


Social determinants of the healthcare needs of undocumented migrants living with non-communicable diseases: a scoping review

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ABSTRACT

Objectives We aimed to map the social determinants of meeting the healthcare needs of undocumented migrants living with non-communicable diseases (NCDs) throughout their migration journey (from the country of origin to the country(ies) of transit and destination).

Design We conducted a scoping review.

Data sources We searched literature in Medline, Embase, Web of Science and Google Scholar.

Eligibility criteria We included articles that describe interventions, programmes or policies for undocumented migrants living with cardiovascular diseases, cancer, chronic respiratory disease, or diabetes. There were no restrictions by setting (eg, hospital, community or mobile clinic) or country. We included articles published in English, Spanish, or French between 2000 to 2022.

Data extraction and synthesis The data were structured according to the Commission on Social Determinants of Health framework, differentiated along the migration journey (country of origin, transit, departure and integration, and country of destination). A new conceptual model emerged from data synthesis.

Results We included 22 studies out of 953 identified articles. They reported data from Italy, the USA, Spain, Switzerland, The Netherlands, France, Austria, and Sweden. They show that individual determinants (material, biological, psychosocial and behavioural) evolve throughout the migration journey and influence healthcare needs. The satisfaction of these needs is conditioned by health system-related determinants such as availability and accessibility. However, the individual and health-system determinants depend on the political and legal context of both the country of origin and the country(ies) of destination, as well as on the socioeconomic position of undocumented migrants in the destination country.

Conclusions Migrant health policies should aim at better responding to NCDs-related healthcare needs of undocumented migrants throughout their migration journey, taking into account the social, economic and legal factors that underlie their health vulnerability.

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ Social determinants of health are circumstances in which people are born, grow, live and age.
- ⇒ Migration is a consequence of social determinants, and also a social determinant of health.
- ⇒ Undocumented migrants are a particularly disadvantaged population due to their social, economic and legal circumstances, and their healthcare needs when living with non-communicable diseases (NCDs) have been overlooked.

WHAT THIS STUDY ADDS

- ⇒ The individual determinants (material, biological, psychosocial and behavioural) of undocumented migrants living with NCDs differ from other migrant populations, exposing them to adverse health outcomes.
- ⇒ Health system-related determinants mediate the access to early diagnosis, continuous care, adherence to medication and prevention of complications of NCDs.
- ⇒ Unfavourable sociopolitical context and socioeconomic position both in the country of origin and in the country(ies) of destination expose migrants to adverse health conditions.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ Migrant-related policies should be designed to specifically address the needs of disadvantaged migrants.
- ⇒ The healthcare needs of undocumented migrants living with NCDs are complex. Research and interventions on migrant's health need to address both individual and structural determinants.

INTRODUCTION

Undocumented migrants (UMs) are foreign residents without a valid residency permit in a country of destination.¹ It is estimated that there are approximately 10.5 million UMs living in the USA² and at least 3.9 million in Europe.³ In any country or region, it is difficult

to estimate a precise number of UMs because they are not included in official registers and their legal status may change over time.⁴ Different political, economic and social factors in the migration journey cause people to live undocumented or being at risk of becoming undocumented.⁵

UMs tend to use health services less than documented migrants for all health conditions, including non-communicable diseases (NCDs), mainly due to fear of identification, deportation and the different barriers to accessing healthcare.⁶ Some studies suggest that UMs living with NCDs such as asthma, hypertension or diabetes are less likely to receive consultations in primary care and tend to avoid hospitalisation admission for preventable diseases or complications such as cancer and chronic kidney disease.^{7,8} Frequently, UMs only access healthcare when these conditions are at an advanced stage.⁹⁻¹¹

'The conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of life' are defined by the WHO as Social Determinant of Health (SDH).¹² There are structural and intermediary determinants; the former create stratification and define socioeconomic positions, while the latter determine differences in exposure and vulnerability to health conditions.¹³ Migration is a SDH but is also socially determined.¹⁴ Migrants' lives have been affected by a number of SDH in their countries of origin, some of which directly determine their migration process; and later, in the country of destination, they face new social, economic and political conditions that impact their health.¹⁴

The Commission on Social Determinants of Health (CSDH) has developed a comprehensive framework to organise and understand the different mechanisms that shape health status. The components of the framework are: (1) individual determinants: including material, biological and psychosocial characteristics as well as behaviours of the individual; (2) socioeconomic position: measured by social class, occupation, income and education; (3) health system-related determinants: referring to access to and utilisation of healthcare services; and (4) sociopolitical context: related to political, economic and social systems and policies.

