

HEALTH EVIDENCE NETWORK SYNTHESIS REPORT 42

Public health aspects of migrant health: a review of the evidence on health status for undocumented migrants in the European Region

Elisabetta De Vito | Chiara de Waure | Maria Lucia Specchia | Walter Ricciardi



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At the fifth meeting of the WHO European Advisory Committee on Health Research (EACHR), which took place on 7–8 July 2014, EACHR agreed to form a subcommittee on migration and health to review the Public Health Aspects of Migration in Europe (PHAME) strategic framework. EACHR recommended that the Secretariat commission three HEN synthesis reports tackling the challenges of three distinct migrant groups: undocumented migrants, labour migrants, and refugees and asylum seekers.

This HEN synthesis report is therefore the result of a cross-divisional effort in the Regional Office between the PHAME project of the Division of Policy and Governance for Health and Well-being and the Evidence and Information for Policy-making unit of the Division of Information, Evidence, Research and Innovation.

Health Evidence Network synthesis report 42

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Abstract

Undocumented migrants are people within a country without the necessary documents and permits. They are considered at higher risk for health problems because of their irregular status and the consequences of economic and social marginalization. A systematic review found 122 documents that suggested policies and interventions to improve health care access and delivery for undocumented migrants. Undocumented migrants mostly have only access to emergency care across Europe, and even in the countries where they are fully entitled to health care, formal and informal barriers hinder their access. This raises concerns for both public health and migrant care. On the basis of findings, policy options are suggested regarding data collection, research, entitlement to health care, information and communication, training and intersectoral approaches.

Keywords

DELIVERY OF HEALTH CARE, EVIDENCE-BASED HEALTH CARE, HEALTH POLICY, MIGRANTS, SOCIOECONOMIC FACTORS

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ABBREVIATIONS

CIS	Commonwealth of Independent States
CORDIS	Community Research and Development Information Service
EU	European Union
EUR-lex	EU law and other public EU documents
Eurostat	Statistical Office of the European Union
HEN	Health Evidence Network
HUMA	Health for Undocumented Migrants and Asylum seekers Network
MIPEX	Migrant Integration Policy Index
OECD	Organisation for Economic Co-operation and Development
PICUM	Platform for International Cooperation on Undocumented Migrants
PRISMA	Transparent reporting of systematic reviews and meta-analyses
RESTORE	REsearch into implementation STRategies to support patients of different ORigins and language background in a variety of European primary care settings
SOPHIE	Evaluating the Impact of Structural Policies on Health Inequalities and their Social Determinants, and Fostering Change



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FOREWORD

Zsuzsanna Jakab, WHO Regional Director for Europe

Migration is a high-priority topic on the policy agendas of most of the Member States in the WHO European Region. To address this priority, the WHO Regional Office for Europe established the Public Health Aspects of Migration in Europe (PHAME) project in 2012.

The main factors contributing to increased migration are natural and human-generated disasters, including social, economic and political instability.

The issues surrounding health and migration are important for a number of key reasons. They not only relate to the ethical implications of unequal access to health care but also are linked to (avoidable) costs to health systems and wider society. As a result, there is not only an ethical imperative to address issues of health and migration but also direct and indirect incentives, such as improved health, social cohesion, economic sustainability and political cooperation.

The lack of a single set of available data and the substantial variations from country to country mean that detecting Region-wide patterns or trends is difficult. The European Region encompasses a wide variety of natural environments and has a highly heterogeneous human geography. As a result, migration trends in the Region are highly complex, and differences between countries in the quality of data and collection methods compound the problems in any attempt to characterize them. Moreover, the collection and analysis of data require cooperation among migrants' countries of origin, transit and destination, and therefore collaboration beyond the boundaries of the European Region.

Evidence-based public health measures to mitigate the health implications of migration could save a significant number of lives and reduce suffering and ill health. They are also likely to be instrumental in effectively addressing growing health care costs and in preventing or mitigating the negative effects of migration on health systems and societies. Nevertheless, insufficient knowledge in many areas has hampered efforts towards more effective planning and implementation of effective strategies to address migration and health. A robust multidisciplinary scientific knowledge base is therefore an essential foundation for enhancing public health practices and policy development.

At its fifth meeting in July 2014, the European Advisory Committee on Health Research (EACHR) agreed to form a subcommittee on migration and health to review the PHAME strategic framework. EACHR recommended that the Secretariat commission three Health Evidence Network (HEN) synthesis reports tackling the challenges of three distinct migration groups: undocumented migrants, labour migrants, and refugees and asylum seekers. The subcommittee concluded that synthesizing and packaging existing evidence, rather than promoting new research, would be more useful for policy-makers.

This is one of the three commissioned reports, which focus on access to and delivery of health care for migrants. These will be the basis for identifying other aspects of health and migration that may be in need of additional research and evidence, and for the development of evidence-informed policies on migrant health and new approaches to improving migrants' health outcomes.



SUMMARY

The issue

Migration is considered a major social, political and public health challenge for the WHO European Region, with Europe currently having the second largest number of international migrants per year. While all migrants may have issues with accessing health care, undocumented migrants are vulnerable to certain risks and diseases and may encounter several barriers to accessing health care because of their irregular status and economic and social marginalization.

The synthesis question

The objective of this report is to synthesize research findings from a systematic review of available academic and grey literature to address the following question: What policies and interventions work to improve health care access and delivery for undocumented migrants in the European Region?

Types of evidence

The evidence comes from peer-reviewed literature and grey literature of a study population of people not having the legal right to be/remain in a country within the WHO European Region. This review considered a total of 122 publications in English, with full text available, up to 28 February 2015.

Results

Inconsistency and uncertainty in demographic and health data specifically concerning undocumented migrants are common across the WHO European Region.

- Most reports consider a specific issue, such as infectious diseases, chronic illnesses, mental disorders, or mother–child health, rather than general health access.
- Undocumented migrants mostly only have access to emergency care across the Region.
- Even in the countries where undocumented migrants are fully entitled to care, formal and informal barriers hinder access.

- Informal barriers include language and communication problems, lack of social network, and lack of knowledge about the health care system and about networks of health care professionals.
- Health care providers often see barriers to provision of health care, such as cultural and language barriers. The few available examples of policies and best practices are focused on overcoming such barriers.

Policy considerations

In order to support policy-makers in strengthening or introducing specific and coherent policies regarding undocumented migrants' entitlement to health, guaranteeing fair health care access and ensuring confidentiality and protection for all parties involved, the following policy options are identified:

- reconsider entitlement to health care for undocumented migrants with respect for human rights, national legal frameworks, organization of the health system and public health issues;
- increase public awareness by advocating on the issues facing undocumented migrants;
- plan systems to disseminate information to both undocumented migrants and health providers about the right to health care, how to access it and legal protection;
- promote an intersectoral approach and cross-border cooperation, as well as service planning oriented to universal health coverage;
- support health care providers by making available or improving communication services (i.e. cultural mediators, interpreters) in order to promote an inclusive and culturally sensitive health system;
- collect data on undocumented migrants' health status routinely and make these available for the scientific community and policy-makers;
- define indicators and tools to monitor and assess the impact of policies;
- plan specific training programmes on migrant health for health care professionals, encouraging the inclusion of this into educational health programmes; and
- foster research to improve knowledge of the health needs of undocumented migrants and how these compare with those of other migrant groups.



