international migration and unauthorized border crossing have been on the rise [1]–[3]. Based on a recent United Nations report [4], the annual number of international migrants increased from an estimated 153 million in 1990 to 173 million in 2000, and 258 million in 2017. In addition, the numbers of asylum seekers and refugees globally are reaching the highest levels encountered during World War II [4]–[6]. The “ongoing crisis” at the United States southern borders, southern Mediterranean and Aegean seas, as well as continued detention of Australia-bound noncitizens without a valid visa at Nauru and Manus Island in Papua New Guinea are indicators of the severity of this situation. Climate-related disasters, socioeconomic and political instabilities in countries of origin contribute to the surge of both authorized and unauthorized international migration [7]. The need for infusion of human capital to boost healthcare, innovation, entrepreneurship and technological advancement in receiving countries contributes largely to the increase in authorized migration for highly skilled professionals[8]. Violence, lack of economic opportunity and increased job demand in sectors such as agriculture, construction, and IT have contributed to rise in both authorized and unauthorized international migration.

Although More Economically Developed Countries (MEDCs) witnessed a significant increase in the number of migrants arriving in their communities from 1990-2017, previous waves of migrants to the Global North – particularly Europeans colonizing the Americas and Australasia – were greater in number compared to current waves[9]. Joseph et al.,[10] attributed the current trend in global migration to legacies of colonialism, and economic, military, and cultural penetration of the Global South by the Global North. This rising trend in both authorized and unauthorized border crossing has become a political lightning rod because of the changing demographics, increased anti-migrant sentiment, and

exclusionary narratives within MEDCs [9] [11]. As a result of nativism, lackluster economic growth and serious concerns about already strained public services, the governments of receiving countries in the Global North are instituting measures to withhold noncitizen migrants' access to publicly funded welfare benefits such as healthcare [12]. Several national and subnational policies now shape access to health-care to noncitizen migrants. While a large proportion of these policies are restrictive, inclusive migrant policies are emerging to mitigate the potential public health consequences of unequal access to care among the noncitizen migrant population [7], [13].

Migrants remain an integral part of the Global North particularly in a country like United States with the largest population of foreign-born residents in the world[14] and once dubbed "the land of migrants." However, they face significant political barriers to integration and access to the welfare system, including health-care benefits [15]. Access to healthcare benefits for noncitizens was first limited in the U.S. in 1996 with the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) [12], [16]. Prior to implementation of the Patient Protection and Affordable Care Act of 2010, nearly half (45 percent) of noncitizen migrants living in the United States lacked health insurance compared to less than 15-20 percent noncoverage for the nonimmigrant population[17]. Also, section 312 of the ACA explicitly excluded undocumented migrants, who account for 26 percent of the overall migrant population, from publicly funded health insurance coverage [10], [18].

In addition, mandatory waiting periods present barrier to healthcare access. New legal arrivals to the United States post-PRWORA are barred by law from accessing Medicaid for five years; this is often referred to as the "five-year bar." Similar restrictive policies to accessing publicly funded healthcare benefits to newly arrived noncitizen migrants, specifically refugees, exist in Canada with a shorter wait period of 90 days [19]. These restrictions on publicly funded healthcare interventions to noncitizen migrants foster harmful disparities in access to healthcare services and jeopardizes their wellbeing [20]. Such disparities impact the host communities and the well-being of migrants and undermine the realization of global health goals[21].

According to a study by Boso et al, the Royal Decree-Law 16/2012 restricted migrants' access to public healthcare services. The arguments in support of this exclusionary policy include: i) migrants are responsible for their administrative status; ii) migrants' access to health services is extremely costly for taxpayers; and iii) if irregular migrants are excluded from certain healthcare services, the arrival of new migrants will be discouraged[12], [22]. However, prior study indicates that exclusion of migrants from government sponsored health programs does not deter migration but is likely to heighten the number of migrants at the risk of poor health[23]. Furthermore, lack of eligibility for subsidized healthcare through publicly funded health insurance program and disclosure of legal status to the government by health care providers was noted as an impediment to access to health care for noncitizen migrants in Europe [24]. A recent study examining global health policies noted that undocumented migrants are required by UK health policy to pay the total estimated cost for treatment in full prior to receiving care [25]. Considering that most of the noncitizen migrants are over-represented in low wage jobs because of discriminatory policies and practices in MEDCs that ensure that high earn jobs are reserved for nonimmigrant population, meeting UK's financial requirement for health care is highly unlikely for these noncitizens [12], [25]. Additionally, in Germany, Section 92a and 92b of the German Ausländergesetz states that health care providers must report undocumented migrants to the Ministry of Interior, perpetuating fear and avoidance of essential health care services. Research demonstrates that noncitizen migrants living under the fear of deportation are more vulnerable to diabetes, depression and post-traumatic stress disorders as well as academic difficulties and disruptions for those in institutions of learning in MDECs[13], [26].

According to a study by Ostergaard et al[27] , Australia and numerous countries in Europe have national health care policies that limit access to care for all categories of migrant children. Based on the degree of restriction, Germany was noted as the country with the most restrictive health care policy for noncitizen migrant children. Additionally, Australia, once known as refugee resettlement country, became the first western country to implement mandatory detention for unauthorized migrants between 1998 and 2008. These

exclusionary policies lead to toxic stress, delay in seeking care and deportation of noncitizens including legally present individuals with a pending immigration application [28]–[32]. Considering these policy variations and need to avoid the public health implications of unequal access to care for this marginalized population, the World Health Organization called for minimum global access to care guideline to address most of the challenging issues facing international migrants, including restrictions in health care access, health insurance coverage and the use of preventive services [19].

Despite these exclusionary policies, through strategic alliances, organizing and advocacy at national and subnational levels [13], [34], migrant-inclusive policies and health safety net programs are emerging to mitigate the unintended consequences of unequal access to public benefits, including health care access for noncitizen migrants. For example, at the national level in the United States, the passage of Deferred Action for Childhood Arrivals (DACA) of 2012 led to removal of legal barriers to gainful employment for noncitizens popularly known as “Dreamers.” Most of the Dreamers were able to get access to health care through employment-based health insurance. Evidence suggests that this policy led to increased health and wellbeing among Dreamers [23]. Also, through Medicaid expansion, state governments have full discretion to use federal Medicaid funds to provide health care for lawfully present pregnant women and children migrants regardless of the statutory wait period [19] [25]. Equally, through the Children’s Health Insurance Program (CHIP), state governments have the option of providing prenatal care to women irrespective of their immigration status. Over 35 states adopted one of these federal options to provide care for noncitizen migrants [26].

Furthermore, in the United States, locations with large migrant populations are coming up with innovative policy solutions to address the unmet access to health care needs of their noncitizen residents and to improve their health outcomes [39], [40]. The state of Massachusetts and the municipalities of New York City, San Francisco, and Los Angeles offer health care to uninsured residents, including undocumented migrants, through direct access programs i.e. healthcare directly purchased by states/municipalities and delivered to immigrants or through organizations that cater for immigrants without going through

third party like insurance companies [39]. Some states are equally taking proactive initiative to mitigate against potential public health implications of anti-immigration policies. For example, in April 2018, the United States government instituted a zero-tolerance migration policy and separated noncitizens entering the country illegally from their accompanying children [41], [42]. Some of these noncitizen migrant children were detained in steel cages and later transferred to various municipalities. According to a media report [43], the municipality of New York is offering mental health services to over 3000 unaccompanied minors separated from their asylum-seeking parents at the US Southern border through their ThriveNYC program. The ThriveNYC initiative is a direct access initiative from the office of the mayor of New York and expected to provide “mental health first aid” to unaccompanied minors to mitigate against the long-term impact of the recently enforced zero tolerance immigration policy. Also, an immigration-related policy of issuing drivers’ licenses to undocumented migrants in New York and California is correlated with positive health outcomes [13].

In Canada, refugees awaiting adjudication of immigration cases are eligible for health care through a health safety net program called the Interim Federal Health Program (IFHP) [44], [45]. This program provides essential dental and medical care as well as emergency services. Similar positive policies and programs that are based on the premise of social justice and health as a fundamental human right also exist in Europe. For example, in Sweden, the anti-Discrimination Act of 2009 ensures access to medical care, housing adaptation allowances, social services and various forms of special transportation to all residents including noncitizen migrants [46]. This policy led to the successful integration of many Syrian refugees into the Swedish health care system, resulting in positive health outcomes for noncitizen migrants. Similar migrant protective policies exist in Canada, the Netherlands and Portugal [31], [47]. Economic instability and fiscal cuts to publicly funded programs were noted as a threat to the sustainability of migrant-inclusive policies and health safety net programs [48], [49].

Finally, for the development of minimum standards of healthcare access for various categories of migrants, the European regional office of the World Health Organization

encouraged research and collection of quality data that prioritize good practices for migrant health [7]. Prior studies provided critical insights on the impact of anti-immigration policies, cultural issues, communication difficulties, bureaucratic delays and structural problems such as transportation on the health of undocumented migrants [40], [44], [47]. Also, a prior international systematic review included in this study explored the impact of integration policy on perinatal and maternal outcomes across Europe. To the best of our knowledge, no single international systematic review has exclusively analyzed the impact of inclusive policies across multiple regions within MEDCs and across multiple health and clinical outcomes. To fill this gap in the literature, we comprehensively review the current evidence on the impact of inclusive policies on multiple health and clinical outcomes of recently arrived and undocumented noncitizen migrants across multiple regions within MEDCs. We also highlight barriers and facilitators to inclusive policies, and identify unanswered questions and opportunities for future research.

DEFINITION OF KEY CONCEPTS AND OPERATIONALIZATION OF TERMS.

Migrants are a diverse group (e.g., students, asylum seekers, refugees, economic migrants, climate migrants, etc.) and there are no universally accepted definitions of key migrant concepts and terms. In this study we used the International Organization on Migration[50] definition of “**migrant**”: any person who is moving or has moved across an international border or within a state away from his/her habitual place of residence regardless of (1) what the causes for the movement are (2) the person’s legal status (3) what the length of the stay is (4) whether the movement is voluntary or involuntary.” For this study, noncitizen migrants include newly arrived and unauthorized migrants. Nonimmigrant population includes migrants with permanent residency status and citizens of high-income countries. Migrants are also identified as a **vulnerable population** – that is, a group at increased risk for poor physical, psychological and social health outcomes and inadequate health care[17].

For the purposes of this study, inclusive policies is defined as any policy that ensures equitable access to health care services and health enhancing resources for noncitizen migrants in host society irrespective of immigration status, health insurance coverage status, ability to pay or duration of stay in MEDCs. Examples include discretionary legal presence status like the Deferred Action on Childhood Arrival program that granted temporary protection from deportation and potential access to employment-based health insurance coverage through provision of work authorization to eligible noncitizen migrants in the United States. Others include noncompliance with discriminatory national health policies by regional and other subnational government in Europe and North America as well as discretionary extension of publicly funded health insurance coverage to noncitizen (recent and undocumented) migrants. For example, in the United States, inclusive migrant policies at national and subnational levels allow low income noncitizen migrants access to care through Medicaid, employer-sponsored health coverage, subsidized health coverage in the insurance exchanges, as well as safety net providers. We operationalized all

descriptors of migrant inclusive policies and policies that ensure access to publicly funded health interventions for noncitizen migrants as **inclusive policies**.

For the purposes of this study, we adopted The Institute of Medicine definition of **health safety net providers/programs** as the group of programs and providers that serve people with low income, no health insurance coverage or other special needs regardless of their ability to pay or legal status[51]. This includes some local health departments and public hospital systems, state and locally supported community health centers (CHCs) or federally qualified health centers (FQHCs). The primary aim of these department and public health hospital systems is often to address health inequalities. In this study, health inequalities is defined as “differences in opportunity for different population groups which result in unequal life chances, access to health services, adequate housing and nutritious food.”[52]

In addition, we adapted the definition of **integration policy** by Bollini et al[53] as a multidimensional social policy that increases protection, economic integration and participation in social life. These policies offer equal opportunities (e.g., in school, in the labor market), to combat socio-economic disadvantages, to achieve affirmative action schemes, protection of migrant culture, religion and identity, and to promote antidiscrimination legislation. They also include explicit ethnic health policies aimed at increasing access to and effective utilization of health care by migrant communities, minimizing language, financial and administrative barriers.

Furthermore, we recognize the social selection involved in migration dubbed ‘**healthy migrant effect/paradox**’. This concept hypothesizes that recent migrants tend to have better health when compared to their counterparts in countries of origin and native-born population of similar ethnic/racial background in MEDCs. This health advantage tends to diminish as migrants become more immersed in everyday life within the host country. For noncitizen migrants from Mexico and Central America, the Latino paradox describes the notion that foreign-born Latinos have as good or better birth outcomes than US-born Latinos or non-Latino populations. On the other hand, migrants also often face deplorable

living conditions, poverty and discrimination in the labor market within receiving countries. These conditions in host countries influence migrants' opportunities in accessing health care as well as social and economic opportunities leading to deterioration of their health over time and health regression towards the average health of the population. This phenomenon is known as **the exhausted migrant effect** - a risk factor for intergenerational trauma. Also associated with this phenomenon is increased mental health disorders, lack of socio-economic mobility as well as academic difficulties and disruptions for noncitizens in institutions of learning ([54]-[56])

While migrants are generally healthier than nonimmigrant population (i.e., healthy migrant effect), some noncitizen migrants might have preexisting conditions that add significant burden to the inclusive public health services and often generous welfare system in destination countries. Hence, noncitizen migrants, especially those who are low income and unemployed as well as those with serious illnesses, are presumed to be a "public charge" in some receiving countries. **Public charge** is a term used to describe individuals with potential to use the welfare system including publicly funded health interventions. A pending immigration application could be denied if immigration officers find evidence to suggest that an individual has used a public benefit or could depend on public benefit for sustenance.