Previous reviews have explored the burden of disease,¹⁵ risk factors¹⁶ and the role of social capital when seeking healthcare¹⁷ for NCDs in regular migrants and refugees. There are also reviews on UMs population focused on barriers to healthcare,^{18,19} utilisation of health services^{6,20} and policy comparisons between countries.^{21,22} However, no review has addressed the social determinants of meeting the healthcare needs for NCDs specifically among UMs. It is an important issue not only because the health needs of people living with NCDs are multi-dimensional and may evolve over time and space, but also because of the particular social, economic or legal circumstances that underlie the health vulnerability of UMs.

The objectives of this article are first to synthesise the research findings from the scoping review on the social determinants of meeting healthcare needs of UMs living with NCDs throughout their migration journey (from the country of origin to the country(/ies) of transit and destination). Second, based on these findings, to present a conceptual model rooted in the CSDH framework. These insights will help identify specific areas where policies and interventions are required to ensure that no UM living with NCDs is left behind.

METHODS

Purpose of the scoping review

We conducted a scoping review to map the socioeconomic factors at the individual and structural levels along the migration journey that influence the healthcare needs of UMs living with NCDs. A scoping review rather than a systematic review was chosen to identify the scope and gaps of the existing literature in this particular population, assuming that it is scarce and heterogeneous. We adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews²³ to guide this review. The protocol was published on Figshare.²⁴

Eligibility criteria

We included articles that described interventions, programmes or policies that address NCDs targeting UMs at any stage of patient care from prevention, screening, diagnosis, treatment or adherence in any setting (eg, hospital, community or mobile clinic) and in any country. Studies were included if they reported UMs as a study population or subpopulation without restriction to a specific definition of the immigration status. We focused on the four main types of NCDs according the WHO²⁵: cardiovascular diseases, cancer, chronic respiratory disease and diabetes. We included observational and experimental studies with or without control groups. Case or series reports, dissertations and conference proceedings were excluded.

Sources of evidence

We conducted a literature search on Medline, Embase and Web of Science. The grey literature search was carried out using Google Scholar, the results were over 10 000, but we selected only the first 100 entries balancing relevance, time and resources. We used a combination of terms related to UMs, NCDs, socioeconomic determinants and patient care. Details of the search strategy can be found in the online supplemental file 1. The search strategy was limited to articles published between 2000 and 2022. We included articles published in English, Spanish or French, as these are the languages spoken by the reviewers.

One author (JT-M) compiled the results of the search, removed duplicates in Mendeley, and uploaded them to Rayyan, an open-source software for screening and

selecting articles for literature reviews. The search was conducted on 5 January 2023.

Selection process

Two reviewers (JT-M and CJ-T) independently selected potential articles of interest on the basis of titles and abstracts, and later in the full text. Disagreements were resolved by a third reviewer (YJ).

Data extraction

Data were extracted by two reviewers (JT-M and CJ-T) using an Excel Sheet. To ensure that data extraction would be performed homogeneously, both reviewers extracted data from two articles, contrasted information and discussed the key elements that should be extracted. To understand the context and compare the characteristics of the studies, we extracted: bibliographic details (first author, year of publication and country), objective, study design, setting, definition of UM, participants' characteristics, NCDs under study and stage of patient care (prevention, screening, diagnosis, treatment or adherence). We extracted textual data related to the individual's socioeconomic position, individual's material and psychosocial circumstances, behaviours, structural determinants, socioeconomic and political context, and the role of the health system. We did not do a critical appraisal of the studies in this review.

Data synthesis and conceptual model elaboration

We organised the extracted data by components of the CSDH framework¹³: individual determinants, socioeconomic position, health system-related determinants and sociopolitical context. To elaborate the conceptual model, we first drafted a double-entry table and allocated the extracted data crossing the components of the framework and the migration journey. The migration journey is differentiated into three stages: country of origin; transit, departure, and integration; and country of destination. We then visually summarise the key elements and suggest mechanisms in which these elements relate to and impact on the healthcare needs that UMs living with NCDs may have.

RESULTS

Characteristics of studies included

Twenty-two studies met eligibility criteria for data extraction; figure 1 describes the selection process. Fifteen were cross-sectional studies,^{26–40} five were retrospective cohorts,^{41–45} one a prospective cohort⁴⁶ and one descriptive only.⁴⁷ Eight studies reported findings from Italy,^{26 29–32 41–43} seven from the USA,^{27 28 34 37 40 44 47} one from the USA-Mexican border,³³ and one each from Spain,⁴⁶ Switzerland,³⁵ France,⁴⁵ Austria,³⁹ The Netherlands³⁸ and Sweden.³⁶ The number of participants identified as UMs ranged from 9 to 17 152. Among the studies, UMs are defined in different ways; they include irregular migrants, individuals who are neither citizens nor legal residents and self-reported undocumented. Complete

lists of definitions of UM as well as the NCDs addressed are shown in online supplemental file 2.