1. INTRODUCTION

1.1. Background

Migration is considered a major social, political and public health challenge for the WHO European Region; between 1990 and 2013, the number of international migrants worldwide rose by over 77 million and Europe had one of the largest growth rates of international migrants (1). In line with the framework of World Health Assembly resolution 61.17 in 2008, the attention of Member States should be focused on ensuring equitable access to health promotion, disease prevention and care for migrants (2).

There is extensive debate on how to provide access to high-quality health services for the whole population and ensure universal health coverage (3). This is particularly an issue for undocumented migrants (people who do not have the necessary documents and permits either from entry into a country or subsequent to entry (4)), who are considered one of the groups at higher risk for health problems because of their irregular status and the effects of economic and social marginalization (5).

In respect to the current debate on definitions, “undocumented” and “irregular” can be used interchangeably, whereas “illegal” should be avoided (6).

According to estimates for 2002–2008, 1.9–3.8 million undocumented migrants live in the European Union (EU) and their irregular legal status may be considered an obstacle in accessing basic health care and social services (7). There is widespread concern across Europe about their vulnerability to certain risks and diseases and about the worsening of their physical and mental health related to their socioeconomic conditions and limited access to health services (8,9). Furthermore, data suggest that undocumented migrants lack information about their rights to access medical services and often do not seek medical attention for fear of being discovered (9).

This report responds to the synthesis question by reviewing the available evidence and examining which policies and interventions could work to reduce inequalities in access and quality of health care delivery for undocumented migrants.

1.2. Methodology

1.2.1. Sources for the review

The report is compiled from literature found by searching the databases of PubMed, Scopus, Cochrane Library and the Organisation for Economic Co-operation and Development (OECD). The following websites were also consulted in order to find grey literature and current statistics: the Health Evidence Network (HEN); European Observatory; EU law and other public EU documents (EUR-lex); Community Research and Development Information Service (CORDIS); Statistical Office of the European Union (Eurostat); OECD; Evaluating the Impact of Structural Policies on Health Inequalities and their Social Determinants, and Fostering Change (SOPHIE); Migrant Integration Policy Index (MIPEX); Platform for International Cooperation on Undocumented Migrants (PICUM); Health for Undocumented Migrants and Asylum seekers (HUMA) Network; and Google. Books, comments and editorials were not considered for final inclusion. The full text of potentially eligible studies was assessed for final inclusion and the reference lists were hand searched to identify further eligible studies. Annex 1 outlines the databases searched and the review methodology, based on the PRISMA statement (10).

1.2.2. Data extraction

Studies were considered eligible for inclusion if they were in English, published before 28 February 2015 (but with no start date), had full text available, referred to the WHO European Region countries and referred to undocumented migrants (defined as people that do not have a legal right to be/remain in the destination country). Only English literature was included due to limited resources. The review also examined five specific issues.

- issue 1: social, political and legal context and demography;
- issue 2: health status, in particular with respect to major diseases and re-emerging neglected diseases, and health risk assessment;
- issue 3: entitlement to health care and health care delivery;
- issue 4: quality of health care services in terms of accessibility, efficacy, appropriateness, equity and linguistic and cultural barriers to access;
- issue 5: policies and communication strategies tailored to undocumented migrants and health professional entrusted to care for them.



Study identification and data extraction were performed using the search terms listed in Annex 1, which also shows a flowchart for the data extraction based on the transparent reporting of systematic reviews and meta-analyses (PRISMA) template.

A total of 15 646 studies were found after removal of any duplicates. After screening, 617 studies were assessed for eligibility, plus 11 studies identified through hand searching of references. Most (484) were excluded as not being relevant to the purpose of the report. A final set of 115 studies dealt with one or more of the five issues (7–9,11–122). Seven documents were selected from the grey literature (123–129). Quality assessment was not performed because of the heterogeneity of study designs; the lack of validated and shared tools to investigate the quality of some study designs; and the absence of studies that evaluated the success of a policy in terms of reducing inequalities in accessibility and quality of health care delivery. Details of the individual studies, including the population studied, the countries involved, the methods and the main results, are available online (http://bit.ly/Annex_2).

2. RESULTS

2.1. Issue 1: social, political and legal context and demography

2.1.1. Definitions used for undocumented migrants

Because of variations in legal frameworks, undocumented migrants are defined in different ways in different jurisdictions. Within the EU, undocumented migrants are defined as third-country nationals (neither from the Member State in which they are staying nor from any other Member State) who are not entitled to stay or reside in a Member State and do not have a permit or authorization to stay, live or work in any Member State. National legislations differ, but this is the main common administrative situation in EU Member States (21,22,57,69,110). Undocumented migrants can be considered in several subgroups:

- asylum seekers: those planning to seek asylum but have not yet formally submitted an application to the national competent authorities plus those whose applications have failed but avoid deportation;
- residence permit/authorization seekers: those whose application is still pending (no decision has been taken by the competent national authorities; in some countries, these are considered in a regular situation) or whose application has failed;
- overstayers: had an authorized entry but overstayed visas (tourists, students, temporary contract workers, medical reasons), residence permits or work permits;
- loss of residence status: through conviction for a serious criminal offence, through review of refugee or subsidiary protection status, through no longer meeting – or breaching – conditions of residence, or temporarily through delays in processing an application for renewal of a residence permit (73);
- irregular migrants (geographic flow): unauthorized entry into countries over national borders; and
- demographic flow: in most countries, children born with both parents undocumented are automatically undocumented residents, except in countries where citizenship is acquired by birth on the territory of the respective state (jus soli); if one parent is documented, a child could claim for a legal residence.



2.1.2. Magnitude of migration flows

This variation in definitions is one obstacle in obtaining reliable and systematic data that can be compared. In most European countries, data are limited to geographical irregular migration flows, such as border apprehensions or refusals at the border. Apprehension statistics, the number of foreign nationals who are caught residing without appropriate documentation, can be a useful indicator, although it cannot be used to define the overall volume of inbound irregular migration. It is difficult to make a clear distinction between border and inland apprehensions or between migrants entering or transiting a country and migrants who have been resident for some time and consequently do not reflect recent, irregular migration flow (73).

The European Commission's Clandestino Project provided estimates for the "irregular foreign resident population" in 27 Member States from 2002 to 2008 and showed a decline from an estimated 3.1–5.3 million in 2002 to 1.9–3.8 million in 2008 (7). Although it was considered that part of the decline reflected methodological changes, it was also considered that the fall was likely to be influenced by the EU enlargement and legislation programmes (7).