Although noncitizens are entitled to some publicly funded welfare benefits including healthcare, such legal entitlements could remain theoretical as noncitizen migrants' actual service utilization is kept in checks by the threat of removal from the country especially for those with pending immigration application. This fear of deportation among noncitizen migrants often inhibits them from engaging in critical health supportive behaviors like attending medical appointments or enrolling in public services. In recent studies, health care providers reported a reduction in clinic visits, diabetes and HIV consultation attendance, vaccinations, prenatal care and filled prescriptions among migrants in settings with enhanced immigration action by law enforcement[57]-[59]. Avoidance of health care was associated with the requirement to provide documentation for medical services and fear of deportation. This phenomenon of avoiding essential health care and welfare

services, dubbed “**Chilling effects**,” could result in delay in seeking care by noncitizen migrants as well as overreliance on emergency medical services as usual source of care[60]–[62].

To reduce the fear of deportation amongst undocumented migrants, various jurisdictions within North America and Europe have policies in place to limit cooperation with or involvement in federal immigration enforcement actions. These jurisdictions are dubbed “**sanctuary cities**.” In spite of these policies, emerging evidence suggests that noncitizen migrants are beginning to also avoid the use of emergency rooms in sanctuary cities like San Francisco because of the fear of persecution[63]. For this reason, migrant health stakeholders are advocating for the establishment of “**sanctuary hospitals**,” a term used to capture the concept of a safe space where patients’ rights are uniformly protected irrespective of their immigration status and where practical measures are implemented to achieve this outcome [64]. Finally, we hypothesized that even in the face of rising exclusionary policies, inclusive migrant policies and expansion of access to publicly funded health interventions to noncitizen migrants improve the health of migrant populations in MEDCs.

METHODS

Conduct of Systematic Review

This systematic Literature review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. [65]. In November 2018, three electronic databases (ESCOHOST, PubMed, and CINAH) were systematically searched for publications on inclusive policies.

Search Strategy and Selection Criteria

The primary reviewer and two librarians designed the search strategy aimed at identifying studies that examined the impact of inclusive policies on health and clinical outcomes of noncitizen migrants. We constructed search strings for each electronic database using search filters and controlled vocabulary as well as free text terms and Boolean search methods. The full electronic search terms from the three databases is detailed in the appendix.

The following criteria were used to determine whether a study was included or excluded from the review:

1. Policies and interventions of interest: We sought only studies that include a descriptor of inclusive migrant policy and/or publicly funded healthcare intervention. Apart from DACA, a non-health legislation that resulted in relief and access to employment-based insurance coverage for some working receipts, other non-health targeted policies and policies on social determinants of health were not considered e.g. education, employment etc.

2. Population: Our study focused specifically on noncitizens (newly arrived and undocumented migrants) from Low- and middle-income countries that migrated to More Economically Developed Countries (MEDCs) in the northern hemisphere (Europe and North America) including Australia in the Southern Hemisphere. Reports that compared migrant and nonimmigrant population or involved citizen children of non-citizen migrants were retained.
3. Location: Our study focused specifically on noncitizens from Low- and middle-income countries that migrated to more economically developed countries (MEDCs) in the northern hemisphere (Europe and North America) and Australia in the Southern Hemisphere. All studies conducted in any of the following receiving countries were included: North America (United States and Canada), Australia and EU or EEA countries (Austria, Belgium, Bulgaria, Cyprus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.)
4. Publication Type: Only peer reviewed articles were included.
5. Language: Included studies were limited to full text articles published in English.
6. Time frame: included studies were limited to those published from January 1998 to November 2018. The 1998 cut-off date was chosen because relevant literature indicated that recent rise in international migration occurred or gained more attention within the last two decade. Introduction of restrictive policies to publicly funded interventions in response to increasing international migration was also noted in our background literature to have occurred around mid-late 1990s. Hence, report from 1998 onwards are best suited to capture short, mid and long-term outcomes of some of inclusive migrant policies and expanded access to public funded health interventions.
7. Type of study design: We evaluated any study design except case studies.

8. Study outcomes: Included studies examined at least one or both categories of interest: Health and clinical outcomes. Reports without any relevant outcomes were excluded.

In the first round of review, the principal reviewer screened titles of articles and retrieved articles from electronic database searches using the first six inclusion criteria (retrieval criteria). After application of retrieval criteria and removal of duplicates, article titles and abstracts were imported into the Covidence systematic review online management tool (Veritas Health Information, Melbourne, VIC, Australia) for further review. In the second round of review, three investigators independently screened abstracts of selected reports, obtained and comprehensively reviewed full studies based on all the inclusion criteria. Discrepancies in the inclusion or exclusion of articles during the second round of screening were discussed until a consensus is reached. The primary reviewer resolved any final discrepancies. A flow diagram of literature search and study selection results based on the PRISMA guideline is shown on Figure 2(Appendix C).

Data extraction, synthesis and assessment

Data extraction was completed using a standardized extraction form (appendix: table2). The following information was collected from each study: Author, year of publication/journal, population sampled, methodological design, findings, level of intervention, policy type and health impact. Other data extracted were source and type of data as well as origin and category of migrants. Publications were grouped into categories based on health and clinical outcomes. Direction of health impact (positive, negative or neutral) of inclusive policies were recorded as well. For studies that included them, barriers and facilitators of inclusive policies were also documented. We conducted a narrative synthesis of the evidence and the summary is presented on appendix I.

Two reviewers completed the risk of bias assessment for quantitative studies using ROBIN-1 tool[66]. Qualitative and mixed studies were excluded from risk of bias assessment as ROBIN tool does not support their appraisal. The ROBIN-I tool includes seven domains (confounding, selection, classification, adherence to intervention group, missing data, measurement, results). We utilized the signaling questions to judge the risk of bias from low to critical bias in each domain. Additional information on signaling questions and detailed quality assessment result is available on appendix B.

RESULTS

A total of 8,318 citations resulted from an initial electronic database search (3790 from PubMed, 3,078 from ECOHOST and 1450 from CINAHL.) After the removal of duplicates and initial title screen, 612 articles (598 from original search and 14 from hand-search) met the retrieval criteria for full-text review. After screening abstracts, removing additional duplicates and conducting full text inspection, 590 publications were excluded (552 did not meet the inclusion criteria, 31 were duplicates and 7 full texts were unavailable.) The final number of studies included in this review were 23 [35], [53], [67]–[87]. Table 4 summarizes the general characteristics of the studies included (appendix E).

Study type, location and year of publication

Of the 23 studies included, 19 were quantitative studies, two were qualitative, one was a mixed method study, and one was a systematic review. Fifteen of the studies reported on data from the United States, four from Australia, one from Canada and two pan European studies. These studies were published between 2008 and 2018, with over 80% conducted in two countries: United States and Australia.

Types of inclusive policies and level of policy intervention

Identified studies evaluated the health impact of six main descriptors of inclusive policies including: universal access to health care, expanded access to public health insurance, integration policies, sanctuary cities, immigration/documentation status (secure and

insecure) and publicly funded health clinics. About half of the studies were centered around immigration and integration policies. One-fourth examined expanded access to publicly funded health insurance coverage and free health clinics. Only one study examined the impact of sanctuary cities on health and clinical outcomes of non-citizen migrants. With respect to the level of policy intervention, over half of the studies examined policy at the national level while the remaining examined policies at sub-national and multiple levels.

Type and ethnic origin of migrants.

Over half (n=14) of the included studies focused on undocumented migrants. Four studies reported on Newly Arrived Refugee/Humanitarian Refugees, four studies also covered mixed population of noncitizen migrants, one reported on labor migrants and none reported on climate migrants. In terms of ethnic origin, 13 studies reported on mixed origins of migrants, eight reported on Hispanic migrants, one reported on Asian and Pacific Islanders and one reported on Middle Eastern migrants.

Sample size, comparison group and data sources.

Thirteen studies had samples >1000 individuals and two of the studies did not give the number of noncitizen migrants sampled. 13 studies had a comparison group while ten studies did not report any comparison group. In terms of source of data, ten studies reported data from a register or other routine data source, four studies used national surveys, seven used interviews or questionnaires to the target population and two pooled data from multiple European countries.

Final score for bias assessment

Our quality appraisal using ROBIN-I tool showed that bias was not a serious or critical concern for quantitative studies (n=19) in our final review. We assessed twelve articles as low risk, and seven were reported as moderate risk. For detailed information on quality assessment, see Appendix D (Table 3).

Health and clinical outcomes

Nine studies [53], [67], [69], [73]–[77], [85] reported on maternal and child health outcomes, 10 studies [35], [68], [70], [71], [78], [80]–[83], [88] reported on mental health and general wellbeing, three studies [72], [86], [87] reported on chronic disease treatment outcomes and one study^[79] reported on early access to preventive services and routine care.

Impact on Maternal and Child Health Outcomes

The research showed mixed impact of inclusive policies on maternal and child health outcomes. Four studies [67], [69], [75], [76] from the United States demonstrated improvements in prenatal services utilization amongst migrant women irrespective of population studied or method used. Wherry et al. [76] reported over 30% reduction in the share of recent and undocumented migrant women with low education that did not receive prenatal care after sub-national expansion of access to publicly funded health insurance coverage.

In a similar study, Drewry et al., [69] reported enhanced prenatal care for a subset of high-risk foreign-born Latina women in six early adopter of expanded access to public health insurance coverage states (Arkansas, Illinois, Massachusetts, Michigan, Minnesota, Rhode Island) compared to late adopters (Connecticut, Indiana, Louisiana, Missouri, Nebraska, Oklahoma, Oregon, Tennessee, Virginia and Wisconsin).

In their cohort study, Atkins et al., [67] concluded that undocumented women without access to Medicaid were more prenatally obese and at higher risk for poor maternal outcomes compared to undocumented migrants with access.

In Oregon, Swartz et al., [75] observed that expanded access to emergency Medicaid increased prenatal services utilization and improved health outcomes in mixed status families (unauthorized migrants and their children who are United States Citizens). Some of the key preventives health services that were observed to increase include prenatal visits, diabetic screening, well-child visits, rate of recommended immunization screenings and vaccine completion. Reductions in rate of extreme low birth and infant mortality were also

noted. This study also linked increase in access to prenatal care to improvement in health and economic indicators in subsequent generation within mixed status family.

With respect to birth outcomes and infant health in the United States, Wherry et al. and Drewry et al. documented a null association with inclusive policies. Additionally, within three California Counties (Santa Clara, San Mateo and Los Angeles), an inclusive policy dubbed the Healthy Kids program had a positive impact on access to medical and dental care services for undocumented immigrant children [73], [74]. However, because most of the children in the Health Kids program were generally in good health, authors had difficulties measuring short term health outcomes.

Research also examined the impact of inclusive policies on health and clinical outcomes of noncitizen immigrants in Canada and Europe. In Ontario, Guttmann et al. [85], observed that new migrant mothers were accessing immunization services for their children through the universally funded vaccine program at a higher rate than the nonimmigrant population. However, at sub-population levels, variation in up-to-date immunizations exists. Southeast and Northeast Asian new migrant mothers were more likely to have up-to-date immunization status for their children compared to those from Latin and Central America or South Asia. Children of refugee mothers were less likely to have up-to-date immunization status. This study concluded that universal coverage does not necessarily guarantee universal access to care.

Among labor migrants in Italy, Salmusi et al. [77], reported a post-amnesty reduction in lower birth weight outcome by 1.2-2.7% amongst workers whom were granted relief through the Italian Amnesty (Art 33 of the Law 189/2002). Across Europe, Bollini et al. [53], observed that trends in pregnancy outcomes among migrant population were closer to nonimmigrant populations in countries with strong integration policies. The degree of integration was measured using naturalization data, and only five countries (Belgium, Denmark, The Netherlands, Norway and Sweden) out of the twelve countries studied were classified as having strong integration policies. According to the study, countries with weak

integration policies include Austria, France, Germany, Spain, Switzerland, Italy and United Kingdom.