Conceptual model

Figure 2 summarises the elements of the conceptual model based on the studies included in the scoping review. The model emphasises two categories: structural determinants including sociopolitical context and socio-economic position, and intermediary determinants including individual and health system-related determinants. These categories are inter-related and may persist or change throughout the migration journey (*see the arrows pointing down*).

The structural determinants do not have a direct effect on the healthcare needs, but rather they affect the availability of resources of the intermediary determinants (*see the arrows pointing right*). The intermediate determinants directly shape the healthcare needs (*see the arrows pointing to the outcome*). The individual determinants include material circumstances, biological or psychosocial factors, as well as health-related behaviours. Individual determinants are highly variable over the course of the migration journey and have been better captured in the country(/ies) of destination. The health system-related determinants matter for the access to healthcare services and the consequences of delay in diagnosis or treatment.

At the same time, determinants can be micro (individual), meso (health system-related) or macro (sociopolitical context). Macrodeterminants and mesodeterminants overlap and interact during the transit, departure and integration in the country(/ies) of destination, which are represented in the figure by cross-cutting horizontal boxes. Finally, we consider a feedback effect of the needs generated by living with NCDs on the socioeconomic position, for example, through the impact on income and occupation for time off work due to illness and for medical cost incurred. The feedback effect could also have an impact on the sociopolitical context considering the increase in morbidity and mortality from NCDs among UMs (*see the dotted backward arrows*).

Organised by the components, we present the results of the scoping review in detail:

Individual determinants

UMs frequently change housing or country which hinders the access and continuity of care.^{36 45} Regardless of length of stay, UMs are more likely to consider their health to be poor,^{28 38} and that living without legal status has deteriorated their health.³⁶ They are reluctant to seek health or social services for fear of deportation.^{27 33 37} Also, UMs perceived higher barriers to a healthy diet and medication adherence,^{34 39} likely mediated by their budget and time.⁴⁷

In Italy, it was reported that the presence and progression of diseases for UMs vary by region of origin. Comparing the regions of origin with each other, Eastern Europeans, Latin Americans and Sub-Saharan Africans are more likely to have hypertension, while Asians and