The Frontex Risk Analysis Report for the EU Member States for the third quarter of 2014 registered a general increase in most of the indicators of irregular migration flows in the EU compared with the second quarter of 2014. The only observed decrease was in the number of effective returns. The increase in illegal border-crossings was the highest registered since 2007. In fact, in the third quarter of 2014 there were 110 581 detections of illegal border-crossings, which corresponds to a 61% increase with respect to the second quarter of 2014 and a 158% increase compared with data for the third quarter in 2013 (123).

By comparison, there are almost no data from non-EU European countries. The Russian Federation is currently the largest regional pool of attraction for labour migrants from the Commonwealth of Independent States (CIS), primarily the central Asian countries. The majority of unskilled labour migrants in the Russian Federation are in an irregular working situation (125). The Russian Ministry of Internal Affairs estimates that there may be 2.1–10 million undocumented migrant workers in the country, with 70% of those coming from other CIS countries (124).

Detections at sea borders accounted for around 90% of all detected illegal border-crossings, with a three-fold increase at the Italian and Greek sea borders (123). The top five nationalities found among undocumented migrants (i.e. without proper

travel documentation) at the end of 2013 were Syrians (25 923), Eritreans (13 676), not specified (8400), Moroccans (6594) and Afghans (6140) (123). The motivations for migration are mixed but include fleeing from war or poverty and searching for jobs. Syrian nationals registered the highest number among those detected in the third quarter of 2014 (37 533), representing a 128% increase from that in the second quarter of 2014 (16 429). The next highest groups were from Eritrea (13 672, although this number was lower than in the previous quarter), sub-Saharan Africa (12 491) and Afghanistan (7532); there was a 175% increase in Afghan undocumented migrants from that in the second quarter of 2014 (2742). Political instability in North Africa has stimulated migratory flows; irregular trans-Mediterranean migration to the EU has grown steadily and is not expected to decline in the near future. Tunisia, Morocco and Libya have been the main North African transit countries since 2011. Mediterranean boat migrants are mostly men aged 20–40 years and poorly educated; however, the migrant population has become more heterogeneous, with more women and more educated individuals (66).

2.2. Issue 2: health status

Identified studies tended to focus on specific aspects of health status in undocumented migrants, rather than general health issues.

The most common health topic investigated was infectious diseases (16 studies). One study from countries without a high incidence of tuberculosis (not restricted to the WHO European Region) estimated that 5–10% of cases were found among undocumented migrants (52). However, studies in other settings, including screening programmes at point of entry or at dedicated clinics, produced a variety of data that could not be compared (23,48,52,88,90,104).

Several studies examined prevalence of viral diseases in undocumented migrants living in Italy (82,91,106). There was a higher prevalence of hepatitis B in undocumented migrants (9.3%) compared with native-born residents (1.2–2.0%) (82); a similar higher prevalence was found for sexually transmitted diseases in undocumented migrants (0.97%, compared with estimated 0.4% for the national population) (91). One study of 2681 migrant workers, including undocumented migrants, in a disadvantaged area identified untreated viral infections including prevalences of 7.6% for hepatitis B, 5% for HIV and 3.1% for hepatitis C (106); these were higher than the native-born population for hepatitis B and HIV but the same for hepatitis C.



The estimated number of undocumented migrants with Chagas disease from aggregated data from nine European countries was substantially higher than that among documented migrants. The highest estimated prevalence was in Spain (3.9–7.8%) and Switzerland (2.5–7.8%) (18).

Six studies looked at women and child health. In Switzerland, undocumented migrant women did not access preventive measures, with consequent health issues such as unintended pregnancies, insufficient rubella immunization and lack of cervical cancer screening (119). Chlamydial infection was also significantly higher among undocumented migrant women (13%) compared with women with residency permits (4.4%) (118). In Portugal, a systematic review in 2013 concluded that undocumented migrant women tended to be at a higher risk of teenage delivery, complications of pregnancy, miscarriages and induced abortions (14).

Migrant children in Switzerland were found to be likely to have different health needs in relation to their Swiss-born peers (61), including infectious diseases and psychosocial and congenital problems. An Italian study of hospitalization of children who had been born outside the EU found that the most common causes in children under 1 year of age were infectious/parasitic diseases; followed by genetic/congenital disorders; dysmetabolic, functional or organic disorders; and nutritional deficiencies. In children aged 1–14 years, the causes for hospitalization were dysmetabolic, functional or organic disorders, followed by genetic/congenital diseases and infectious/parasitic illnesses (100).

Several original studies conducted in France, Greece, Italy and Spain and a study reviewing aggregated data from other countries in the WHO European Region countries concluded that undocumented migrants are more likely to be exposed to mental health risk factors and psychiatric disorders such as depression and schizophrenia compared with the general population and with documented migrants. This may be related to the stressful nature of the predeparture, transit, border-crossing and reception environments. In some cases, poor mental health status was also attributed to exposure to various forms of violence (16,81,97,99,122).

Other studies considered chronic and acute illnesses in undocumented migrants (9,11,27,60,65,103) and found that undocumented migrants in general were more vulnerable to a range of conditions. Men were more likely to seek care for injuries, mostly related to work, as shown in original studies conducted in France, Germany and Israel, and in a review from EU countries (9,27,28,65). Approximately 50% of

the causes of death among undocumented migrants in Sweden were external including suicide, followed by cardiovascular diseases (113).

2.3. Issues 3: entitlement to health care and health care delivery

The access to health care by undocumented migrants is subject to national regulations that vary between countries, ranging from no access to full access.

The entitlement to health care for undocumented migrants is frequently discussed from the human rights perspective, reflecting the intrinsic conflict between immigration policies and the right to health. In fact, while the universal right to health as a basic human right regardless of a person's administrative status has been ratified by the International Covenant on Economic, Social and Cultural Rights (130) and the EU Charter of Fundamental Rights (131), laws and practices deviate from these obligations in some countries. The HUMA Network concluded that in 2010 there was no clear EU provision for undocumented migrants' right to health care or to other basic social needs and that Member States "instead of working on the progressive realisation of this right, are increasingly using it as a tool to discourage the entry of new migrants (58). A climate of repression and the existing link between immigration control policies and access to basic social services create in migrants a great fear "of being discovered", deterring them from seeking health care and causing them to look for alternative strategies, such as self-medication, contacting doctors in their home countries and borrowing health insurance cards or other forms of entitlement from someone they know (8,108).

Case study 1. "Temporarily present foreigner" codes in Italy

In Italy, undocumented migrants are able to obtain an STP (Stranieri Temporaneamente Presenti) code to access health services. It identifies the patient to all health services, is anonymous and is free. The code can be applied for at any time, without the person being unwell, is valid for six months and can be renewed. To obtain it, undocumented migrants must also apply for indigence status (Stato di Indigenza). Children are included on their parents' STP code. This system ensures equal access to all "urgent and essential" care for undocumented migrants and is an example of ensuring entitlement to health services for undocumented migrants (8,127).



Most countries provide undocumented migrants with only access to emergency care and/or sometimes to some services for specific conditions (e.g. infectious diseases) or specific needs (e.g. pregnancy, child health) (case study 1). According to MIPEX, coverage for undocumented migrants remains a controversial issue in most countries (127).