Impact on General Wellbeing and Mental Health Outcomes

Ten studies examined the impact of inclusive policies on noncitizen migrant's mental health and general wellbeing in more economically developed countries. Amongst undocumented children and young adults granted relief through the discretionary legal presence (DACA) program in the United States, six studies [35], [70], [71], [78], [83], [84] reported a mixed effect of inclusive policies on health and clinical outcomes of noncitizen immigrants. Gonzales et al. [70], demonstrated that about 21% of DACA recipients in their study were able to receive health care within the first sixteen months of DACA program implementation. Access to health care for DACA recipients was made possible through new employment-based health insurance plans or ability of DACA receipts to provide necessary identification documentations to receive care at the clinics and hospitals. This study equally noted that the security and legitimacy offered by DACA positively affected emotional well-being, mitigated some anxieties and fears about deportation as well as lessened the negative aspects of undocumented status. In similar studies, Venkaramani et al. [35], Partler et al. [84]. and Siemons et al. [78], reported that the economic opportunities and protection from deportation offered by the DACA program conferred a large mental health benefits to noncitizen migrants irrespective of the nation of origin or race of DACA recipients. Increased social stress, new precarious identity and uncertainty in the future of the DACA program were noted as factors that negatively impact the general wellbeing and health of DACA recipients.

Furthermore, Sudhinaraset et al. [83], explored the impact of the DACA program on Asian and Pacific Islanders in California using a social determinants of health lens. This study noted that the DACA program improved health outcomes by increasing economic stability, educational opportunities, social and community context as well as access to health care. All the above-mentioned factors were noted to improve the mental health and sense of well-being among undocumented young adults. This study concluded that social policies

that address the social determinants of health have significant potential to address health inequalities. Contentious family dynamics in mixed status households and community division between those that were found “deserving” (eligible for DACA) and those that were “undeserving” (ineligible for DACA) were some of the negative impacts of DACA program noted in this study.

In Oregon, Hainmueller et al. [71], used Medicaid data of 5653 undocumented women that gave birth to 8610 children between 2003 and 2015 to provide causal evidence on the impact of parental unauthorized immigration status on their U.S citizen children. This study found that compared to pre-DACA era (2003-2012), post-DACA mental health adjustment or anxiety disorders were markedly reduced in US citizen children whose parent were eligibility for the DACA program but not for US citizen children born of undocumented parents that were ineligible.

A few studies examined the impact of inclusive policies on Refugees in Australia. Amongst 97 Mandaean refugees, Nickerson et al. [81], reported that the conversion of visa status from Temporary Protective Visas (TPV) to permanent Residency (PR) status was associated with significant improvements in PTSD and depression symptoms as well as increase in mental health-related quality of life. Reduction of living difficulties as a result of status change led to improved self-rated health status. Similarly, Steel et al. [82] compared two year psychosocial and mental health outcomes for refugees subjected to restrictive or supportive immigration policies. Noncitizen migrants who arrived by boat to Australia with the aid of smugglers were accorded Temporary Protective Visas (restrictive policies) compared to their compatriots that were granted permanent residency visas (supportive policies) on arrival through the Government resettlement program. Despite exposure to similar pre-migration traumatic experiences, noncitizens subjected to restrictive policies experienced worsening psychological disturbance compared to those subjected to supportive policies who showed favorable improvements in psychosocial and mental health outcomes.

Additionally, Chen et al. [68] examined the impact of a more comprehensive framework of social integration on self-rated health outcomes of 2399 refugees as they settle into live in Australia between 2013-2018. This study noted a positive association with Humanitarian Settlement service program and self-rated as well as physical health outcome of noncitizen migrants. Also, they observed that healthy migrant paradox reported among non-refugee migrants was not true among refugee population. The absence of healthy migrant paradox amongst refugees was linked to pre-migration traumatic experiences.

Lastly, Malmusi [80] tested the relationship between integration policy models and adult migrant's general health in Europe. For this study, fourteen countries were grouped according to the typology of integration policies based on the Migrant Integration Index(MIPEX): multicultural (highest score: UK, Italy, Spain, Netherlands, Sweden, Belgium, Portugal, Norway and Finland, 'exclusionist"(lower scores: Australia, Denmark) and 'assimilationist' (high or low depending on the dimension: France, Switzerland, Luxembourg). Compared to multicultural settings, health inequality was highest in exclusionist countries and persisted even after adjusting for differences in socioeconomic status. The health advantage reported amongst multicultural countries was attributed to the higher level of education among migrants in these countries. However, countries like Sweden and Netherlands with high MIPEX score still reported a large health disadvantage for migrants due to the large number of asylum seekers.

Impact on Chronic Disease Treatment Outcomes

Three studies[72], [86], [87] from the United States provided evidence on the impact of inclusive policies on chronic disease treatment outcomes. Across two cities (San Francisco area and Chicago), Iten et al.,[72] examined the influence of immigration sanctuary status on chronic disease outcome in nine free-standing or hospital-based safety-net clinics. They noticed that as a result of the sanctuary status in the two cities, undocumented migrants were not afraid to seek health care, trusted their health care providers and were able to

achieve comparable diabetes treatment outcomes with documented migrants and US citizens.

Similarly, McEnHill et al. [87] found that undocumented children achieved same or higher renal transplant outcomes compare to their US citizen counterparts. However, negative outcomes were noticed for individuals who had health insurance interrupted due to age-related eligibility issues.

Lastly, Poon et al. [86] demonstrated that undocumented migrants entered care at a publicly funded HIV clinic in Houston, Texas with more advance disease than documented persons or US citizens. However, compared to the documented and nonimmigrant population, undocumented migrants reported as good or better than treatment outcomes once care was established. Findings from this study indicated that publicly funded health care systems serve as effective safety net providers in care of noncitizen migrants living with HIV irrespective of residency status in Houston.

Impact on Early Access to Preventive Services and Routine Health Care

Our review found only one study [79] that examined the impact of inclusive policies on early access to preventive services and routine health care in Australia. Finding from this study shows that among newly arrived refugees in New South Wales that utilized the publicly funded free clinic, the median time from their arrival in Australia to the first clinic visit was about five days. Also, over 95% of refugees that receive care at the free clinic had a comprehensive health assessment performed within 12 months of arrival in New South Wales. According to the study, the free clinic was well utilized by noncitizen migrants and ensured early diagnosis and access to routine care for this vulnerable population especially around the period of their greatest healthcare needs, first six months of settlement in Australia.

DISCUSSION

Studies reviewing existing evidence on the health impact of restrictive and anti-immigration policies have been conducted both within and outside of MEDC [47], [89]–[91]. This thesis attempts to contribute to the scientific literature by summarizing the evidence on the impact of inclusive policies on the health and clinical outcomes of noncitizen migrants. To the best of our knowledge, our study appears to be the first attempt to systematically identify existing scientific knowledge on the impact of inclusive policies on noncitizen migrants beyond best practices reported in grey publications [7], [92]. It equally appears that this is the first attempt at reviewing such evidence across major migrant destination in MEDCs as well as across multiple health and clinical outcome. The importance of this study lies on its emphasis on inclusive policies for noncitizen migrants, which is a divisive topic considering the current sociopolitical environment in MEDCs. Based on our finding, some of the inclusive policies have a clear direction of impact while others are uncertain. In subsequent sections, we present the principal findings, the strength and limitation of our studies as well as unanswered questions and future directions.

Principal findings

Appendix I (Table 7) shows the summary of the narrative synthesis of our findings and the direction of health impact of various inclusive policies. In addition, Appendix H (figure 2) depicts our conceptual framework - a highlight of the logical relationship between our population of interest (noncitizen migrants), intervention of interest (inclusive policies) and outcome of interest (health and clinical outcomes). In general, inclusive policies were positively associated with health and clinical outcomes of noncitizen migrants. With exception of a few studies, positive association of inclusive policies on health and clinical outcomes were consistent across universal access to care settings, expanded access to public health coverage and change from restrictive to unrestrictive immigration/documentation policies. Robust integration policies, sanctuary cities and free clinics overall had positive effects on health and clinical outcomes for noncitizen migrants. These main findings could be elaborated as follow:

- 1. Paucity of studies and positive findings:** Existing evidence on the impact of inclusive policies on health and clinical outcomes of noncitizen migrants is sparse (21 papers from four countries and two pan European studies). Several studies highlighted the positive association of expanded access to public health insurance and improvements in perinatal services. However, fewer studies examined the impact of robust social integration policies, sanctuary cities and free clinic on health and clinical outcomes of noncitizen migrants. All seven studies that examined these three inclusive policies reported a positive association in health and clinical outcomes of noncitizen migrants. Social integration policy in Australia for humanitarian refugees included six months – one year of housing support and food as well as information on health, employment and education. This supportive intervention was positively associated with increased self-rated and mental health as well as feeling welcomed and having a strong sense of belonging in Australia. Also, inclusive policies facilitated early access to routine care and preventive services for noncitizen migrants in North South Wales (NSW)[79].
- 2. Null and negative association:** In the United States, Wherry et al., found no observable difference in infant health and birth outcomes with expanded access to public health insurance. This finding was attributed to the epidemiological paradox that migrant status could protect against low birth weight among certain ethnic groups. The research also raised alarm on appropriate use of resources citing an increase in cesarean section deliveries amongst migrant women with access to public health insurance coverage compared those without access. Probable causes were financial incentives from expanded access to health care insurance reimbursements to health systems and increase obstetric risk due to delayed presentation and initial denial of prenatal care. In a related study, Drewy et al., reported a neutral effect of expanded access to public health insurance coverage on birth outcomes. Authors were not specific about the reason behind this finding. On the contrary, Atkins et al reported a negative association of expanded access to

public health insurance coverage on birth outcomes and explained the negative association in two ways. The first explanation was that noncitizen migrant pregnant women with access to publicly funded health insurance (Medicaid) may have access to hospitals with sophisticated labor and delivery units that enable newborns to receive ventilation, neonatal intensive care unit admission and surfactant replacement therapy. Hence, chances are that those with Medicaid could give birth in sophisticated hospitals to infants with abnormal conditions than those without Medicaid. The second explanation was that noncitizen migrants who had pregnancy complications may have chosen to seek care in another state if they did not receive care prenatal care services in their state of primary residence. In Australia, Gould et al reported that the major drawback to care continuation for noncitizen migrants include a poorly functional referral system to general practitioners.

- 3. Improvement and reversal of gain in mental health and general wellbeing amongst noncitizen migrants:** In this review, immigration status had the strongest evidence for improvement in noncitizen migrants' mental health and general wellbeing (MHGW) based on the quality and the number of studies. Three documentation/immigration policy changes stood out. They include change from undocumented immigration status to legal presence legislation (DACA) in the United States; change from Temporary Protection Visa (TPV) to Permanent Residency (PR) and issue of permanent residency on arrival in Australia; and Italian Amnesty, which converted undocumented status to permanent residency. The consistent finding was that change from restrictive to unrestrictive documentation and entry policies led to improvement in mental health and general wellbeing of migrants irrespective of migrant demographics, study methodology or location of study. However, the intentional design of DACA programs in the United States with no clear path to naturalization was associated with poor health outcomes. Unresolved trauma of growing up undocumented persists among DACA recipients.

Also, since DACA recipients are often the only ones that are legally eligible to work in some undocumented migrant families, they are saddled with increased family responsibilities to support others financially as well as an increased emotional responsibility for their undocumented family members who are not eligible for DACA or other options for immigration relief. The emotional and mental health improvements as well as initial positive outlook as result of change from undocumented status to limited protective status like DACA diminishes over time. These gains are often replaced with skepticism and worsening mental health as a result uncertainty surrounding the program. The two-year renewal prosecutorial discretion regarding deportation and possibility of discontinuation of DACA based on the U.S. Supreme Court decision is causing anxiety and emotional instability consistent with structural barriers dubbed by scholars as violence of uncertainty[93]. This finding is consistent with findings from a recent study[84] that suggests that current sociopolitical environment in the United States may have eroded the health benefits of the DACA program [94]In Australia, the receipt of permanent residency on arrival by noncitizen migrants (refugee and asylum seekers) through the government resettlement program was associated with improved self-rated health, reduction in mental health disorders, reduction in acculturation stress and improved relationship between noncitizens and natives. However, noncitizens that cross the Australian border without authorization were issued a more restrictive documentation status linked to poor health outcomes. Compared to their compatriots that were issued permanent residency on arrival, refugees and asylum seekers subjected to a sequel of immigration detention and temporary protected visa (TPV) reported a sense of loss of control and mastery over their lives, post-immigration living difficulties, social isolation, difficulty in the acculturation process and persistently higher level of distress [82]. Nickerson et al., [81] also noted structural violence and violence of uncertainty associated with TPV including fear of deportation, inability to return to home country in emergency and worries about family in home country. However, the conversion of visa status from

TPV to PR status led to increase in mental health-related quality of life (MHR-QOL) mediated by a reduction in living difficulties. Finally, an Italian study examined the impact of change in documentation status from irregular to regular status on migrant women and noted 1.2-2.7% point reduction in Low Birth Weight. This study also found that inclusive policies favor socioeconomic integration of noncitizen migrants in receiving countries and are effective in reducing health disparities of newborns. However, regularized status is contingent on job contract and noncitizen migrants that lost their jobs or could not work went back to irregular status. In all, these findings suggested that inclusive documentation status with no path to permanent protection for noncitizen migrants has a negative impact on the health and clinical outcomes of noncitizen migrants. This result is consistent with findings in a prior systematic review[89] and perspective paper[93].