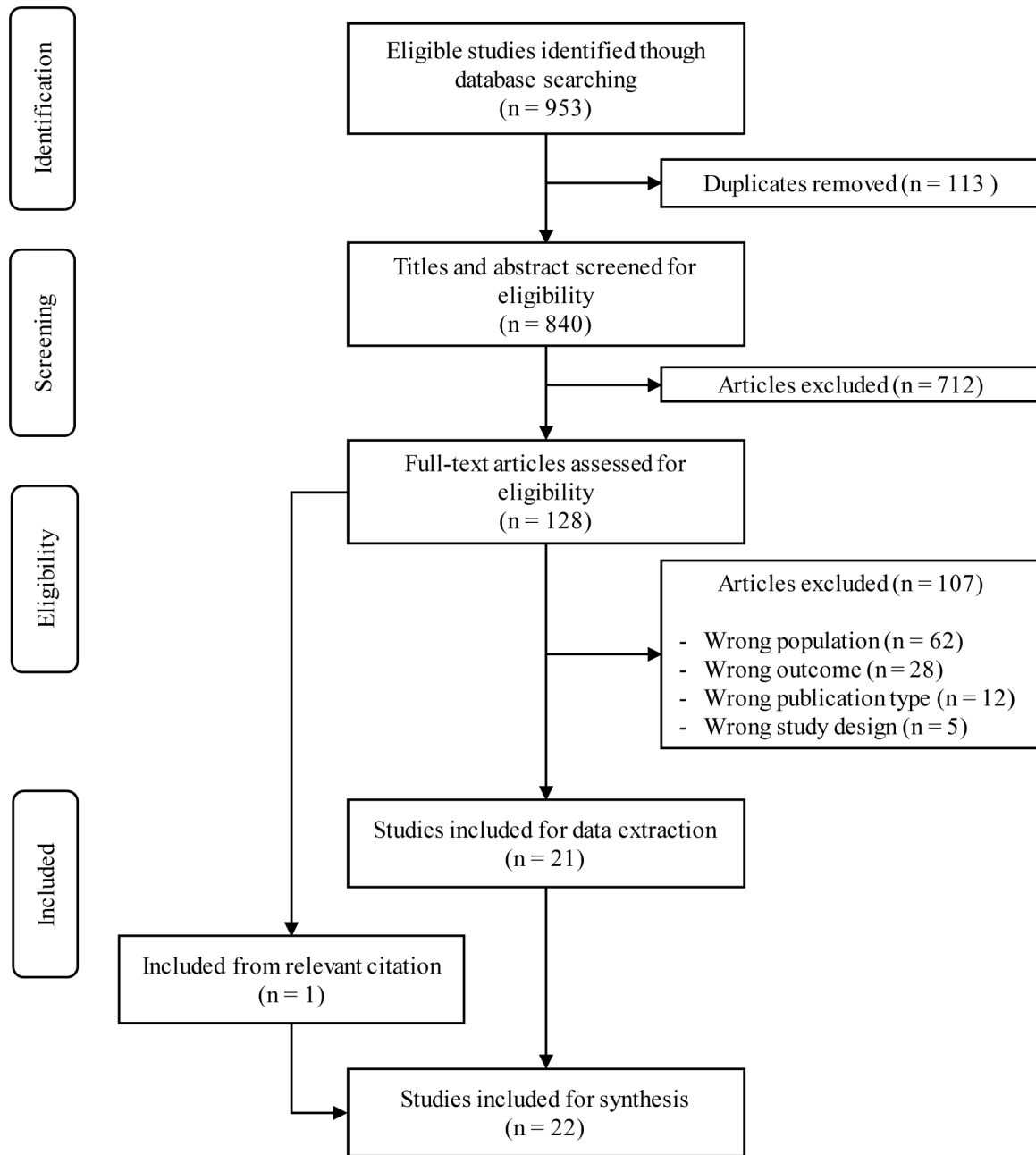


Figure 1 Studies selection process.

North Africans are more likely to have diabetes.^{26 29 31} On the contrary, in Spain and Switzerland, there were no differences in the prevalence of multimorbidity by country of origin^{35 46} or length of stay.⁴⁶ Considering the length of stay, UMs living more than 15 years in the US have higher systolic blood pressure compared with documented migrants with less than 15 years of stay (115.1 mm Hg vs 107.0 mm Hg), although there were no differences for odds for hypertension.⁴⁰

Among UMs, women reported higher rates of diabetes and hypertension (3.6% and 3.2%) than men (1.1% and 2.0%).⁴⁶ The prevalence of multimorbidity is also higher in women than men, 11.8% versus 8.5% in Italy⁴⁶ and 23.4% versus 13.5% in Switzerland.³⁵ In Italy, more men than women use medication for chronic conditions

(59.4% vs 40.6%) and they do so at a younger age (50–60 years vs 60–70 years).⁴²

It was found that UMs were diagnosed with NCDs at a younger age compared with both documented migrants and the native population. In the USA, the mean age of diagnosis for breast cancer in UMs was 46 years, and at the moment of diagnosis, 20% had metastatic cancer, while the mean age of documented migrants was 52 years and 10% had metastatic cancer.⁴⁴ The mean age of diagnosis of diabetes was 43.7 years for UMs and 17.9% were hospitalised for their disease, while the mean age of native Italians was 48.1 years and 13.5% were hospitalised.³² Also compared with native Italians, UMs had more often diabetic ulcers (10.2% vs 2.1%) and renal involvement (20.3% vs 12.4%).³¹