2.4. Issue 4: quality of health care services

Barriers to accessing health care by undocumented migrants can be either formal barriers, such as the legal situation, or informal barriers that impact both the professional providing services and the undocumented migrant needing access (e.g. communication and understanding of the health system).

One of the most relevant formal barriers is the lack of legal protection for undocumented migrants accessing health care. In some countries (Bosnia and Herzegovina, Croatia, Germany, Slovenia, Sweden, United Kingdom), health care providers are required to report undocumented migrants to the immigration authority, whereas this is forbidden in others (Czech Republic, Denmark, France, Iceland, Italy, the Netherlands, Norway, Portugal, Spain, Switzerland). In Croatia, Germany, Greece and Turkey, legal sanctions are possible against those providing care to undocumented migrants (127). Where there is no official policy concerning undocumented migrants' right to access to health care, the responsibility is passed on to the health professionals (64); for example, the United Kingdom has given general practitioners discretion as to whether to register undocumented migrants as patients (51).

There are also barriers that affect health care professionals even when they are willing to treat all patients regardless of their migrant status. These include informal challenges, such as language barriers, and issues such as how to provide appropriate care and what rules need to be followed, plus problems associated with use of false identification (21). From the health professional's side, an important barrier is insufficient knowledge of undocumented migrants' entitlement to care, followed by the complex and time-consuming paperwork associated with their access to health care (49). In Portugal, physicians and administrative professionals were not familiar with the fact that undocumented pregnant women had free access to health care (14). Difficulties in continuity of care were identified when supplementary treatment was arranged within the same service or when referral to another service was required because of the irregular status (34); this situation was reported even in countries where undocumented migrants were guaranteed full

rights to access to health care (34). In 17 European countries, some professionals, especially in primary care, reported transferring undocumented migrants between services or having to delay treatment while waiting for legal issues surrounding the patient's irregular status to be resolved (34,49,51,64). A review conducted in six EU Member States concluded that, although professional guidelines and training initiatives that supported cross-cultural communication in consultations in primary care existed, they were not commonly implemented in daily practice (110).

Several barriers can be identified from the side of undocumented migrants, including lack of knowledge about the health care system and about informal networks of health care professionals, fear of being reported to the police, language and communication problems, and lack of social networks to guide them through the system (32,34,41,72,94,95). Lack of knowledge about entitlement to health care was common among migrants in 16 European countries (96). In France, the consequences of social stigmatization, precarious living conditions, and the climate of fear and suspicion generated by increasingly restrictive immigration policies hindered many undocumented migrants from being or feeling entitled to the right to health (75). Intangible factors, such as fear and suspicion, have powerful "subjectivation" effects that influence how both undocumented migrants and their interlocutors (i.e. health care providers) think about "deservingness" (75). Finally, sense of shame, fear of stigma and increased risk of marginalization and discrimination can be identified in the migrant community, particularly among those affected by communicable diseases (46,102).

In countries where a "fee" is asked for health care services, undocumented migrants often complain that it represents a significant proportion of their income and that they have difficulty in finding it (56). In the Russian Federation, high costs and lack of access to medical insurance represent problems not only for migrants without work permit or patients who are in vulnerable situations but also for foreign workers with formal work permits (128). As a consequence of these economic barriers, self-treatment is a popular way for migrants to solve their health issues, followed by direct payment for specific medical services and requesting emergency services (126). An Italian study indicated that the inappropriate use of accident and emergency departments for non-urgent conditions was potentially caused by barriers to accessing primary health care (25).

Many multicentre European studies, relying on interviews with migrants, have reported that language barriers and general differences in cultural norms, religious practices and customs are potential obstacles to direct examination and treatment for mental



health issues. Interviewees described concerns regarding appropriate engagement in physical examinations, preserving and respecting religious restrictions on physical contact, and cultural taboos (30,77,94,96,101,108,117).

2.5. Issue 5: policies and communication strategies

One of the most important challenges that national governments face is to give undocumented migrants the opportunity of having the same legal entitlements as other residents of a country (85) within a period where there is great anxiety about controlling migrant flow, particularly the irregular flow. As part of a complex regulatory framework following several treaties (Schengen (1985), Dublin (1990), Lisbon (2007), Stockholm (2009)) and laws, a priority area of EU policy is the control of undocumented migration. The key political measures adopted have included increased control and surveillance at EU external borders, enforced return of undocumented migrants and the establishment of administrative and penal sanctions for third parties involved in the irregular migration process. Against this background, many countries are also enacting processes to protect access to health (see case study 1). Policy directives (the Lisbon Treaty, Convention on the Rights of the Child, Convention on the Elimination of all Forms of Discrimination against Women) indicate that immediate treatment should never be withheld for any reason. Several nongovernmental organizations that usually give medical aid to undocumented migrants have lobbied for legal reform to give undocumented migrants the same legal entitlements to health care as residents in order to avoid human rights violation (53). In reality, the lack of official policies concerning the right to access health care for undocumented migrants can sometimes shift responsibility to health professionals and, thus, leave them to arbitrate who is entitled to care, resulting in much confusion and concern (54,64). The Fair for All policy in Scotland is an example of government policy directly targeting cultural competence (case study 2) (20,132).

Barriers for access to medical screening and care may result in an underestimation of the disease burden among immigrant populations, which has issues both for that population and for the protection and promotion of the health of the population as a whole. A study of viral disease prevalence in a disadvantaged migrant population with a large number of undocumented migrants indicated that the use of outreach clinics was effective in both identifying and treating infectious diseases among other concerns (106).

Case study 2. Improving cultural competence: the ethnicity and health “Fair for All” policy in Scotland

The Fair for All directive (132) has five key policy issues:

- energizing the organization and providing leadership
- understanding the demographics of the populations under consideration
- taking steps to modify services to meet the needs of ethnic minorities
- equality in employment
- strengthening communities.

The research strategy has four priorities:

- coding and data linkage of existing health information systems
- analysing social/economic circumstances
- identifying risk factor patterns and prevalence of major health problems
- assessing health and social care services quality.

Examples of practical actions taken towards implementation of the policy by the National Health Service Lothian in Scotland include (20):

- provision of interpreting and translation services free for both patient and health professional;
- provision of spiritual services in hospital for every religion;
- food options in hospital to meet a range of religious and cultural needs;
- implementation of staff training programmes to support minority patients and communities; and
- community organizations being supported to provide appropriate services.

An incoherent policy environment contributes to inadequate services and treatment delays; therefore there is a clear need for better information for both undocumented patients and health providers about health rights (27).

Language and cultural barriers to accessing services have been emphasized by a number of studies. The REsearch into implementation STRategies to support patients of different ORigins and language background in a variety of European primary care settings (RESTORE) project concluded that European collaboration is necessary to



identify strategies to overcome barriers and to develop culturally and linguistically appropriate health care systems (80). Health care providers should take an active role in the interaction with migrants of all types to ensure culturally competent care (38,80). Midwives have confirmed that communication can have a central role in addressing inequalities in health care provision and that this requires dedicating more time to listening to and considering the needs of the patient and to reducing cultural and language differences (12).