- 4. Similar or better chronic disease treatment outcomes among noncitizen migrants with support of inclusive policies compared to the nonimmigrant population:** In the United States, Iten et al., reported that diabetic control among noncitizens migrants living in Sanctuary cities (Chicago and San Francisco) was about the same or better compared to the nonimmigrant population. The confidence that the health care providers were not going to report noncitizen migrants to law enforcement agencies improved trust between migrants and the health care facilities. It was not clear if cultural and linguistic concordance with the health care provider at these facilities played any role in building trust or ensuring improvement in health outcome of noncitizen migrants. In a related study, access to the free HIV clinic in Houston led to increased retention in care and viral load suppression despite late presentation to care amongst noncitizen migrants. In California, Poon et al., noted that with the expansion of state funded insurance coverage to undocumented children with End Stage Renal Disease (ESRD), transplantation outcomes were similar or better in undocumented migrants compared to nonimmigrant population. However, interruption of post-

transplantation treatment as a result of the end of state-funded insurance at age 21 led to poor health outcome among undocumented migrants. Reason for this was the inability to pay for immunosuppressive medications by undocumented migrants that were no longer covered as a result of the age restriction. This study also found a positive association between DACA status and positive long-term renal transplant outcome.

5. **Emerging research and advocacy for inclusive policies:** Almost all the included studies were published in the last decade. This may indicate a growing interest and advocacy for inclusive policies among research scholars. Some of the studies supported the debate for inclusive policies and commitment of more resources towards such policies. For instance, Swartz et al reported that their study contributed to the debate around reauthorization of the Children's Health Insurance Program (CHIP). The highlight of this study was advocacy for the extension of Medicaid to mixed status families (undocumented migrants and their US citizen children). This state-level policy of expanded access to publicly funded health insurance led to increased perinatal health service utilization and improved health outcomes in mixed status households in Oregon. This supportive health intervention increased the likelihood of migrant women having rhesus immunoglobulin administered, undergoing diabetic screening with oral glucose tolerance testing and fetal ultrasound in pregnancy. Authors also linked increased prenatal services utilization with improved intergenerational health and economic indicators. In another study, analyzing evidence from the Organ Procurement and Transplantation Network (OPTN) data at a major academic medical center in San Francisco, McEnhill et al., reported that nearly one in five undocumented kidney transplant recipients who reached 21 years of age lost their graft because of inability to pay for immunosuppressive medications once their state funded insurance had ended. Authors concluded by supporting the immigration policies for the undocumented migrants that facilitate access to work-permits and employment-

related insurance for this disadvantaged group. In their quality assurance study, Gould et al., described a multidisciplinary primary healthcare clinic for newly arrived humanitarian entrants in the Australian region of New South Wales and reported health problems and issues encountered during the period of operation. They concluded that the Coffs Harbour Refugee Health Clinic was well utilized by the target community and should be replicated in other regions in Australia. As the debate on best strategies for achieving Health for All and universal health coverage within the context of the 2030 agenda for Sustainable Development and its associated Goals continues, similar studies at the global level will be timely and could support progressive policies for migrant health.

6. **Use of tools of standardization and comparability were limited:** Of the 23 eligible studies, only one study leveraged a tool of standardization and comparability for the assessment of integration of migrants in health systems. Malmusi used the Migrant Integration Policy Index to examine the impact of level of integration on health among 14 countries in Europe. The health module in MIPEX includes entitlement to health services; accessibility of health services for migrants; responsiveness to migrants' needs; and measures to achieve change. Other examples of new tools for standardization and comparability include the Health Equity Impact Assessment tool for newcomers to Canada and the Health information Assessment Tool for asylum seekers, used in Germany and the Netherlands[41]. These tools could help researchers better understand the health impact of inclusive policies and could be adopted for research in LMICs. It is important to keep in mind that national, regional and local context could complicate the development of a global standardization and comparability tool for the assessment of inclusive policies.
7. **Consistency with prior research:** Our findings are consistent with findings from previous studies[95]–[97] examining the health impact of expansion of public health

insurance on maternal and child health outcomes as well as HIV treatment outcomes in the United States. However, this study is specific to the health impact of such policies on noncitizen migrants- a vulnerable population often denied access to healthcare in MEDCs[76]. Gould et al., documented lower update to date immunization status amongst refugees on arrival in Australia. This finding is consistent with findings in a recent systematic review that reported lower up to date immunization amongst migrants and refugees compared to nonimmigrant populations in Europe[98]. However, with health interventions that provide preventive health services on arrival [79] and in countries that have Universal Health Coverage(UHC) policy [85], noncitizen migrant had same or better update to immunization coverages compared to the nonimmigrant population. Despite best efforts from UHC policy, heterogeneity in uptake of health preventive services amongst sub-group of migrants were noticed in Ontario, Canada. South East Asian and Latino migrants accessed less preventive health services compared to other migrant populations. Sub-group cultural intelligence studies could help determine specific challenges preventing individuals from certain migrant groups from accessing preventive health services. Evidence from such studies could facilitate the design of targeted ethnic health policies to improve preventive health service utilization.

- 8. Facilitators and barriers to inclusive policies:** One key feature of this study is that it identified possible facilitators to inclusive policies, some of which include political will, material and human resources. Other facilitators including various forms of advocacy as well as barriers to inclusive policies are listed on Appendix J. We anticipate that findings on barriers and facilitators of inclusive policies from our review could inform future migrant supportive health programs if taken into consideration when designing interventions for this vulnerable population.

Strength and Limitations.

The major strengths of our study are the application of a comprehensive literature search protocol involving more than one database (Pubmed, Embase and ESOCHOST), synthesizing all evidence from the peer reviewed literatures and incorporating a quality assessment tool for the quantitative reports. Also, over half of the included studies had low publication bias and we examined evidence across multiple health and clinical outcomes. However, our study has several limitations. First, given the scope of our study, we did not assess the impact of pre-migration factors, age, baseline health status on arrival and duration of stay in MEDCs on the health and clinical outcomes of noncitizen migrants. Second, we focused on indigent noncitizen migrants and might have missed out on how high socio-economic status noncitizen migrants interact with health care systems in receiving countries. Additionally, taking into consideration heterogeneity of study methodologies, various categories of migrants and sub-population, differences in organizational and structural dimensions of health care systems across MEDCs, our study is not generalizable to all noncitizen migrants. Third, we did not review the grey literature and could not reach out to experts in the field for validation of our findings. As a result, new evidence that could inform our study might have been left out. For example, our search revealed a French conference publication that showed a positive association between a public funded health insurance (Aide Médicale de l'Etat) on clinical outcomes of noncitizen migrants with Acute Myeloid Leukemia (AML), a rare form of blood cancer. This report showed that beyond health care, health and clinical outcomes among noncitizen migrants are impacted by systematic inequalities outside of health care. We excluded the report since it did not meet our inclusion criterion regarding peer-review. Also, multinational health agencies like the World Health Organization have relevant online publications ([99]) that are not published in recognized scientific journals and not identified by this study. Evaluation of these grey publications in future research could add to international knowledge regarding the impact of inclusive policies on health and clinical outcomes. Fourth, we restricted our findings to English publications only. Hence, we did not include key publications in other languages that could have provided key insights on our study.

Also, variation and ambiguities in terminology for inclusive migrant policy and publicly funded health care programs around the world might have led to omitting reports that could have better informed our study. Fifth, we limited our search to reports from the last two decades. Hence, earlier articles that could have contributed to the overall picture were omitted. Sixth, the first article screen was based on title only by the principal reviewer, so a few relevant articles might have been omitted. Finally, the principal reviewer was impacted by an array of inclusive and exclusionary policies while studying and working in MEDCs (Europe and United States); to avoid confirmation bias as result of these experiences, study findings were gathered from a variety of epistemological perspectives. Also, he collaborated with a variety of researchers to ensure a balanced perspective.

Unanswered questions and future direction.

Although current evidence suggests that inclusive policies improve health and life opportunities for noncitizen migrants, their implementation needs to be tested for uptake in non-traditional migrant destinations as well as sustainability vis-à-vis changing sociopolitical climate, complexity of health care systems, and differences in resources and health priorities across MEDCs. Instances of inclusive policy on paper not translating to actual access to health care have been documented[100]. For instance, in France, two health insurance coverage schemes (CMU and AME) are available to noncitizen migrants who were previously excluded from the health insurance system. These programs were expected to ensure free health care for this vulnerable population. However, some health professionals deny healthcare services to the beneficiaries of publicly funded health insurance. Some of the reasons for denying care include delay in reimbursement for health care services provided and minimal payments associated with the program. Others include discriminatory reasons such as fear of contracting HIV. It would be important to not only acknowledge the existence of inclusive policy but also examine various stakeholders' commitment to these policies. Formative evaluation would be key in providing critical information around inclusive policy implementation. Also, incorporating cultural

sensitivity training and language concordance programs for health care professionals could help in ensuring high quality and non-judgmental health services for noncitizen migrants. Additionally, noncitizen migrants' involvement, perspectives and satisfaction with inclusive policies were outside the scope of this study and worth exploring in future studies.

Beyond access to healthcare, noncitizen health and clinical outcomes are shaped by systematic instabilities and discriminatory phenomena (raising populism, economic crisis, education and job restrictions to mention but a few). These factors equally impact uptake of health care services in universal access to health care settings like Canada [85] and Italy [77]. Recent studies indicate that chronic stress of social disadvantages, socioeconomic inequality and racial discrimination act through a variety of biological pathways to influence health and initial rapid onset or progression to chronic illness [101], [102]. A different study stated that at the molecular level, accelerated loss of telomeres (the protective ends of chromosomes in humans) is correlated with chronic stress and could provide additional links to health disparities [103]. A longitudinal study exploring epigenetic changes in migrants subjected to restrictive policies compared to those subjected to inclusive policies could help us understand the link between social adversity or inclusion and population health outcomes at molecular levels.

Two studies highlighted the persistence of racial and ethnic disparities despite inclusive policies. Ambiguity, subjectivity and differential access to inclusive economic and health promotion opportunities based on race or national origin were mentioned. For example, Gonzales et al., noticed that there are different logics to inclusion and that conditions for inclusion do not apply uniformly to all non-citizen migrants. Authors emphasized that differential access based on race, gender, age, route of entry and national origin as well as financial, human and social capital exists. In another instance, Salmusi et al., reported about 100% approval in work permit applications for Eastern European women compared to 21% approval for migrant women of African origin that applied for the Italian Amnesty. The lack of protected status for women of African origin led to persistent low socioeconomic status, lack of educational and economic opportunities as well as other socioeconomic vulnerability that impacted their health. It is not clear if special privileges

were accorded to noncitizens from European countries while migrants of African origin were intentionally excluded. While this example might indicate racial profiling or preferences by national origin, this might not necessarily be the case. Individuals from different races and cultures are heterogeneous and might have different situations and belief systems. Further studies are necessary to explore reasons for possible patterns of preference for some groups of migrants over others based on race and national origin and how that impacts migrant health.

With respect to antidiscrimination legislation, policies were rewritten in some countries (Netherlands and Sweden) to address discrimination against noncitizen migrants. Our review did not find any study that examined the impact of antidiscrimination policies as a tool for harm reduction considering the raising verbal and physical violence against noncitizen migrant population across the globe^[104]–^[112]. A recent study^[113] found evidence of increased death of international migrants through homicide across MEDCs. In addition to antidiscrimination legislations, public health law and policies to combat the threat of racism and xenophobia could help reduce violence against migrants^[104].

In health care settings, migrants may experience discrimination that mirrors prejudice prevalent in the broader population. Additionally, as a result of growing populism and nativism, aggressive steps are currently on the way to rescale inclusive migrant policies and noncitizen access to publicly funded welfare programs beyond health care. The impact of systematic underfunding, funding cuts and possibly scrapping of existing inclusive migrant policies on health and clinical outcomes of noncitizen migrants might take some time to manifest. Further research is needed to assess the clinical and socioeconomic costs of reverting some of the migrant-friendly health programs and policies. As inclusive policies such as DACA and expanded access to health insurance policies in the United States face an uncertain future, all stakeholders need to work to identify optimal strategies for sustainability.

In addition, most of the identified studies examined explicitly how pregnant women, children and adolescents are included in healthcare systems or integrated in MEDCs.

However, little is known about how similar policies or programs specifically impact nonpregnant adults (men and non-pregnant women). Our review did not find any study that explicitly reviewed the impact of inclusive policies on the Sub-Saharan African migrant population. Most of the studies were either mixed or focused exclusively on Hispanic and other migrants. Considering the heterogeneity of noncitizen migrants, additional research on the impact of migrant-inclusive policies and access to inclusive public health services at the sub-population level is needed. A recent study [114] noted that public health insurance is associated with increased risk of waiting list drop out for liver transplant compared to private health insurance in the United States. Future studies should explore potential differences in health and clinical outcomes of noncitizen migrants on public health insurance in the United States compared to those on private health insurance. Additional research on inclusive policies should be extended to newly industrialized countries like China, South Africa, United Arab Emirates, Mexico, Malaysia, India, Turkey etc. Also, recent evidence indicates that more people from LMIC are migrating within their own countries' border and regions than across the MEDCs borders[9]. Further studies are needed to capture the health impact of migrant informed laws within these countries and across the regions.