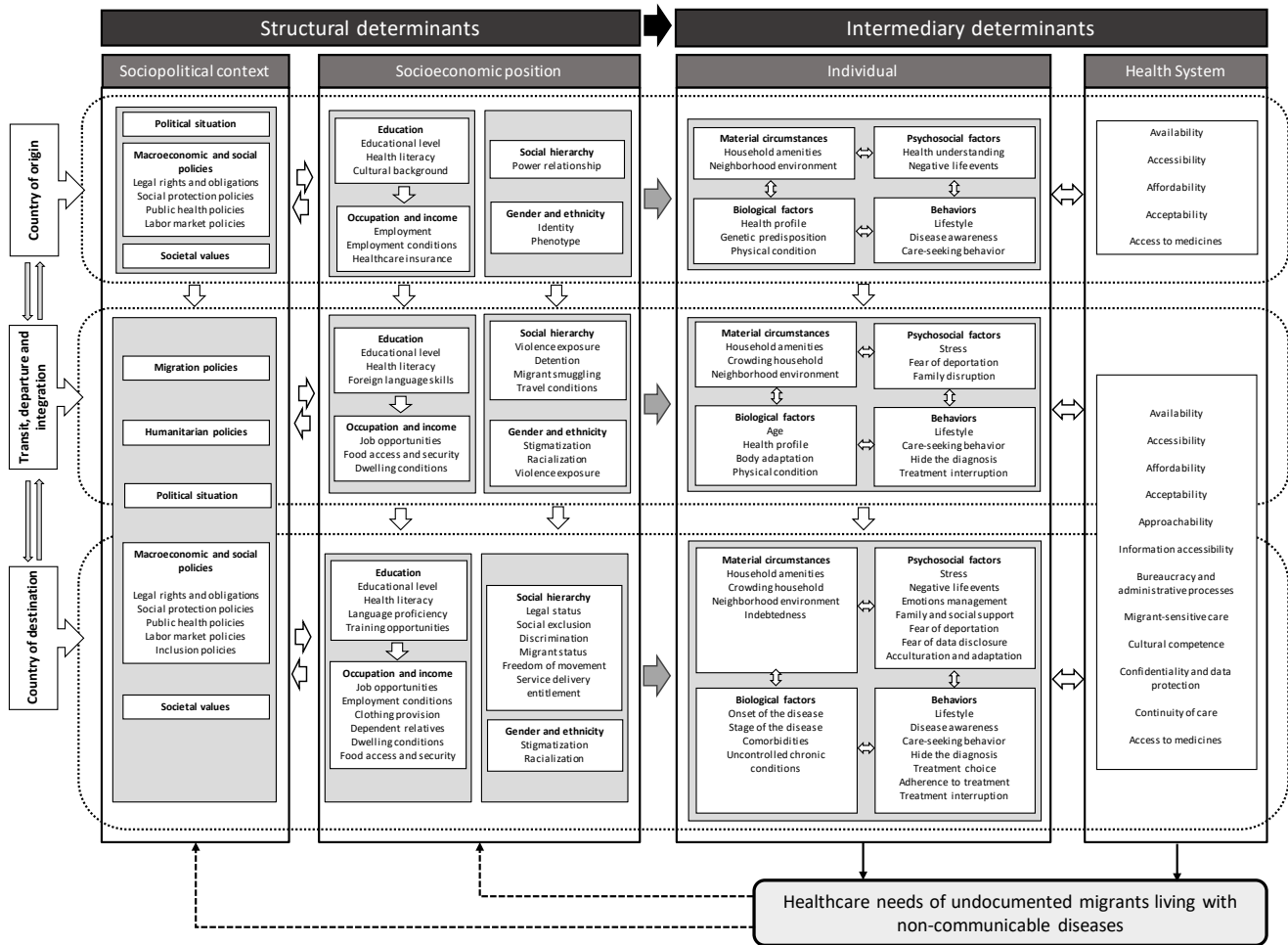


Figure 2 Conceptual model about social determinants of healthcare needs of undocumented migrants living with non-communicable diseases.

UMs are at high risk of initiating NCDs treatment at a later stage. In the USA, the mean delay-to-treatment from diagnosis to surgical resection for breast cancer was higher in UM compared with documented migrants (142.7 days vs 102.1 days); however, the legal status was not identified as a predictor of survival for breast cancer (HR=0.75; 0.54 to 1.05).⁴⁴ Patients with cardiovascular diseases or diabetes concomitant with kidney disease may never have received haemodialysis before arriving at the emergency department with end-stage disease.⁴⁵ It is also true, however, that some of them already knew their diagnosis or had received sporadic care elsewhere, before returning to seek care because they felt unwell or required acute care.^{39 45}

Regarding biochemical parameters and adherence to care, studies reported mixed results when comparing UMs with documented migrants and native populations. In the USA, it was found that the three groups had similar odds of poor glycaemic, blood pressure and lipid control among people with diabetes.³⁴ However, UMs had higher odds of not having seen a healthcare provider in more than

6 months compared with documented migrants.²⁸ In Italy, UMs had an average glycated haemoglobin of 9% compared with 7% in the native population, although native Italians presented more cardiovascular events than UMs (20.7% vs 6.6%).³²

Breast and cervical cancer screening and treatment are influenced by fears, not only related to the legal status, but also to physical examination, diagnosis and recurrence. The lack of confidence in healthcare providers means that UMs may not spontaneously report important symptoms and problems to their doctor, making diagnosis difficult.³⁸ UM women are less likely to have the HPV vaccine since they are less knowledgeable of the vaccine or where to get vaccinated.³⁷ They felt that pelvic exams were painful and embarrassing, and that it was uncomfortable when health professionals did not speak the same language.³⁷ For instance, one study found that having good English skills was associated with receiving a mammogram.³³ Decisions about treatment may be mediated by the fear of being ‘mutilated’.²⁷ UMs were also less likely to undergo surgery and more likely to

Table 1 Individual determinants of healthcare needs of undocumented migrants (UMs) living with non-communicable diseases (NCDs)

Individual determinants	Key scoping review findings
Material circumstances	UMs move constantly, both within and between countries. ^{36 45} Lack of money and time are barriers for healthy diet and medication adherence. ^{34 39 47}
Biological factors	The presence and progression of NCDs varies by geographical region of origin. ^{26 29 31} Risk factors for cardiovascular disease (eg, high blood pressure or glycaemia) can increase with the length of stay. ^{34 40} Among UMs, women have higher rates of NCDs and multimorbidity than men. ^{35 42 46}
Psychosocial factors	UMs are reluctant to seek health or social services for fear of deportation. ^{27 33 37} UMs consider that living without legal status has deteriorated their health. ^{28 36 38} Breast and cervical cancer screening and treatment are influenced by fears to physical examination, diagnosis and recurrence. ^{27 37 44}
Behaviours	UMs are diagnosed with NCDs at a younger age compared with both documented migrants and the native population. ^{32 42 44} UMs are at high risk of later initiation of treatment for NCDs. ^{44 45} UMs can develop complications more frequently than native population. ³¹ Some of them already know their diagnosis but seek care when they feel unwell or need urgent acute care. ^{39 45} UMs had higher odds of not having seen a healthcare provider in more than 6 months compared with documented migrants. ²⁸

receive chemotherapy and radiation.⁴⁴ Key findings of individual determinants are shown in [table 1](#).