In terms of health providers, initiatives to overcome barriers could include training, provision of interpreter services and/or “cultural mediators”, adaption of organizational culture, improvement of data collection and provision of information to migrants on health problems and services. In terms of the migrants, initiatives should look at modifying the care-seeking behaviour, increasing health literacy and improving communication (86).

Case study 3 describes three best practice approaches to communication issues for the health professional in Europe; however, often such proposals are oriented towards the health needs of migrants in general, not specifically undocumented migrants. Other practices proposed to reach the “hard to reach” population have included using mobile health units (106), supporting the role of nongovernmental organizations, and avoiding “functional ignorance” (86) by supporting specific training modules for health professionals (55).

Case study 3. Communication challenges: health care professionals’ perspectives and best practices

The Best Practice in Health Care Services for Immigrants in Europe (EUGATE) project

The project assessed the difficulties professionals experience in providing health care to international migrants and tried to define what constitutes good practice to overcome problems in the provision and quality of care. It was funded by the European Commission and involved 16 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, the Netherlands, Poland, Portugal, Spain, Sweden, and the United Kingdom) (34). Communication barriers were perceived as more problematic in primary care and mental health services than in emergency departments. Health professionals reported:

Case study 3 contd

- little use of interpreting services;
- poor quality of interpreting services when available; and
- problems related to culture that hindered recovery, such as refusal of care because the health professional was of the opposite gender or because of cultural beliefs.

The following essential components of good practice were identified (96):

- organizational flexibility with sufficient time and resources and individualization of care;
- availability of professional interpreting service;
- networking with families and social services;
- improvement of cultural awareness of health providers;
- development and distribution of instructive and informative material for migrants about the health care system;
- establishment of positive relationships between staff and patients; and
- provision of clearer information and guidelines to health providers on what type of care different migrant groups are entitled to.

Delivery of health care services to immigrants in Denmark

Best practices identified by a group of Danish experts (63) included:

- allowing access to interpreters and ensuring the quality of interpretation;
- acknowledging the individual patient and having sufficient consultation time;
- ensuring medication compliance and being coherent with offers;
- properly allocating resources, being empowered as practitioners and strengthening interdisciplinary collaboration; and
- promoting education of health professionals and students.

The Belgian ETHEALTH (Ethnicity and Health) Expert Group

The expert group was created to formulate recommendations for the public health authorities on how to reduce ethnic and migrant health inequalities and included recommendations targeting undocumented migrants and migrants with a precarious legal status (34). These included:

- ensuring a clear framework of reimbursement and the application of the legislation on urgent medical aid;



Case study 3 contd

- providing a voucher entitling undocumented migrants to request assistance;
- extending the use of the medical card to all undocumented migrants, entitling them to urgent health care;
- diversifying the health professionals and health services available to treat migrants; and
- providing a temporary residence permit for undocumented migrants affected by infectious diseases in order to ensure a full course of treatment.

3. DISCUSSION

3.1. Strengths and limitations of the review

Although this review has attempted to address issues specific to the health of undocumented migrants, there are a number of limitations, including how they are defined, lack of demographic and health data, heterogeneity of national legal entitlements to access health care and a range of complex sociocultural barriers.

Data were derived from a small part of the WHO European Region, with most studies carried out in EU Member States; selection of studies published in English could also have excluded some relevant findings. In addition, inconsistency in how undocumented migrants are defined and variations in legal frameworks and legal status of undocumented migrants are significant obstacles to obtaining reliable demographic data.

Because undocumented migrants are a small population with respect to documented migrants, they are often studied within larger populations (commonly including other migrant groups), and most of the health data does not provide comparisons with the general population. The data that are available specifically on undocumented migrants are often on specific health issues, the most common being mental health, infectious diseases, injuries, mother–child issues, chronic metabolic or circulatory diseases and dental issues.

Lack of data may be responsible not only for misestimating the problems faced by undocumented migrants but also for the lack of public awareness on this topic. In fact, public awareness could be useful in strengthening a shared stewardship of the problems faced by this group.

3.2. Policy options and implications

Current evidence indicates that undocumented migrants are less likely to receive adequate health care and to access important preventive services. This can lead to avoidable use of emergency care, with its extra costs and drain on resources, and to potential public health problems such as infectious diseases being untreated in the community. The development of policies that protect and promote the health of the population as a whole therefore has both social and economic importance in addition to issues of equity.



Policies that clarify the entitlement to access to health care for undocumented migrants across the WHO European Region with an intersectoral approach and cross-border cooperation would improve universal health coverage within the Region as undocumented migrants often pass through several countries in their moves to resettle.

Policies that clarify the delivery of care to this group and that reduce the barriers to accessing care, both formal and informal, would make it easier for health care providers to deliver care and for undocumented migrants to obtain that care. Policy frameworks often deter undocumented migrants from seeking health care (e.g. out of fear of being reported to immigration services) and cause them to look for alternative health-seeking strategies. Consequently many of their health issues may be “hidden” from the health system, with potential problems for both the individual and for the whole population. Although the studies in the review collected data from a wide variety of contexts and health and social care systems, they all indicate that undocumented migrants do experience formal and informal barriers in access to health care even in countries providing a wider or full access to the health care system.

The following policy options with regard to undocumented migrants are identified based on this systematic review:

- reconsider entitlement to health care for undocumented migrants in respect for human rights, the country legal framework, organization of the health system and good public health;
- advocate on the issues of undocumented migrants in order to strengthen public awareness;
- plan systems to disseminate information about the right to health care and legal protection, and how to access it, for both undocumented migrants and health providers;
- promote an intersectoral approach and cross-border cooperation as part of service planning oriented to universal health coverage;
- make available, or improve, communication services (i.e. cultural mediators, interpreters) for health care providers in order to promote an inclusive and culturally sensitive health system;

- routinely collect data on undocumented migrants' health status and make these available for the scientific community and policy-makers; define indicators and tools to monitor and assess the impact of policies;
- foster research on defining the health needs of undocumented migrants, and the differences from other migrant groups and the general population; and
- plan specific training programmes for health care professionals, encouraging universities to include this subject into their educational health programmes.




4. CONCLUSIONS

Migration is a major social, political and public health challenge for the WHO European Region and policy-makers will need to develop specific and coherent policies addressing the health needs of all migrants, including undocumented migrants. To do this they need a clear picture of the needs and health status of undocumented migrants, how these impact on the health of the whole population and where changes could improve the health situation. The scientific community and health system experts should adopt a collaborative approach to investigating the development and the assessment of health policies in order to provide evidence for decision-makers and for sharing within the international scientific community.


There is general agreement about the need for best practices and specifically for targeting access to health care for undocumented migrants, and a number of different strategies have been attempted to improve this access. Strategies may target specific segments of the population or types of service, but these should all avoid creating formal barriers that could affect either access to health care by undocumented migrants or provision of health care by health professionals. Future strategies in reducing inequality in health care access by undocumented migrants need to use correct and transparent information and effective communication strategies both about the right to health for the migrant and also to support health care providers in their roles. This includes dedicated communication services (i.e. cultural mediators, interpreters) and education regarding an inclusive and culturally sensitive health system.