As a result of the aftermath of the recent United States zero tolerance for international border crossings and subsequent separation of young children from parents at the border, New York City instituted migrant inclusive policies and programs to mitigate the effect of family separation on the mental health of unaccompanied children. Monitoring and evaluation of the impact of the New York City intervention on health and clinical outcomes of noncitizen unaccompanied migrant was identified as a ready area for future research and advocacy. Studying other ongoing programs that are helping migrants navigate the complexities of family reunification, coping with fear in the current political climate and addressing intergenerational trauma could advance best practices in the care of this vulnerable population.

Assessment of the extent in which inclusive policies were responding to the scale of harm from restrictive immigration policies and the financial impact of inclusive policies on

health systems as well as the economies of receiving countries were outside the scope of this review. Wherry et al., reported that the lack of studies reviewing the cost of unreimbursed health care to noncitizen migrants could hinder policy development for noncitizen migrants. Hence, research around financial impact of inclusive policies need further exploration. Also, more cost benefit analysis studies are needed to examine advantages of providing early access to preventive health care services and routine health services to noncitizen migrants compared to current use of emergency role as usual source of care[62]

In addition, it is not clear how the termination of DACA for medical professionals in the United States, especially in underserved communities, is going to impact access to health care. According to the Center for American Progress at the Association of American Medical Colleges (AAMC)[68], over 27,000 doctors, nurse, dentists, and other health workers are going to be affected if the United States Supreme Court rescinds DACA. Further research is needed to access the impact of termination of inclusive policy like DACA on health care workers and migrant communities in the United States. Additional studies are needed to explore the long-term impact of uncertainty in permanent protection and the lack of pathway to full integration on the health and clinical outcomes of a subset of noncitizen migrants like DACA receipts.

Collection of disaggregated data on various categories of migrants was an issue. Sensitivity around migrant status[86] as well as the highly mobile nature of this vulnerable population[68] were highlighted by authors as major barriers in data collection. Data on newly arrived migrants were rarely captured by included studies conducted in the United States. To improve data collection for this vulnerable population, the UCL-Lancet commission recommended leveraging information from big data like wearable devices, mobile phones, internet and electronic health records to address data collection issues. Further studies should explore these strategies for effective data collection while ensuring that research ethics are always maintained. To ensure trust, strategies should be in place to prevent confidentiality breaches i.e. sharing of migrant information with immigration and custom enforcement.

Furthermore, with one billion people on the move or having moved in 2018 [9], we need to acknowledge that the global patterns of inequality forcing the current trend of international migration is rooted in social, political and economic conditions as well as climate change. Rather than despair over the rising trend of international migration or resenting migrants seeking better opportunities for themselves and their families, we could leverage some of the key global health strategies that proved to be effective in the past e.g. global collaboration in response to HIV/AIDS epidemic. Per findings from the international AIDS-Lancet commission report, these strategies include mobilizing extraordinary new financial, technical and human resources, uniting stakeholders, focusing attention on concrete results, driving and benefiting from scientific innovation, and engaging migrant communities in far-reaching ways[116]. The strategy to unite stakeholders for inclusive policies is already in the works with the establishment of the Universal Health Coverage 2030 (UHC2030), a multisector partnership towards achieving migrant-inclusive universal health coverage. This platform, composed of WHO, the World Bank, Member States, civil society organizations, private sector and other partners, is dedicated to raising awareness of UHC global commitments, facilitating knowledge sharing, and advocating for increased investment and political will for health systems strengthening towards UHC. In the next wave of studies on inclusion policies, researchers should examine the impact and gap between reality and vision of UHC2030.

Lastly, it is important to note that noncitizen migrants are very resilient and not just bystanders expecting others to determine their fate or health care needs. Analysis of the role of migrants' social capital and informal networks in ensuring access to care for this vulnerable population could help in building the strengths of migrant communities and the developing of a community-based participatory framework to advance migrants' health. Finally, the effect of climate change, including drought, extreme weather, food insecurity, melting of glacial and rising sea-levels, will continue to drive authorized and unauthorized border crossing. We did not find any studies that explored the impact of inclusive policies on climate migrants. More research will be needed for the development of best practices in this area.

CONCLUSION

Despite the anti-immigration rhetoric and exclusionary policies in MEDCs, inclusive policies are emerging at the sub-national and national levels to ensure that noncitizen migrants have access to health care. Although there is scant research on inclusive policies within MEDCs, existing evidence suggests that inclusive policies have positive impacts on health and clinical outcomes of noncitizen migrants. Also, inclusive policies with no clear path to full integration in MEDCs are contributing to the epidemic of toxic stress amongst noncitizen migrants. The extent to which inclusive policies compensate for exclusionary policies is outside the scope of our study and warrant further investigation. Future studies on migrant health could benefit from innovative data collection strategies, incorporation of new inclusion and integration assessment tools as well as epigenetic and sub-group population cultural intelligence studies. As the burden of global migration takes a toll on receiving countries and governments across these countries struggle to honor their commitment towards the achievement of universal health coverage, inclusive policies could serve as a catalyst for the realization of this vision. Considering the changing sociopolitical environment around access to public benefits including healthcare in MEDCs, our findings are timely and could inform policies, interventions and practices on migrant population health. This review could be updated in the future to include grey population search; extended beyond English only publications; involve technical expert consultation and studies in low- and middle-income settings. Also, further updates will be needed to reflect new inclusive legislations or policies enacted in different countries that have not been evaluated or published. We strongly believe that continuous investment in existing and emerging inclusive policies will be key in averting the public health consequences of unequal access to health and healthcare as well as furtherance of global health development goals. Ultimately, with political commitment, progress towards ensuring a minimal global standard for migrant health that is right-based and rooted in the public health concepts of safety and equity is attainable.

CONTRIBUTIONS: The study was completed with the support of a four-member MPH thesis supervisory committee (Aaron Katz (AK), Jeff Lane (JL), Omar Martinez (OM) and Kenneth Sherr (KS)). AK, JL and OM served as policy experts. KS and OM provided subject matter expertise for systematic review. O. Okoye conceptualized and led the writing of this study. Study theme was further modified through discussions and insights from E. Ambriz and MPH thesis committee. O. Okoye worked with Sarah Safranek (SS) and Michael Sholinbeck (MS) to create the systematic review search strategy. In group and independently, O. Okoye, E. Ambriz, B. Anikpezie conducted screening, data extraction and analyses. G. Samari provided insights and materials for quality and risk assessment.

ACKNOWLEDGMENTS: This thesis is the final product of a process that started some years ago. O. Okoye appreciates the leadership of Department of Global Health for their flexibility while completing the MPH thesis. Special appreciation to my mentors, family and friends for their unflinching support through it all.

Note: The lead author(O.Okoye) wrote from the perspective of a noncitizen migrant that benefited from access to low cost dental care through community clinic and impacted by the psychological trauma of restrictive policy(termination of job and loss of employment based health care coverage due to bureaucratic delays in renewal of US employment authorization document). Content is solely the responsibility of the lead author and does not necessarily represent the views of his MPH thesis committee or other contributors.

DATA AVAILABILITY: All data relevant to the study are included in this thesis or uploaded as Supporting Information(appendix).

ROLE OF FUNDING: This study was not supported by any funding.

HUMAN AND ANIMAL RIGHTS AND INFORMED CONSENT: This paper does not contain any studies with human or animal subjects performed by any of the author

REFERENCE LIST

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SUPPORTING INFORMATION

Appendix A: Systemic review search strategy

1. Search terms

PUBMED

(emigrants and migrants[mh] OR emigrat* OR immigra* OR migrant* OR "undocumented" OR "asylum seeker" OR "asylum seekers" OR noncitizen* OR caravan*[tiab] OR "permanent resident" OR "permanent residents" OR "refugee" OR "refugees")

AND

("affordable care act" OR "daca" OR (direct access program) OR (direct access programs) OR (inclusive healthcare policy) OR health care reform[mh] OR health insurance[mh] OR insurance coverage[mh] OR policy[mh] OR policy making[mh] OR public assistance[mh] OR "public benefit" OR "public benefits" OR "health policy" OR "health policies" OR "public policy" OR "public policies" OR "safety net" OR "social insurance" OR Medicaid[tw] OR Medicare[tw] OR "rapid response team" OR "rapid response teams" OR "social security" OR (federal interim health program) OR "sanctuary city" OR (sanctuary cities) OR welfare[tiab] OR "universal healthcare" OR "managed care" OR charity OR ((policy[tiab] OR policies[tiab] OR "law" OR "laws" OR "rule" OR "rules" OR "regulation" OR "regulations" OR "legislation" OR "legislations")) AND ("acceptance" OR "anti-discrimination" OR antidiscrimination OR friendly OR honor OR human right* OR "inclusion" OR "inclusive" OR integration OR expansion OR protect* OR "sensitive" OR "safety" OR "security")))

AND

(health services accessibility[mh] OR health OR health outcome* OR health status indicators[mh] OR "health status" OR "health equity" OR "health services research" OR relief OR utilization[tw] OR utilize* OR access[tiab] OR accessibility[tiab] OR disparity[tw] OR disparities[tw])

AND

(united states of america OR Mexico OR australia OR new zealand OR united kingdom OR germany OR sweden OR italy OR france OR hungary OR switzerland OR austria OR belgium OR denmark OR norway OR bulgaria OR greece OR poland OR finland OR cyprus OR romania OR ireland OR malta OR czech republic OR luxembourg OR croatia OR portugal OR lithuania OR slovenia OR latvia OR slovakia OR iceland OR estonia OR liechtenstein OR spain OR europe OR the netherlands OR canada OR europe)

ECOHOST

(emigrants and migrants OR emigrat* OR immigra* OR migrant* OR “undocumented” OR “asylum seeker” OR “asylum seekers” OR noncitizen* OR “Caravan” OR “permanent resident” OR “permanent residents” OR “refugee” OR “refugees”)

AND

(“affordable care act” OR “DACA” OR “Deferred Action for Childhood Arrivals” OR “(direct access program” OR “direct access programs” OR “health care reform” OR “health insurance” OR “insurance coverage” OR “public assistance” OR “public benefit” OR “public benefits” OR “public policy” OR “public policies” OR “safety net” OR “social insurance” OR Medicaid OR Medicare OR “rapid response team” OR “rapid response teams” OR “social security” OR “federal interim health program” OR “sanctuary city” OR “sanctuary cities” OR welfare OR “anti discrimination” OR anti discrimination OR “nondiscrimination” OR “human right” OR “human rights” OR “entitlement” OR charity OR “universal health care” OR “managed care”)

AND

(“health services accessibility” OR “health status indicators” OR “health status” OR “medical services” OR “health equity” OR “health services research” OR relief)

AND

(“United States of America” OR American OR Mexico OR Australia OR New Zealand OR United Kingdom OR Germany OR Sweden OR Italy OR France OR Hungary OR Switzerland OR Austria OR Belgium OR Denmark OR Norway OR Bulgaria OR Greece OR Poland OR Finland OR Cyprus OR Romania OR Ireland OR Malta OR Czech Republic OR Luxembourg OR Croatia OR Portugal OR Lithuania OR Slovenia OR Latvia OR Slovakia OR Iceland OR Estonia OR Liechtenstein OR Spain OR Europe OR Netherland OR Canada OR Europe OR European Union)

CINAHL

(MH "Residential Mobility+" OR emigrat* OR immigra* OR migrant* OR undocumented OR “asylum seeker” OR “asylum seekers” OR noncitizen* OR caravan OR “permanent resident” OR “permanent residents” OR “refugee” OR “refugees”)

AND

(“affordable care act” OR “DACA” OR “Deferred Action for Childhood Arrivals” OR “direct access program” OR “direct access programs” OR “health care reform” OR “inclusive healthcare policy” OR “health insurance” OR “insurance coverage” OR “public assistance” OR “public benefit” OR “public benefits” OR “health policy” OR “health policies” OR “public policy” OR “public policies” OR MH "Public Policy+" OR MH "Policy Making" OR “safety net” OR “social insurance” OR Medicaid OR Medicare OR “rapid response team” OR “rapid response teams” OR “social security” OR “federal interim health program” OR “sanctuary city” OR “sanctuary cities” OR welfare OR “universal healthcare” OR “managed care” OR charity OR ((policy OR policies OR law OR laws OR rule OR rules OR regulation OR regulations) AND (friendly OR anti-discrimination OR antidiscrimination OR nondiscrimination OR “human right” OR “human rights” OR inclusive OR sensitive OR integration OR expansion OR entitlement OR protection)))

AND

(MH "Health Services Administration+" OR health OR “health outcomes” OR “health status indicators” OR “health status” OR “health equity” OR “medical services” OR “health services research” OR relief OR utilization OR utilize* OR “access to care” OR accessibility OR disparity OR disparities)

AND

(United States of America OR American OR Mexico OR Australia OR New Zealand OR United Kingdom OR Germany OR Sweden OR Italy OR France OR Hungary OR Switzerland or Austria OR Belgium OR Denmark OR Norway OR Bulgaria OR Greece OR Poland OR Finland OR Cyprus OR Romania OR Ireland OR Malta OR Czech Republic OR Luxembourg OR Croatia OR Portugal OR Lithuania OR Slovenia OR Latvia OR Slovakia OR Iceland OR Estonia OR Liechtenstein OR Spain OR Europe OR Netherlands OR Canada OR Europe)