Socioeconomic position

Compared with the native population, UMs are less likely to have completed high school education or to have some advanced degree.^{28 33 34 38} Besides, UMs are more likely to have limited foreign-language skills^{34 39} or to be monolingual.²⁷ Their level of education and language skills are barriers to better jobs and access to healthcare.

UMs often have precarious jobs and incomes, with direct and indirect consequences for their capacity to pay continuous medical care for chronic conditions. Some may have no income at all, and those with an income reported that it was not enough to support themselves, resulting in accumulated debts, including unpaid hospital bills.^{27 36} In some cases, UMs may be more likely

than documented migrants to be employed; however, their annual household income is lower.³⁴

Those who do not have a job may receive assistance from civil and religious support groups for clothing or food, while the capacity to pay for healthcare expenses is very limited.^{27 36} UMs are highly susceptible to interruptions in their treatment due to financial constraints; although some may have employed family members to help pay for medical care,²⁷ the cost of even basic consultations can be prohibitive.^{27 36 45} For breast cancer, initial diagnosis and treatment in an emergency room may be covered, but households are not able to afford ongoing treatment such as tamoxifen or screening for recurrence. In some cases, they may be forced to pawn their property if they own it, or become heavily indebted to hospitals.²⁷ Families feel frustrated and worried when they are contacted by administrative services to demand payment and are unable to pay.²⁷

Health system-related determinants

The accessibility and continuity of care for NCDs differ largely between countries, regions or local circumstances. Access to care and medicines depends not only on the availability and proximity of services, but also on the trust that UMs have in them. For example, in the USA, the ‘Ventanillas de Salud’ (Health Windows), a programme that provides counselling, screening and diagnosis of chronic diseases, and referrals to health clinics when needed, reached 17% of its beneficiaries through mobile clinics in remote areas that lack services and connections to major cities.⁴⁷ There can be also large-scale events such as the lockdown for COVID-19 led to changes in care-seeking behaviour, although the clinics remained open; consultations, patient numbers and medication dispensation decreased.⁴³

Non-governmental organisations (NGOs) are important healthcare providers for UMs as is the case in Italy,²⁹ Austria³⁹ and Sweden.³⁶ They operate through charities and voluntary work of healthcare professionals from different disciplines.^{29 39} Patients seek care spontaneously, receive free medical prescriptions and can have follow-up consultations^{29 39}; however, the geographical coverage is limited.³⁶ In Austria, NGOs have voluntary interpreters who accompany patients to appointments, and provide support with follow-up consultations at external laboratories or diagnostic institutions.³⁹

Sociopolitical context

Health funding for the provision of UMs care varies from country to country; for instance, in The Netherlands, some state subsidies are available when UMs require medical care.³⁸ Whereas in Austria and Sweden, in the absence of third-party payment (eg, government or insurance companies) or individual financial capacity, healthcare providers have to cover the costs.^{36 39} When financial aid is not available, out-of-pocket expenses for healthcare and medications can be detrimental to UMs compared with native populations.^{27 39}

Social protection policies have a significant impact on the access to care of UMs. For example, in Spain, between 2000 and 2012, there was undifferentiated coverage and all the population, including UMs could have a health card. However, from 2012 as a consequence of a legislative reform to prevent ‘health tourism’, health cards were invalidated for UMs.⁴⁶ At the regional level, Aragon reinstated the right of UMs to have a health card.⁴⁶

Labour market policies mediate the demand for and stability of employment, which affects the resources for seeking or receiving care. An example is the case in the US state of Arizona in 2008: a policy penalised companies that hire UMs (The Legal Arizona Workers Act), and law enforcement officers and the Border Patrol conducted arbitrary detentions and intrusion in markets and homes asking for documents.²⁷ As a result, UMs strongly avoid seeking healthcare, and many lose their jobs, reducing their ability to pay for previous or new healthcare services.²⁷

No public health programmes specifically targeting UMs were identified at a national level, but some did exist at local level. In Switzerland, the cantons of Geneva and Vaud have implemented public primary care services and provide preventive care, screening, consultations, follow-ups and when needed, they refer to the university hospital.³⁵ There are also some hospitals and clinics which specifically served UMs such is the case of Rhode Island³⁷ and Texas,⁴⁴ in the USA. ‘Ventanillas de Salud’⁴⁷ is the only programme reported in which a country of origin, through the Mexican Consulate in the country of destination, and in partnerships with other clinics offer different services for migrants with Mexican nationality.