REFERENCES


1. International migration report 2013. New York: United Nations, Department of Economic and Social Affairs; 2013 (<http://www.un.org/en/development/desa/population/migration/publications/wallchart/docs/wallchart2013.pdf>, accessed 29 July 2015).
2. Sixty-first World Health Assembly. Health of migrants. Geneva: World Health Organization; 2008 (WHA61.17) (http://apps.who.int/gb/ebwha/pdf_files/A61/A61_R17-en.pdf, accessed 21 July 2015).
3. Global coalition calls for acceleration of access to universal health coverage. Geneva: World Health Organization; 2013 (http://www.who.int/universal_health_coverage/en/, accessed 21 July 2015).
4. Learning to live together: migrant/migration. Paris: United Nations Educational, Scientific and Cultural Organization; 2015 (<http://www.unesco.org/new/en/social-and-human-sciences/themes/international-migration/glossary/migrant/>, accessed 21 July 2015).
5. Terminski B. Realizing the right to health of undocumented immigrants in Europe: legal and social challenges. In: Proceedings of the 13th World Congress on Public Health, April 23–27 2012. Bologna: Monduzzi Editore; 2013:463–79.
6. Reporting guidelines. Brussels: Platform for International Cooperation on Undocumented Migrants (<http://picum.org/en/press-room/guidelines-for-journalists/>, accessed 21 July 2015).
7. Vogel D, Kovacheva V, Prescott H. The size of the irregular migrant population in the European Union: counting the uncountable? *Int Migr*. 2011;49(5):78–96.
8. Access to health care for undocumented migrants in Europe. Brussel: Platform for International Cooperation on Undocumented Migrants (PICUM); 2007.
9. Rechel B, Mladovsky P, Devillé W, Rijks B, Petrova-Benedict R, McKee M, editors. Migration and health in the European Union. Maidenhead, UK: Open University Press for the European Observatory on Health Systems and Policies; 2011.

- 
10. Moher D, Liberati A, Tetzlaff J for the PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Int J Surg.* 2010;8(5):336–41.
 11. Affronti M, Affronti A, Pagano S, Soresi M, Giannitrapani L, Valenti M et al. The health of irregular and illegal immigrants: analysis of day-hospital admissions in a department of migration medicine. *Int Emerg Med.* 2011;8(7):561–6.
 12. Akhavan S. Midwives' views on factors that contribute to health care inequalities among immigrants in Sweden: a qualitative study. *Int J Equity Health.* 2012;11:47.
 13. Almeida LM, Caldas J, Ayres-de-Campos D, Salcedo-Barrientos D, Dias S. Maternal healthcare in migrants: a systematic review. *Matern Child Health J.* 2013;17:1346–54.
 14. Almeida LM, Caldas JP, Ayres-de-Campos D, Dias S. Assessing maternal healthcare inequities among migrants: a qualitative study. *Cad Saude Publ.* 2014;30:333–40.
 15. Alvarez-del Arco D, Monge S, Caro-Murillo AM, Ramírez-Rubio O, Azcoaga-Lorenzo A, Belza MJ et al. HIV testing policies for migrants and ethnic minorities in EU/EFTA Member States. *Eur J Public Health.* 2014;24(1):139–44.
 16. Aragona M, Pucci D, Mazzetti M, Maisano B, Geraci S. Traumatic events, post-migration living difficulties and post-traumatic symptoms in first generation immigrants: a primary care study. *Ann Ist Super Sanita* 2013;49(2):169–75.
 17. Aung NC, Rechel B, Odermatt P. Access to and utilisation of GP services among Burmese migrants in London: a cross-sectional descriptive study. *BMC Health Serv Res.* 2010;10:285.
 18. Basile L, Jansà JM, Carlier Y, Angheben A, Bartoloni A, Seixas J et al. Chagas disease in European countries: the challenge of a surveillance system. *Eurosurveillance.* 2011;16(37):pii:19968.
 19. Baussano I, Mercadante S, Pareek M, Lalvani A, Bugiani M. High rates of *Mycobacterium tuberculosis* among socially marginalized immigrants in low-incidence area, 1991–2010, Italy. *Emerg Infect Dis.* 2013;19(9):1437–45.
 20. Bhopal RS. The quest for culturally sensitive health-care systems in Scotland: insights for a multi-ethnic Europe. *J Public Health.* 2012;34(1):5–11.


21. Biswas D, Kristiansen M, Krasnik A, Norredam M. Access to healthcare and alternative health-seeking strategies among undocumented migrants in Denmark. *BMC Public Health*. 2011;11:560.
22. Biswas D, Toebes B, Hjern A, Ascher H, Norredam M. Access to health care for undocumented migrants from a human rights perspective: a comparative study of Denmark, Sweden, and the Netherlands. *Health Hum Rights*. 2012;14(2):49–60.
23. Bodenmann P, Vaucher P, Wolff H, Favrat B, de Tribolet F, Masserey E et al. Screening for latent tuberculosis infection among undocumented immigrants in Swiss healthcare centres; a descriptive exploratory study. *BMC Infect Dis*. 2009;9:34.
24. Broeders, D. Return to sender? Administrative detention of irregular migrants in Germany and the Netherlands. *Punishment Society* 2010;12(2):169–86.
25. Buja A, Fusco M, Furlan P, Bertoncetto C, Baldovin T, Casale P et al. Characteristics, processes, management and outcome of accesses to accident and emergency departments by citizenship. *Int J Public Health*. 2014;59(1):167–74.
26. Castañeda H. “Over-foreignization” or “unused potential”? A critical review of migrant health in Germany and responses toward unauthorized migration. *Soc Sci Med*. 2012;74(6):830–8.
27. Castañeda H. Illegality as risk factor: a survey of unauthorized migrant patients in a Berlin clinic. *Soc Sci Med*. 2009;68:1552–60.
28. Chernin G, Gal-Oz A, Schwartz IF, Shashar M, Schwartz D, Weinstein T. Care of undocumented-uninsured immigrants in a large urban dialysis unit. *BMC Nephrol*. 2012;13:112.
29. Chimienti M, Solomos J. Social movements of irregular migrants, recognition, and citizenship. *Globalizations*. 2011;8(3):343–60.
30. Costa D, Matanov A, Canavan R, Gabor E, Greacen T, Vondráčková P et al. Factors associated with quality of services for marginalized groups with mental health problems in 14 European countries. *BMC Health Serv Res*. 2014;14:49.