2. Table 1: Search Results (November 11-27, 2018).

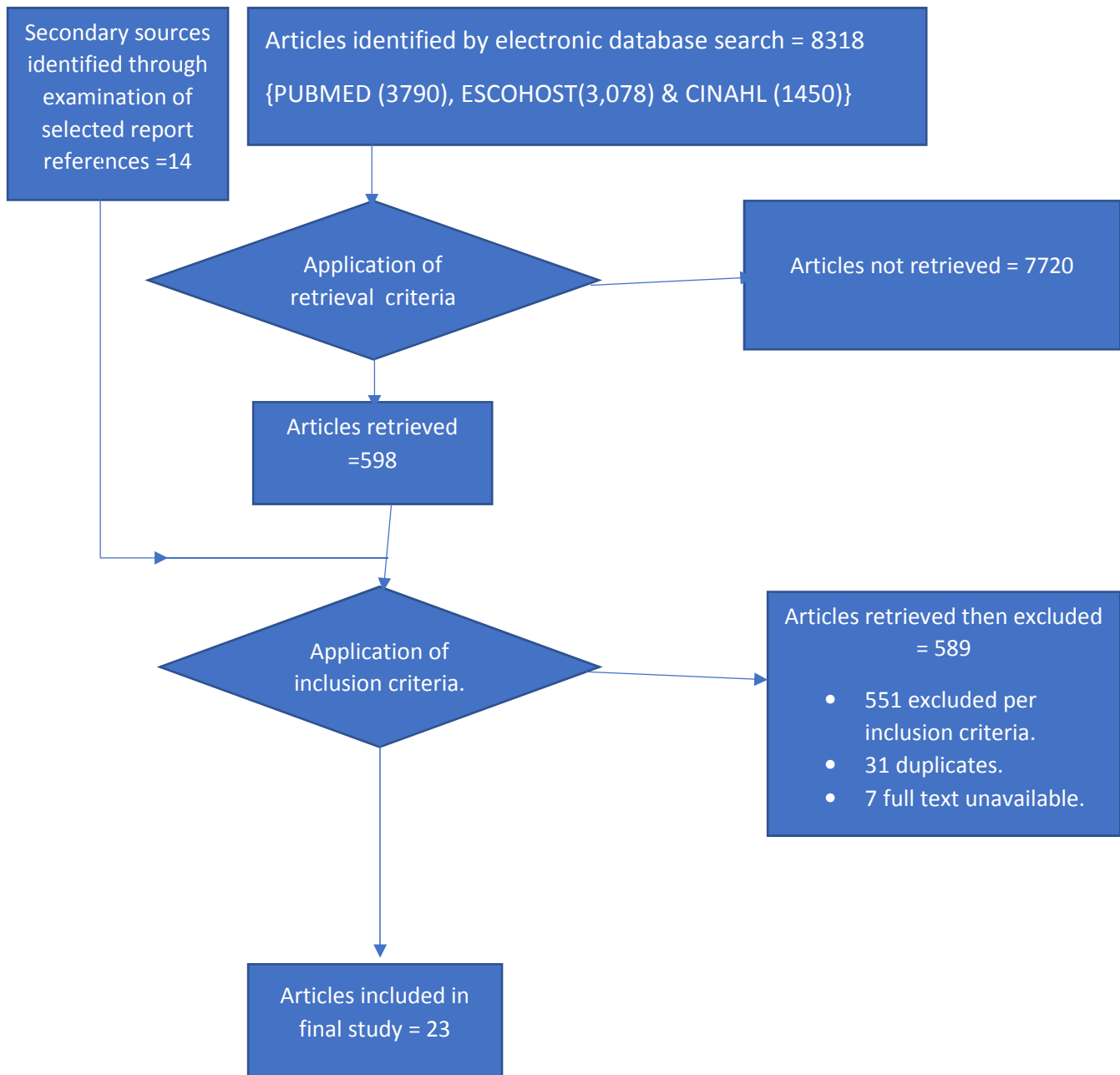
Database	Number of results	Notes
PubMed	3790	Advanced search, All field, one group per search builder segment, 1998-2018, English only.
ECOHST	3,078	Advanced search, All field, one group per search builder segment, 1998-2018, English only.
CINAHL	1450	Advanced search, All field, one group per builder segment

Total number of articles for identified: 8,318.

After quick article title screening and removal of duplicates: 612.

Number of articles included in the final study: 23.

Appendix B (Figure 1: Flow chart of study selection).



Appendix C Quality Assessment Tool: Notes on ROBINS-I[66]

www.riskofbias.info

Overview

- Developed by Cochrane, based on their tool for randomized studies (RoB)
- Purpose: To assess risk of bias in non-randomized studies of comparative effectiveness of interventions
- Considers each study as attempt to mimic a randomized trial, framing bias as differences between actual study and hypothetical trial
- Covers 7 domains of bias: confounding, selection, classification, adherence to intervention group, missing data, measurement, reporting
- Uses series of “signaling questions” to facilitate reviewers’ judgements of risk of bias in each domain, then reviewers’ give assessment of low/high risk of bias within that domain
- Reviewers use domain judgements to determine overall risk of bias (based on lowest score within a domain)

Why this one?

- Touted as better than Newcastle Ottawa Scale (NOS, 2008) and Downs & Black (1998), which do not have comprehensive manuals to ensure users interpret consistently and do not report on development process.
- Reflects larger shifts in field: from “quality” to risk of bias. From checklists/numeric scores toward domain-based assessment. Scales have appearance of simplicity, but involve weighting which may not be related to study validity. (Can cite Sanderson et al, 2007)
- Value of Cochrane name, developed through comprehensive process.

Questions/Concerns

- *Does it only apply to studies of interventions?*

Says can be used for cohort and case control studies in which treatment is allocated as part of typical practice, as well as studies that allocate but fall short of randomization

- *Is it too much for us?*

We have preference for simplicity given the nature of the studies we found. Tool is very detailed. Have elaborate Access database / Word documents to use with signaling questions.

- *To what extent can we adapt?*

Unclear. Bias domains are not modifiable, but assessment is reviewers' own judgement. Uncertain if we can say we are using the tool if we are using domains but not answering the signaling questions in detail.

Tool Steps

1. Specify the research question through consideration of a target trial
2. Specify the outcome and result being assessed
3. Examine how the confounders and co-interventions were addressed
4. Answer signaling questions for the seven bias domains
5. Formulate risk of bias judgements for each of the seven bias domains, informed by answers to the signaling questions
6. Formulate an overall judgement on risk of bias for the outcome and result being assessed.

(Repeat 3-6 for each outcome of interest)

Table 2: Template of ROBINS-I tool as amended

Author/Year/Title: _____

Overview of Study

Participants	
Intervention	
Comparator	

Outcomes

Likely Confounders

Bias Domains	Risk of Bias <i>(choose one)</i>	Support for Reviewer Judgement <i>(e.g., quote from text and other comments)</i>
1. Bias due to Confounding	Low Moderate Serious Critical No information	
2. Bias in selection of Participants into the study	Low Moderate Serious Critical No information	
3. Bias in classification of Interventions	Low Moderate Serious Critical No information	
4. Bias due to	Low	

Deviations from intended Interventions	Moderate Serious Critical No information	
5. Bias due to missing data	Low Moderate Serious Critical No information	
6. Bias in Measurement of outcomes	Low Moderate Serious Critical No information	
7. Bias in selection of reported result	Low Moderate Serious Critical No information	

Signaling Questions

(Slightly modified by NFB, 2/24/17)

Confounding

Is there potential for confounding of the effect of the intervention in this study?

Was the analysis based on splitting participants' follow-up time according to intervention received?

If yes, were intervention discontinuations/switches likely to be related to outcome?

Did authors control for post-intervention variables that could have been affected by intervention?

Did authors use appropriate analysis to control for confounding and/or time-varying variables?

If yes, were confounding domains measured with validity and reliability?

Selection of Participants

Was selection of participants based on characteristics observed after start of intervention?

If yes, were variables that influenced selection likely associated with intervention?

If yes, were variables likely influenced by outcome or a cause of the outcome?

Did start of intervention and follow-up coincide for most participants?

Were adjustment techniques used that likely correct for selection biases?

Classification of Interventions

Were intervention groups clearly defined?

Was information used to define intervention groups recorded at start of intervention?

Could classification of intervention status have been affected by knowledge/risk of outcome?

Deviations from Intended Interventions

Were there deviations from intended intervention beyond what would expect?

If yes, were deviations unbalanced between groups and likely to have effect on outcomes?

Was intervention implemented successfully for most participants?

Did participants adhere to assigned intervention?

If no, was appropriate analysis used to estimate effect of starting/adhering to intervention?

Missing Data

Were outcome data available for nearly all participants?

Were participants excluded due to missing data on intervention status?

Were participants excluded due to missing data on other variables?

Are the proportion of participants or reasons for missing data similar across interventions?

Is there evidence that results were robust to presence of missing data?

Measurement of Outcomes

Could outcome measure have been influenced by knowledge of intervention?

Were outcomes assessors aware of participant intervention?

Were methods of outcome assessment comparable across groups?

Were any systematic errors in measurement of outcome related to intervention received?

Selection of Reported Results

Is reported effect estimate likely to be selected on basis of results from... multiple outcome measurements?

Is reported effect estimate likely to be selected on basis of results from... multiple analyses?

Is reported effect estimate likely to be selected on basis of results from... different subgroups?

Appendix D: Table 3(ROBINS-I Assessment of Risk of Bias for Quantitative Studies)

Authors	Year	Confounding	Selection	Missing Data	Measurement	Results	Final Assessment
Atkins	2017	Moderate	Low	Low	Low	Low	Low
Chen	2017	Moderate	High	Moderate	Moderate	Moderate	Moderate
Drewry	2015	Low	Moderate	Low	Low	Low	Low
Gonzales	2014	Low	Moderate	High	Moderate	Moderate	Moderate
Guttman.	2008	Low	Low	Low	Low	Low	Low
Hainmueller	2017	Low	Moderate	Low	Low	Low	Low
Howell	2007	Moderate	Low	Low	Moderate	Moderate	Moderate
Howell	2010	Moderate	Low	Low	Moderate	Moderate	Moderate
Iten	2014	Low	Moderate	Low	Moderate	Low	Low
Malmusi	2014	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
McEnhill	2015	Moderate	Low	Low	Low	Low	Low
Nickerson	2011	Low	Moderate	Low	Low	Low	Low
Patler	2018	Low	Moderate	Low	Low	Low	Low
Poon	2013	Moderate	Moderate	Low	Low	Low	Moderate
Salmasi	2015	Moderate	Low	Low	Low	Low	Low
Steel	2011	Moderate	Low	Moderate	Low	Low	Moderate
Swartz	2017	Low	Low	Low	Low	Low	Low
Venkataramani	2017	Low	Low	Low	Moderate	Low	Low
Wherry	2017	Low	Low	Low	Moderate	Low	Low

Appendix E

Table 4- Impact of Inclusive migrant policies and publicly funded health care interventions on noncitizen health and clinical outcome systematic review results.		
Characteristics	Studies (n=23), No. (%)	Citation
Year of publication		
Before 2010	3 (13.04)	[53], [73], [85]
2010-2016	10 (47.83)	[69], [70], [72], [74], [77], [79], [81], [82], [86], [87]
2016-2018	9 (39.13)	[35], [67], [68], [71], [75], [76], [78], [83], [84]
Location of study		
Australia	4(17.39)	[68], [79], [81], [82]
Canada	1(4.34)	[85]
Pan European	2(8.70)	[53], [80]
Italy	1(4.34)	[77]
United States	15(65.23)	[35], [67], [69]-[76], [78], [83], [84], [86], [87]
Study design		
Quantitative	19(82.61)	[35], [67]-[77], [80]-[82], [84]-[87]
a. Cross-sectional	6(26.09)	[70], [72], [73], [75], [80], [84]
b. Longitudinal	13(56.52)	[35], [67]-[69], [71], [74], [76], [77], [81], [82], [85]-[87]

Qualitative	2(8.70)	[78], [83]
Systematic or narrative	1 (4.35)	[53]
Mixed method	1(4.35)	[79]
Sample size		
Non given	2(8.70)	[53], [76]
1-100	3(13.04)	[78], [79], [83]
100-1000	5(21.74)	[72], [81], [82], [87], [88]
>1000	13(56.52)	[35], [67]-[71], [73]-[75], [77], [80], [85], [86]
Included a comparison group		
Yes	13 (56.52.)	[35], [53], [67], [69], [71]-[74], [76], [77], [85]-[87]
No	10 (43.48)	[68], [70], [75], [78]-[83], [88]
Final score for bias assessment		
Low	12(53.17)	[35], [67], [69], [71], [72], [75]-[77], [81], [84], [85], [87]
Moderate	7(30.43)	[68], [70], [73], [74], [80], [82], [86]
Serious/critical	0	-