For the most part, the anonymity of UMs seeking care is protected by law. In the USA, there are also sanctuary areas in which policies enforce status protection when people seek care.³⁴ However, UMs still fear going to healthcare facilities.⁴⁷ This fear can be justified, because the law also has its pitfalls; for example, in Sweden, healthcare professionals may be required to answer yes/no questions to the authorities about specific individuals in the hospital, putting patients’ identities at risk.³⁶

Most often, UMs face barriers to health insurance access or are not entitled to have health insurance at all. In The Netherlands, in 1998, it was declared illegal for UMs to obtain healthcare insurance.³⁸ In Austria, insurance is a prerequisite to obtain a residence permit.³⁹ In the USA, UMs are ineligible for most public insurance programmes,^{37 40} although exceptions exist in some states where authorities expanded public insurance for all children and pregnant women.⁴⁰ In the French healthcare system, UMs are eligible for public health insurance if they have been living in the country for more than 3 months; however, the administrative process is long.⁴⁵

The degree to which UMs have access to health services is determined by legal entitlements, but also by the goodwill of healthcare professionals. UMs mainly have access to healthcare when they are able to pay for health services, in life-threatening or emergency situations. In

Table 2 Overview of policies and programmes for healthcare needs of undocumented migrants (UMs) living with non-communicable diseases (NCDs)

Country	Key scoping review findings
Austria ³⁹	Health insurance is a prerequisite to obtain a residence permit NGOs provide care and assistance to UMs
France ⁴⁵	UMs are eligible for public health insurance if they have been living in the country for more than 3 months
Italy ²⁹	NGOs and charity provide care for UMs
Spain ⁴⁶	Between 2000 and 2012 UMs could have a health card From 2012, health cards are not valid for UMs, but at the regional level, Aragon reinstated the right of UMs to have a health card
Sweden ³⁶	NGOs provide care and assistance to UMs Healthcare professionals may be required to answer yes/no questions to the authorities about patients’ identities
Switzerland ³⁵	Health insurance is a prerequisite to obtain a residence permit The cantons of Geneva and Vaud have implemented public primary care services for UMs
The Netherlands ³⁸	In 1998, it was declared illegal for UMs to obtain healthcare insurance Some state subsidies are available when UMs require medical care
USA	LAWA penalised companies that hire UMs. As a result, UMs avoid seeking healthcare, and many lose their jobs, reducing their ability to pay for previous or new healthcare services ²⁷ There are local or institutional programmes which provide care for UMs ^{37 44} There are sanctuary areas in which policies enforce status protection when people seek care ³⁴
LAWA, The Legal Arizona Workers Act; NGOs, non-governmental organisations.	

some cases, the ambiguity of legal entitlements leads to different assessments of what constitutes emergency care when UMs are or are not admitted to hospitals.^{36 45 47} On the other hand, and beyond what is stated in the law, some hospitals in Vienna, Austria, provide assistance beyond emergency care,³⁹ while in the Netherlands, physicians cannot refuse care in the consultation room when encountering UMs seeking medical care.³⁸ **Table 2** shows some countries’ policies or programmes for UMs described in the articles included in this review.

DISCUSSION

The findings of the review, which drove the development of the conceptual model, show that the individual

determinants interact with health system-related determinants and directly influence the healthcare needs of UMs living with NCDs. They might change and assemble along the migration journey from the country of origin to the country(/ies) of destination. The sociopolitical context and socioeconomic position have an indirect influence on the healthcare needs operating through the intermediate determinants. This influence is particularly strong in this population because it delimits the entitlements (eg, healthcare cards) and the sanctions (eg, police report) they are exposed to; it also defines the role of institutions which provide care (eg, admission of patients only for emergencies).

The proposed model does not replace the CSDH framework; it emphasises the evolution and/or accumulation of elements through the migration journey of UMs. Migration itself can represent a risk to health; however, the conditions surrounding the migration journey are also important and can clearly increase (or attenuate) the vulnerability to being sick. For UMs, these vulnerabilities are linked to their legal status, the mode of travel and the autonomy and empowerment to fully integrate in the country(/ies) of destination.⁴⁸ The model is focused on NCDs because they are a good proxy for the continuity of care seeking and provision for UMs, due to the nature of the diseases.