- 
31. Cuadra CB. Policies on health care for undocumented migrants in EU27: country report France. Malmö: MIM/Health and Society, Malmö University; 2010 (Health Care in NowHereland: improving services for undocumented migrants in the EU).
 32. Cuadra CB. Right of access to health care for undocumented migrants in EU: a comparative study of national policies. *Eur J Public Health*. 2011;2(2):267–71.
 33. Dauvrin M, Derluyn I, Coune I, Verrept H, Lorant V. Towards fair health policies for migrants and ethnic minorities: the case-study of ETHEALTH in Belgium. *BMC Public Health*. 2012;12:726.
 34. Dauvrin M, Lorant V, Sandhu S, Devillé W, Dia H, Dias S et al. Health care for irregular migrants: pragmatism across Europe. A qualitative study. *BMC Res Notes*. 2012;5:99.
 35. Dauvrin M, Lorant V. Adaptation of health care for migrants: whose responsibility? *BMC Health Serv Res*. 2014;14:294.
 36. Davies A, Blake C, Dhavan P. Social determinants and risk factors for non-communicable diseases (NCDs) in South Asian migrant populations in Europe. *Asia Eur J*. 2011;8:461–73.
 37. De Jonge A, Rijnders M, Agyemang C, van der Stouwe R, den Otter J, van den Muijsenbergh ME et al. Limited midwifery care for undocumented women in the Netherlands. *J Psychosom Obstet Gynecol*. 2011;32(4):182–8.
 38. Degni F, Suominen S, Esse B. Communication and cultural issues in providing reproductive health care to immigrant women: health care providers' experiences in meeting the needs of [corrected] Somali women living in Finland. *J Immigr Minor Health*. 2012;14:330–43.
 39. Depallens SD, Puelma MJ, Krähenbühl JD, Gehri M. The health status of children without resident permit consulting the Children's Hospital of Lausanne. *Swiss Med Wkly*. 2010;140:w13048.
 40. Devillanova C. Social networks, information and health care utilization: evidence from undocumented immigrants in Milan. *J Health Econ*. 2007;27(2):265–86.


41. Devillé W, Greacen T, Bogic M, Dauvrin M, Dias S, Gaddini A et al. Health care for immigrants in Europe: is there still consensus among country experts about principles of good practice? A Delphi study. *BMC Public Health*. 2011;11:699.
42. Dias ST, Gama A, Cortes M, de Sousa B. Healthcare-seeking patterns among immigrants in Portugal. *Health Soc Care Community*. 2011;19(5):514–21.
43. Dias SF, Severo M, Barros H. Determinants of health care utilization by immigrants in Portugal. *BMC Health Serv Res*. 2008;8:207.
44. Dorn T, Ceelen M, Tang MJ, Browne JL, de Keijzer KJ, Buster MC et al. Health care seeking among detained undocumented migrants: a cross-sectional study. *BMC Public Health*. 2011;11:190.
45. Duguet AM, Bévière B. Access to health care for illegal immigrants: a specific organisation in France. *Eur J Health Law*. 2011;18(1):27–35.
46. Fakoya I, Reynolds R, Caswell G, Shiripinda I. Barriers to HIV testing for migrant black Africans in Western Europe. *HIV Med*. 2008;9(Suppl 2):23–5.
47. Filc D. Circles of exclusion: obstacles in access to health care services in Israel. *Int J Health Serv*. 2010;40(4):699–717.
48. García-García J-M, Blanquer R, Rodrigo T, Caylà JA, Caminero JA, Vidal R et al. Social, clinical and microbiological differential characteristics of tuberculosis among immigrants in Spain. *PLoS One* 2011;6(1):e16272.
49. Goossens MC, Depoorter AM. Contacts between general practitioners and migrants without a residence permit and the use of “urgent” medical care. *Scand J Public Health*. 2011;39(6):649–55.
50. Gray BH, van Ginneken E. Health care for undocumented migrants: European approaches. *Issue Brief (Commonw Fund)* 2012;33:1–12.
51. Grit K, den Otter JJ, Spreij A. Access to health care for undocumented migrants: a comparative policy analysis of England and the Netherlands. *J Health Polit Policy Law*. 2012;37(1):37–67.
52. Heldal E, Kuyvenhoven JV, Wares F, Migliori GB, Ditiu L, Fernandez de la Hoz K et al. Diagnosis and treatment of tuberculosis in undocumented migrants in low- or intermediate-incidence countries. *Int J Tuberc Lung Dis*. 2008;12(8):878–88.

- 
53. Hellgren Z. Negotiating the boundaries of social membership: undocumented migrant claims-making in Sweden and Spain. *J Ethn Migr Stud.* 2014;40(8):1175–91.
 54. Higginbottom G, Reime B, Bharj K, Chowbey P, Ertan K, Foster-Boucher C et al. Migration and maternity: insights of context, health policy, and research evidence on experiences and outcomes from a three country preliminary study across Germany, Canada, and the United Kingdom. *Health Care Women Int.* 2013;34(11):936–65.
 55. Hollings J, Samuilova M, Petrova-Benedict R. Health, migration and border management: analysis and capacity-building at Europe's borders. *Int J Public Health.* 2012;57:363–9.
 56. Huffman SA, Veen J, Hennink MM, McFarland DA. Exploitation, vulnerability to tuberculosis and access to treatment among Uzbek labor migrants in Kazakhstan. *Soc Sci Med.* 2012;74(6):864–72.
 57. HUMA Network. Access to health care for undocumented migrants and asylum seekers in 10 EU countries: law and practice. Paris: Médecins du Monde France for the HUMA (Health for Undocumented Migrants and Asylum seekers) Network; 2009 (http://www.episouth.org/doc/r_documents/Rapport_huma-network.pdf, accessed 28 July).
 58. HUMA Network. Are undocumented migrants and asylum seekers entitled to access health care in the EU? A comparative overview in 16 countries. Paris: Médecins du Monde France for the HUMA (Health for Undocumented Migrants and Asylum seekers) Network; 2011 (<http://www.epim.info/wp-content/uploads/2011/02/HUMA-Publication-Comparative-Overview-16-Countries-2010.pdf>, accessed 28 July).
 59. Jackson Y, Sebo P, Aeby G, Bovier P, Ninet B, Schrenzel J et al. Prevalence and associated factors for Chlamydia trachomatis infection among undocumented immigrants in a primary care facility in Geneva, Switzerland: a cross-sectional study. *J Immigr Minor Health.* 2010;12:909–14.
 60. Jackson Y, Castillo S, Hammond P, Besson M, Brawand-Bron A, Urzola D et al. Metabolic, mental health, behavioral and socioeconomic characteristics of migrants with Chagas disease in a non-endemic country. *Trop Med Int Health.* 2012;17(5):595–603.