Not applicable	4(17.39)	[53], [78], [79], [83]
Data Source		
Register or other routine data	10 (43.47)	[67], [69], [71], [72], [75], [76], [79], [85]-[87]
Interview/Questions to target study population	7 (30.43)	[73], [74], [78], [81]-[83], [88]
National survey	5 (21.74)	[35], [68], [70], [77], [80]
Others	1 (4.35)	[53]
Type of source		
Register or routine data	13 (56.52)	[35], [53], [67], [69], [70], [72], [76], [77], [79]-[81], [86], [87]

Parent report	4 (17.39)	[71], [73], [74], [85]
Self-report	6(26.09)	[68], [70], [78], [82], [83], [88]
Origin of migrants		
Mixed	13 (56.52)	[53], [68], [70], [73]-[77], [79], [80], [82], [85], [87]
Hispanics	8 (34.78)	[35], [67], [69], [71], [72], [78], [86], [88]
Asian	1 (4.35)	[83]
Mid-Eastern	1 (4.35)	[81]
Type of migrants		
Unauthorized	14 (60.87)	[35], [67], [69]-[75], [78], [83], [86]-[88]
Newly arrived refugees/Humanitarian migrants	4 (17.39)	[68], [79], [81], [82]
Mixed	4 (17.39)	[53], [76], [80], [85]
Labor migrant	1 (4.35)	[77]
Climate migrant	0	
Health and Clinical Outcome (Not mutually exclusive categories)		
Maternal and Child Health	9 (39.13)	[53], [67], [69], [73]-[77], [85]
Mental Health and general wellbeing	10 (43.48)	[35], [68], [70], [71], [78], [80]-[83], [88]
Communicable and noncommunicable disease management excluding mental health	3 (13.04)	[72], [86], [87]
Early access to preventive services and routine health care	1 (4.35)	[79]
Type of inclusive policy		
1. Immigration status/documentation policy	9(39.13).	[35], [70], [71], [77], [78], [81]-[83], [88]

A.	Discretionary legal presence (DACA)	6 (26.09)	[35], [70], [71], [78], [83], [88]
B.	Conversion from insecure to secured visa.	1 (4.35)	[81]
C.	Permanent protection vs Temporary protective status	1 (4.35)	[82]
D.	Amnesty (from irregular to regularized status for labor migrants.	1(4.35)	[77]
2.	Expanded Access to Public health insurance coverage	7(30.43)	[67], [69], [73]-[76], [87]
3.	Universal Access to Care	1(4.35)	[85]
4.	Publicly funded health clinics	2(8.70)	[79], [86]
5.	Sanctuary cities/Areas	1(4.35)	[72]
6.	Social Integration	3 (13.04)	[53], [68], [80]
Level of intervention			
	National	12 (52.18)	[35], [53], [68], [70], [71], [78], [80]-[85]
	Sub-national	10 (43.47)	[67], [69], [72]-[77], [79], [87]
	Mixed	1 (4.35)	[86]

Appendix F

Table 5. Study summary						
North America						
Authors	Journal(year)	Title	Study Location	Study Type/ Design	Source of Data/Date	Sampled population
1. Atkins[67]	Hispanic Health Care International (2017)	Maternal Health of Undocumented Women with and Without Medicaid Access in Nebraska, 2007-2011	U.S.(Nebraska)	A retrospective, longitudinal cohort design	2007 to 2011 public birth certificate records from Nebraska	6,262 undocumented women
2. Drewry [69]	Maternal Child Health Journal (2015)	The impact of the State Children's Health Insurance Program's unborn child ruling expansions on foreign-born Latina prenatal care and birth outcomes, 2000-2007	U.S(Multiple locations).	quasi-experimental retrospective observational cohort design	2000-2007 National Center for Health Statistics (NCHS) live birth files from sixteen states and 2004 Kaiser report	583,917 foreign-born Latinas (Mexican and Central/South American) in 16 states.
3. Gonzales [70]	American Behavioral Scientist (2014)	Becoming DACAmented: Assessing the Short-Term Benefits of Deferred Action for Childhood Arrivals (DACA)	U.S(multiple locations)	Cross sectional	National UnDACAmented Research Project (NURP) survey data	2,381 DACA beneficiaries.
4. Hainmueller [71]	Social Science (2017)	Protecting unauthorized migrant mothers improves their children's mental health	U.S (Oregon)	quasi-experimental retrospective observational cohort design	Emergency Medicaid claim data for children born between 2003 and 2015.	8610 US born children of DACA beneficiaries/

5.	Howell [73]	Health Research and Educational Trust (2007)	The effect of new insurance coverage on the health status of low-income children in Santa Clara County	U.S(Santa Clara, California)	Cross-sectional study	Survey data from 1235 parents of enrollees in the new insurance program ("Healthy Kids")	1,389 undocumented children.
6.	Howell [74]	Journal of Health Care Poor Underserved (2010)	The impact of new health insurance coverage on undocumented and other low-income children: lessons from three California counties	United States	Retrospective cohort study	The California Health Interview Survey	Low income kids (US citizen) of Undocumented migrants and undocumented children
7.	Iten[72]	Journal of Migrant Minor Health (2014)	Undocumented immigration status and diabetes care among Mexican migrants in two immigration "sanctuary" areas	United States (San Francisco and Chicago)	Cross-sectional survey	Medical record and survey (the Immigration, Culture and Health Care (ICHC) Study data)	401 subjects. 171Undocumented Mexican migrant, 166 Documented Mexican migrants and 124 US-born Mexican Americans.
8.	McEnhill [87]	American Journal of Transplantation (2015)	Effect of immigration status on outcomes in pediatric kidney transplant recipients	U.S(San Francisco)	Prospective longitudinal cohort study.	The Organ Procurement and Transplantation Network (OPTN) Health record	289 children who received a kidney transplant between 1998 and 2010 of which 48 are undocumented migrant children.

9.	Patler [84]	Social Science & Medicine (2018)	From undocumented to lawfully present: Do changes to legal status impact psychological wellbeing among latino migrant young adults?	U.S.	Cross sectional	survey data	487 Latino migrant young adults
10.	Poon [86]	Public Library of Science (2013)	Treatment Outcomes in Undocumented Hispanic Migrants with HIV Infection	U.S(Houston)	retrospective cohort study	Hospital records of antiretroviral naïve patient attending first hospital visit between 1/1/2003 and 6/30/2008	1,620 HIV-infected adults included 186 undocumented Hispanic, 278 documented Hispanic, 986 Black, and 170 White persons. Hispanics.
11.	Sudhin araset [83]	Journal Adolescent Health (2017)	The Influence of Deferred Action for Childhood Arrivals on Undocumented Asian and Pacific Islander Young Adults: Through a Social Determinants of Health Lens	United States (California, Bay Area)	Qualitative	Focus group and in-depth interviews	Asian/ Pacific Islander; 32 undocumented migrants
12.	Swartz [75]	Obstet Gynecol. (2017)	Expanding Prenatal Care to Unauthorized Migrant Women and the Effects on Infant Health	U.S(Oregon)	Quantitative (Difference in Difference Design) Cross-sectional.	Oregon Health Authority's Department of Health Analytics for all Medicaid claims,	Emergency Medicaid (34,319), Emergency Medicaid Plus (12,344), and Medicaid (163,537) pregnancies among low-income immigrant women who are either unauthorized or

						<p>have fewer than 5 years of legal permanent residency.</p> <p>Mixed Status Family. Undocumented migrants and children that are US citizens</p>
13. Venkataramani [35]	Lancet Public Health (2017)	Health consequences of the US Deferred Action for Childhood Arrivals (DACA) immigration programme: a quasi-experimental study	Several Metro areas, U.S.	retrospective, quasi-experimental study	US National Health Interview Survey (NHIS) for the period January 2008, to December, 2015	14973 non-citizen, Hispanic adults aged 19–50 years
14. Wherry [76]	Health Affairs (2017)	State And Federal Coverage For Pregnant Immigrants: Prenatal Care Increased, No Change Detected For Infant Health	United States (multiple locations)	quasi-experimental design	The 1998–2013 natality and period linked birth infant death data files with restricted geographic information from the National Center for Health Statistics	Legal and undocumented pregnant migrant women in Medicaid expansion and non-expansion states.
15. Siemons [78]	Journal of Migrant Minor Health (2017)	Coming of Age on the Margins: Mental Health and Wellbeing Among Latino Migrant Young Adults Eligible for Deferred Action for Childhood Arrivals (DACA)	United States (Los Angeles or the San Francisco Bay Area)	qualitative design	Social media and Phone survey data. Focus group and in-depth interviews	61 DACA-eligible Latinos (ages 18–31)

16. Guttman [85]	Ambulatory Pediatrics (2008)	Immunization coverage among young children of urban migrant mothers: findings from a universal health care system	Canada (Ontario)	Retrospective, Longitudinal cohort study	Multiple linked administrative data sets of primary health service use and immunizations of children born between July 1, 1997, and June 30, 1998.	98 123 mother-infant dyads {Children of Migrant Mother (n =18 634) vs Nonimmigrant Mother (n = 79 489)}
Australia						
17. Chen [68]	BMJ Open (2017)	Building a new life in Australia: an analysis of the first wave of the longitudinal study of humanitarian migrants in Australia to assess the association between social integration and self-rated health	Australia	A prospective, Longitudinal cohort study	Building a New Life in Australia (BNLA) study home visit data from October 2013- March 2014	1509 Recently arrived Humanitarian Migrants
18. Gould [79]	Australia and New Zealand Journal of Public Health (2010)	A multidisciplinary primary healthcare clinic for newly arrived humanitarian entrants in regional NSW: model of service delivery and summary of preliminary findings	Australia	Mixed Method Review	The Coffs Harbor Refugee Health Clinic quality assurance study data from February to December 2006	76 humanitarian entrants
19. Nickerson [81]	2011	Change in visa status amongst Mandaean refugees: relationship to psychological symptoms and living difficulties	Australia	Longitudinal investigation/Quantitative Naturistic study		101 Mandaean refugees

20. Steel [82]	Social Science & Medicine (2011)	Two year psychosocial and mental health outcomes for refugees subjected to restrictive or supportive immigration policies	Australia (South Wales).	Longitudinal investigation/study	Detention records and permanent residency immigration records	104 refugees from Iraq, Syria and Afghanistan
Europe						
21. Bollini [53]	Social Science and Medicine (2008)	Pregnancy outcome of migrant women and integration policy: A systematic review of international literature	EU	Systematic or Narrative review	65 epidemiological studies from 12 EU receiving countries between 1966-2004.	Not given
22. Malmusi [80]	European Journal of Public Health (2014).	Migrant's Health and Health inequality by type of integration policies in European countries	EU	Cross-sectional survey	data from the 2011 European Union Survey on Income and Living Conditions	People born in the country (natives, $n = 177\,300$) or outside the European Union with >10 years of residence (migrants, $n = 7088$).
23. Salmasi [77]	Journal of Health Economics (2015)	Immigration policy and birth weight: Positive externalities in Italian law	Italy	Retrospective cohort study	Birth Sample Survey (BSS) published by the Italian Institute of Statistics (ISTAT) in 2002	Mixed Origin (100,000 mothers)

Appendix G: Table 6: Health and clinical outcomes

Study Citation	Outcome Categories (Variables)	Level of Intervention and Policy Type	Direction of Impact/Finding
Maternal and Child Health			
1. Atkins	Maternal and Child Health (undocumented migrants with and without access to Medicaid)	Sub-national (State) / Expanded access to publicly funded health insurance (MEDICAID) to pregnant women and Children. United States	Positive association between access to Medicaid and adequate perinatal care. However, higher incidence of abnormal health conditions was recorded amongst undocumented migrants with access to Medicaid.
2. Bollini	Maternal and Child Health (Strength of social integration vs Migrant women health and birth outcome compared to natives)	National/ Multinational Integration policy United States	Perinatal and birth outcomes in migrant populations were close to those of natives in countries with strong social integration policies.
3. Drewry	Maternal and Child Health (Effect of Unborn child ruling policy on prenatal care utilization and birth outcome)	Sub-national (State)/Children's Health Insurance Program's unborn child ruling expansions United States	The SCHIP unborn child ruling policy led to increase utilization of perinatal care for subset of high-risk foreign-born Latinas but no change in birth outcomes were observed.
4. Guttmann	Access to Disease Prevention services (immunization) Migrant vs nonimmigrant mothers	National Legislation- Universal access to care program- Canada	Reduction in immunization coverage disparity between migrants and nonimmigrant children in Ontario.
5. Howell	Access to Disease preventive services/(Child Health)	Sub-national(local) / Expanded access to publicly funded health insurance	Increased access and use of dental services. Reduced unmet need for dental services. Improved health status of children and reduction in the number of children who missed school due to health issues.
6. Howell	mental health and wellbeing (MHWB)/Child Health)	Sub-national(local) / Expanded access to publicly funded health insurance (Health Kid policy- a local health insurance coverage program)	Positive association between children's reported health and health insurance coverage. Effect might have been overstated because some children enrolled because of illness or other temporary conditions. Studies cautiously concluded that Health Kids program had a favorable impact on children's health.
7. Salmasi	Maternal and Child Health	National/ Amnesty to Undocumented migrants	Regularized Immigration (amnesty programs) led to reduce probability of low birth weight.