Conducting this scoping review, we noticed that research on migration and health is more extensive on intermediate determinants (individual and health-system related) than structural determinants. However, it is important to recognise the importance of structural determinants because social, economic and political forces affect migrant health and also settle the extent to which they can seek and receive care at different stages of their migration journey. This is particularly important for UMs because institutional practices and policies may limit their rights, resources and security. A focus on structural factors affecting migrant health would better engage research and practice to support specific policies and interventions beyond the individual level.¹⁴

At a political level, the right of migrants to healthcare has been articulated in various international documents. These called for the promotion of migrant-sensitive health policies and practices through multilateral and intersectoral action,⁴⁹ the right to equitable and non-discriminatory access to health,⁵⁰ the development of public health interventions to reduce mortality and morbidity^{50 51} and to address health vulnerabilities with dignity.^{52 53} These documents do not target UMs in particular but do neither exclude them. In order to promote universal health coverage, standardise assessment for healthcare services admission, and ensure that no one is left behind, policies should include UMs explicitly and be effective through actions within the legal framework that applies in each country.⁵⁴

The healthcare services available to UMs and how they access them vary widely between and within countries and change over time. In this article, we report

only on interventions or programmes that fall within the eligibility criteria of the scoping review. In the USA, for example, there are various low-cost community health clinics throughout the country; in some states, such as Illinois, Massachusetts or New York, there are expansions of Medicaid coverage; and in California, starting in January 2024, there will be fully state-funded coverage for eligible adults.⁵⁵ In Europe, Spain is recognised for allowing high level of health access for UMs²¹; there are also different initiatives in partnership with NGOs in countries such as Italy, France or Malta.⁵⁶ While these programmes and policies exemplify efforts to address the healthcare needs of UMs, there are a wide range of health system barriers that need to be addressed by national and local policy-makers.⁵⁴

Regarding NCDs, the WHO Global Action Plan 2013–2020 urged governments to develop plans to reduce exposure to risk factors and enable health systems to respond to achieve nine voluntary targets, including reducing morbidity and mortality.⁵⁷ The mid-term review of the Plan (2021) reiterated the need to focus more on how NCDs affect different populations, enhancing governance on people living in vulnerable situations.⁵⁸ The International Organization for Migration recommends the creation of initiatives that enable health promotion and surveillance, and programmes that address the structural vulnerabilities of migrants to NCDs, with sensitivity to cultural differences by country of origin.⁵⁹ That is a call for inclusive initiatives that promote trust in healthcare professionals and services, and where patients can communicate their needs without language barriers, stigma or discrimination.

Over the last 60 years, international migration has remained stable at around 3%.⁶⁰ In 2020, there were 281 million of international migrants (3.6% of the world's population).⁶¹ These data, however, do not include irregular migrants, such as UMs, whose numbers are difficult to estimate because they are not included in official statistics. Some data from European countries show that the number of irregular migrants has been stable or decreasing since 2000.⁶²

In our conceptual framework, we illustrate the complexity of their healthcare needs with emphasis on NCDs. It provides a roadmap for researchers to systematically analyse and interpret elements that contribute to UM's health. It can also inform policy-makers for crafting effective policies that address the specific needs and challenges faced by this population. We recognise, however, that the proposed conceptual framework can evolve with emerging research findings.

Strengths and limitations

Our finding relies on the scoping review methodology, while beneficial for a comprehensive overview, the absence of expert validation and UM community input in developing our conceptual model may limit its robustness. The interaction of social, economic and political elements is complex, dynamic and contextual. Thus, the

findings related to sociopolitical determinants should be interpreted within the context of the reported literature. We recognise that policies and their practical implications can vary between and within countries, as well as over time.

The scope and quality of the included studies differed widely. Some studies using quantitative methods have small sample sizes, others present only correlational analyses, and some that show an association have not adjusted for confounders. Studies using qualitative methods did not describe detailed procedures for data collection or analysis, and others did not provide quotations. We found a greater number of studies reporting data from the USA and Italy, as well as seven studies by the same group of authors with closely related findings, which may have led to an overemphasis on results from specific settings.

The main strength of this review is the exploration of SDH with a focus on the major NCDs in an understudied population. The identification of underlying determinants of healthcare needs for NCDs could capture the long-term exposure to particular conditions or cumulative exposure to a group of conditions. The studies found in this review are largely cross-sectional and retrospective; we encourage researchers to conduct prospective studies to better understand the complexities of the migration journey, of emerging trends, and socioeconomic impact.

CONCLUSIONS

The elements that shape healthcare needs for NCDs in UMs are complex. The sociopolitical context and socioeconomic position can be the root for differential exposure to health-damaging conditions for UMs compared with documented migrants or native population. These structural determinants can operate through individual determinants along the migration journey to shape health outcomes. The health system plays an important role in mediating the access to early diagnosis, periodic follow-up, habitual medication and prevention of complications of NCDs. Policy goals for the health of UMs should address not only healthcare, but also the socioeconomic causes of disease that have a greater impact on them especially when they are preventable, as is the case with NCDs.

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