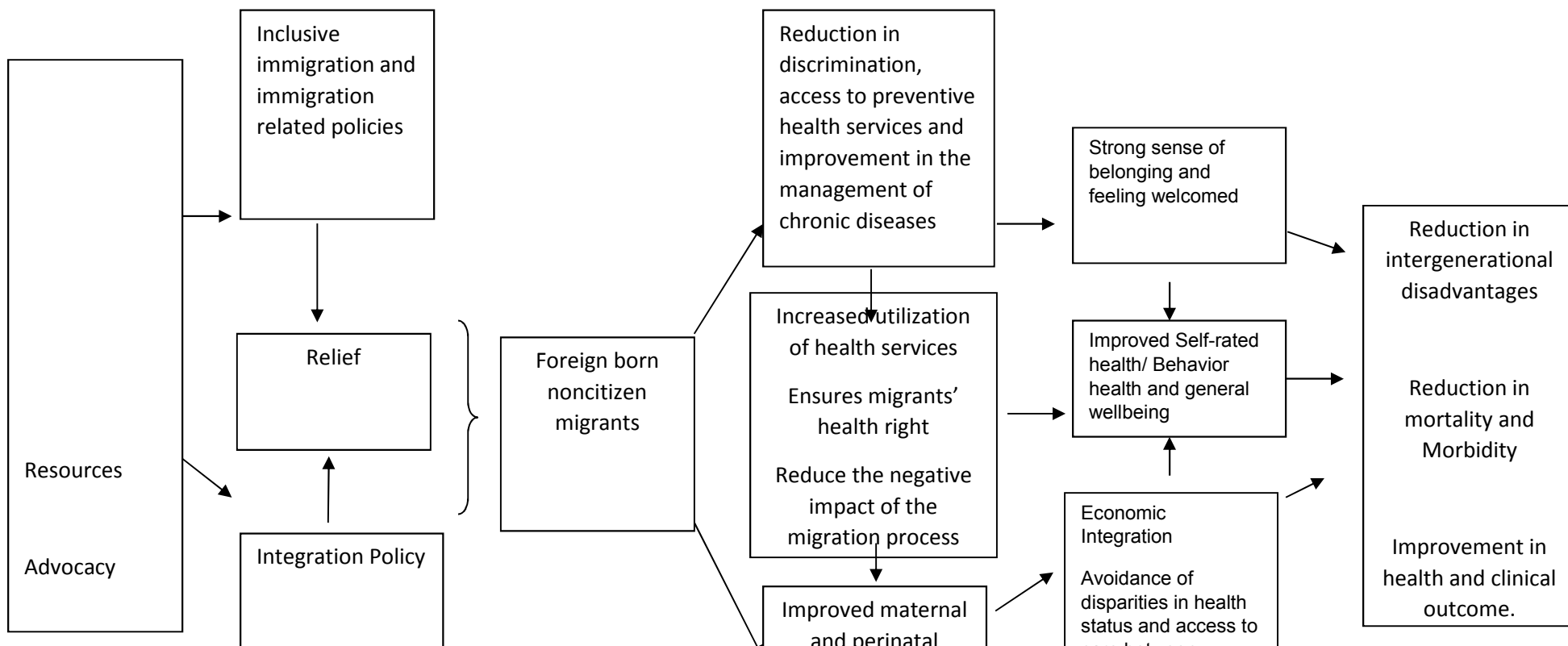
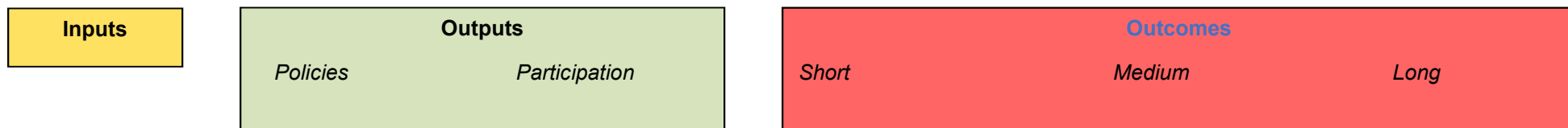
8. Swartz	Maternal and Child Health	Sub-national expansion of perinatal care to unauthorized migrant women	Increase utilization and improved health outcome for mothers and children of undocumented migrants.
9. Wherry	Maternal and Child Health	State Funded programs, The CHIP Reauthorization Act (CHIPRA) of 2009 eliminating the five-year ban and provision of comprehensive Medicaid or CHIP coverage to pregnant women during their first years of legal residency as well as 2002 CHIP unborn child option allowed states to use federal funding	Improved prenatal care utilization without observable changes in infant health or mortality.
Mental health and wellbeing (MHWB)			
10. Chen	Mental health and general well-being (Self-rated health and social integration among humanitarian refugees resettling in an industrialized country)	National/ Australia Refugee Resettlement policy	Positive correlations between social integration and physical and mental health. Reduction of migrant related health inequalities.
11. Gonzales	Mental health and wellbeing (MHWB)	National Legislation (DACA) National United States	Led to reduction in challenges to attaining social and economic incorporation in receiving country. Maximal benefit for undocumented migrants with higher education and access to family and community resources.
12. Hainmueller	Mental health and general wellbeing of children of DACA eligible undocumented migrant mothers (Intergenerational impact of parental migrant status on child's health)	National Legislation (DACA) National United States	Positive association between Mother's DACA eligibility and improved mental health of their US born children. Protecting unauthorized migrants from deportation led to immediate and sizable improvement in the mental health of their U.S citizen parents.
13. Malmusi	Self-rated health/Mortality and Morbidity	National integration policies	Based on the migrant integration policy index, fourteen countries were grouped according to the typology of national integration policy. Migrants in "multicultural" and "assimilationist" countries had better self-rated health compared to migrants in "exclusionist" countries.

14. Nickerson	Mental health and wellbeing (MHWB)	National/Protected immigration Status	Conversion of temporary visa status to protected visa status (permanent resident) was associated with significant reduction in post-traumatic stress disorder, depression and increase in mental health-related quality of life (MHR-QOL). This change was mediated by reduction in living difficulties.
15. Patler	Mental health and wellbeing (MHWB)	National /DACA	DACA status predicted psychological wellbeing and was associated with positive emotional consequences of transitioning out of undocumented status for migrant young adults.
16. Siemons	Mental health and wellbeing (MHWB)	National/DACA	Led to Increased opportunities and sense of belonging/mental health quality of life (MHQoL). Led to unanticipated challenges (Increase demand and responsibility on young children, new precarious status and division within the society).
17. Steel	Mental health and wellbeing (MHWB)	National/Restrictive vs supportive immigration policies	PTSD was low among noncitizens that received supportive migrant policies. They had fewer problems meeting resettlement challenges. Noncitizens subjected to restrictive immigration policies showed significant increase in worry, persistent higher levels of distress in relations to wide range of post-migration living difficulties. No improvement in language skills and increase social isolation.
18. Sudhinaraset	Mental health and wellbeing (MHWB)	National/DACA	Improved health outcome through four potential social determinants of health (economic stability, educational

			opportunities, social and community contexts as well as access to health care). These determinates were linked to improved mental health and sense of well-being among undocumented young adults.
19. Venkataramani	Mental health and wellbeing (MHWB)	National/DACA	Economic opportunities and protection from deportation for undocumented migrants conferred large mental health benefits to DACA recipients. Health consequences should be considered in evaluation of the broader welfare effects of immigration policy.
Noncommunicable disease			
20. Iten	Chronic Disease Management-(Diabetes)	Sub-national/Secured community (Sanctuary city)	In diabetes care Undocumented migrants in secured communities achieved similar clinical outcomes to documented migrants and US-born Mexican-Americans. Trust in health care providers and positive doctor-patient interactions were similar among three groups.
21. McEnhill	Chronic Disease Management (Renal Failure)	Sub-national/Undocumented migrants state funded programs for transplant-related care and immunosuppressive medications	Undocumented migrants' children that received kidney transplantation thrived better than receiving country citizen counterparts. However, treatment for undocumented migrants are not guaranteed after age 21. 1 in 5 undocumented receipts lost their graft because of inability to pay for expensive immunosuppressive therapy. Finding supports immigration policies for undocumented that facilitates access to work-permits and employment-related insurance.
Communicable Diseases			
22. Poon	Infectious Disease screening and treatment (HIV/AIDS)	Both national and sub-national/a publicly funded, free-standing HIV clinic	Testing and linkage to care still an issue for noncitizen access to public funded health care interventions. Once connected to care, undocumented migrants attain similar or better health and clinical outcomes compared to citizen or permanent residents in the receiving

			countries. Study concluded that safety net programs are vital for maintaining individual and public health.
Comprehensive preventive health services			
23. Gould	Multiple (Infectious disease screening and treatment, care linkages for chronic disease management as well as mental health and general wellbeing programs)	Sub-National Publicly Funded Refugee Health Clinic (Resettlement program) Australia	Early detection and treatment of infectious diseases. Access to preventive health services and referral to General Practitioners (GP). Problematic care linkage and referral to GP.

Appendix H: Figure 2 (Conceptual framework summarizing findings on the impact of inclusive policies on health and clinical outcomes of Noncitizen Migrants)



Assumptions

Political commitment,
 Elimination of politics of racism and xenophobia,
 Shift in societal attitude towards newly arrived and undocumented immigrants. Examples of historical shifts towards others include shift around inter-racial marriage, LGBT rights, civil rights, end of slavery and apartheid. This could take several decades or even centuries.

External Factors:

Barriers and Threats: raising populism/nativism, governmental policy changes, economic trends/strained public finance, systemic discrimination and violence of uncertainty, post-immigration relief challenges

APPENDIX I: Table 7: Narrative synthesis (Summary).

Inclusion policy context	Health and clinical outcome	Result	Direction of health impact
A. Documentation policy change (from restrictive immigration status to a more protective immigration status)			
1. USA: Undocumented status to Discretionary Lawful presence status through DACA (USA)[35], [70], [71], [78], [83], [84]	Mental Health	Legal work permit granted as part of DACA legislation led to employment-based health insurance coverage and documentation that could be presented to access health care.	Mixed (positive and negative) Negative: Social stress and reversal of gain in self-rated health due to uncertainty around discretionary status/lack of path to a permanent protective status.
2. Australia. A. Change in visa status: Unauthorized border crossing to from Temporary Protected visa status (TPV) to Permanent residency(PR)[81] B. Restrictive vs supportive immigration policies.[82]	Mental health	Improvement in Mental and General Wellbeing of noncitizen migrants with	Positive
3. Italy Amnesty (Art 33 of Law 189/2002): Irregular documentation status to regularized status.[62]	Reduction in socioeconomic vulnerability and fostering of fertility choices Child Health (Reduction in low birth weight)		Positive

B. Publicly funded Health Insurance coverage			
1. Expanded access to public health insurance coverage in the United States	a. Maternal and Child's health[67], [69], [73]-[76]	Increased prenatal visits, reduction of low birth weight etc.	Mixed (Positive, neutral and negative)
	b. Chronic disease management (Renal transplant)[87]	Similar or better treatment outcome amongst noncitizen migrants compared to the nonmigrant population.	Positive
2. Universal Health Coverage in Canada (immunization)	Child's Health.[85]	Improvement in Up-to-Date immunization. Heterogeneity was noted at sub-population level.	Positive.
C. Publicly funded Free clinics			

1. HIV treatment clinic (USA)[86]	Communicable (HIV) and noncommunicable disease management including mental health.	Improved viral suppression and retention in care despite late presentation.	Positive
2. Provision of comprehensive primary care at arrival phase. (Australia)[79]	Preventive services/Communicable (HIV) and noncommunicable disease management including mental health.	Improved early disease diagnosis and linkage to care.	Positive
D. Sanctuary areas (USA)[72]	Noncommunicable disease management (Diabetics)	Improved retention in care, trust of health care providers and good diabetic control.	Positive
E. Integration policy			
1. Cross country comparatives of level of integration	Child's Health (Pregnancy outcome)[53]	Across European Countries, risk of low birth outcomes significantly reduced in countries with strong integration policies.	Positive
2. Social Integration	Self-rated Health and mental health[68]	Noncitizen migrants felt welcomed and had a strong of belonging in Australia	Positive.

Appendix J: Table 8: Barriers and Facilitators of inclusive policies

Barriers	Facilitator
Rise in Center-right government[77] Deliberate and inevitable complications and holdups around immigration reforms. Idea of migration deterrent.	Research in support of inclusive policies [75], [86] Advocacy for restoration of inclusive policies/ political commitment
Family associated fears/distrust of systems [83]	No co-payment, transportation support and interpretation services [79]
Social Stress and discrimination[53] Racism and disrespect[53] Harsh environment and toxic atmosphere created by white supremacy. Rhetoric that migrants are lazy, live off nonimmigrant population and cannot do anything right.	Education and higher social economic status amongst noncitizen immigrants.
Governmental policy change/Discontinuation of program(Atkins) [67]	
Co-payments and wait time Laborious bureaucratic approval process and high cost of application.	Resources [79]
Burden and proof of eligibility	Regional and international partnerships, networks and multi country framework
Uncertainty about the future of inclusive policies [71]	Funding and education of noncitizen immigrants about health systems in MEDCs
Reluctance to treat migrants by providers [79]	Health care professional cultural sensitivity and language concordance training.