61. Jaeger FN, Hossain M, Kiss L, Zimmerman C. The health of migrant children in Switzerland, *Int J Public Health*. 2012;57:659–71.
62. Jaeger FN, Kiss L, Hossain M, Zimmerman C. Migrant-friendly hospitals: a paediatric perspective: improving hospital care for migrant children. *BMC Health Serv Res*. 2013;13:389.
63. Jensen NK, Nielsen SS, Krasnik A. Expert opinion on "best practices" in the delivery of health care services to immigrants in Denmark. *Dan Med Bull*. 2011;57(8):A4170.
64. Jensen NK, Norredam M, Draebel T, Bogic M, Priebe S, Krasnik A. Providing medical care for undocumented migrants in Denmark: what are the challenges for health professionals? *BMC Health Serv Res*. 2011;11:154.
65. Jolivet A, Cadot E, Florence S, Lesieur S, Lebas J, Chauvin P. Migrant health in French Guiana: are undocumented immigrants more vulnerable? *BMC Public Health*. 2012;12:53.
66. Kassari H, Dourgnon P. The big crossing: illegal boat migrants in the Mediterranean. *Eur J Public Health*. 2014;24(Suppl 1):11–15.
67. Kassari H, Marzouk D, Anwar WA, Lakhous C, Hemminki K, Khyatti M. Emigration flows from North Africa to Europe. *Eur J Public Health*. 2014;24(Suppl 1):2–5.
68. Keith L, LeVoy M, Vanbiervliet F. Health systems and services for undocumented migrants: developments in Spain and Sweden. *Eurohealth*. 2014;20(4):15–8 (<http://www.lse.ac.uk/LSEHealthAndSocialCare/pdf/eurohealth/VOL20No4/EH20.4-WEB-Version-16Dec14.pdf>, accessed 28 July).
69. Keygnaert I, Guieu A, Ooms G, Vettenburg N, Temmerman M, Roelens K. Sexual and reproductive health of migrants: does the EU care? *Health Policy*. 2013;114(2,3):215–25.
70. Keygnaert I, Dialmy A, Manço A, Keygnaert J, Vettenburg N, Roelens K et al. Sexual violence and sub-Saharan migrants in Morocco: a community-based participatory assessment using respondent driven sampling. *Global Health*. 2014;10:32.

- 
71. Keygnaert I, Vettenburg N, Temmerman M. Hidden violence is silent rape: sexual and gender-based violence in refugees, asylum seekers and undocumented migrants in Belgium and the Netherlands. *Cult Health Sex*. 2012;14(5):505–20.
 72. Kluge U, Bogic M, Devillé W, Greacen T, Dauvrin M, Dias S et al. Health services and the treatment of immigrants: data on service use, interpreting services and immigrant staff members in services across Europe. *Eur Psychiatry*. 2012;27(Suppl 2):S56–62.
 73. Kraler A, Reichel D. Measuring irregular migration and population flows: what available data can tell. *Int Migr*. 2011;49(5):97–128.
 74. Laczko F. New directions for migration policy in Europe. *Philos Trans R Soc Lond B Biol Sci*. 2002;357(1420):599–608.
 75. Larchanché S. Intangible obstacles: health implications of stigmatization, structural violence, and fear among undocumented immigrants in France. *Soc Sci Med*. 2012;74(6):858–63.
 76. Lazaridis G, Poyago-theotoky J. Undocumented migrants in Greece: issues of regularization. *Int Migr*. 1999;37(4):715–40.
 77. Lindert J, Schouler-Ocak M, Heinz A, Priebe S. Mental health, health care utilisation of migrants in Europe. *Eur Psychiatry*. 2008;23(Suppl 1):14–20.
 78. Lorant V, Bhopal RS. Comparing policies to tackle ethnic inequalities in health: Belgium 1 Scotland 4. *Eur J Public Health*. 2012;21(2):235–40.
 79. MacFarlane A, O'Donnell C, Mair F, O'Reilly-de Brún M, de Brún T, Spiegel W et al. Research into implementation strategies to support patients of different origins and language background in a variety of European primary care settings (RESTORE): Study protocol. *Implement Sci*. 2012;7:111.
 80. MacFarlane A, O'Reilly-de Brún M, de Brún T, Dowrick C, O'Donnell C, Mair F et al. Healthcare for migrants, participatory health research and implementation science: better health policy and practice through inclusion. The RESTORE project. *Eur J Gen Pract*. 2014;20:148–52.
 81. Madianos MG, Gonidakis F, Ploubidis D, Papadopoulou E, Rogakou E. Measuring acculturation and symptoms of depression of foreign immigrants in the Athens area. *Int J Soc Psychiatry*. 2008;54(4):338–49.

82. Majori S, Baldo V, Tommasi I, Malizia M, Floreani A, Monteiro G et al. Hepatitis A, B, and C infection in a community of sub-Saharan immigrants living in Verona (Italy). *J Travel Med.* 2008;15(5):323–7.
83. Maroukis T, Iglicka K, Gmaj K. Irregular migration and informal economy in southern and central-eastern Europe: breaking the vicious cycle? *Int Migr.* 2011;49(5):129–56.
84. Chauvin P, Parizot I, Simonnot N. Access to health care for undocumented migrants in 11 European Countries: 2008 survey report. Paris: Médecins du Monde European Observatory on Access to Healthcare; 2009 (http://www.episouth.org/doc/r_documents/Rapport_UK_final_couv.pdf, accessed 28 July).
85. Mladovsky P, Ingleby D, McKee M, Rechel B. Good practices in migrant health: the European experience. *Clin Med.* 2012;12(3):248–52.
86. Mladovsky P, Rechel B, Ingleby D, McKee M. Responding to diversity: an exploratory study of migrant health policies in Europe. *Health Policy.* 2012;105:1–9.
87. Mladovsky P. A framework for analysing migrant health policies in Europe. *Health Policy.* 2009;93:55–63.
88. Mor Z, Pinsker G, Cedar N, Lidji M, Grotto I. Adult tuberculosis in Israel and migration: trends and challenges between 1999 and 2010. *Int J Tuberc Lung Dis.* 2012;16(12):1613–18.
89. Norredam M. Migrants' access to healthcare. *Dan Med Bull.* 2011;58(10):B439.
90. Pace-Asciak A, Mamo J, Calleja N. Tuberculosis among undocumented boat migrants to Malta: implications for a migrant tuberculosis policy. *Int J Tuberc Lung Dis.* 2013;17(8):1065–70.
91. Pezzoli MC, El-Hamad I, Scarcella C, Vassallo F, Speziani F, Cristini G et al. HIV infection among illegal migrants, Italy, 2004–2007. *Emerg Infect Dis.* 2009;15(11):1802–4.
92. Access to health care for undocumented migrants in the EU. Brussels: Platform for International Cooperation on Undocumented Migrants (PICUM); 2010.
93. Pikhart H, Drbohlav D, Dzurova D. The self-reported health of legal and illegal/irregular immigrants in the Czech Republic. *Int J Public Health.* 2010;55(5):401–11.

- 
94. Priebe S, Matanov A, Barros H, Canavan R, Gabor E, Greacen T et al. Mental health-care provision for marginalized groups across Europe: findings from the PROMO study. *Eur J Public Health*. 2012;23(1):97–103.
 95. Priebe S, Matanov A, Schor R, Straßmayr C, Barros H, Barry MM et al. Good practice in mental health care for socially marginalised groups in Europe: a qualitative study of expert views in 14 countries. *BMC Public Health*. 2012;28;12(1):248.
 96. Priebe S, Sandhu S, Dias S, Gaddini A, Greacen T, Ioannidis E et al. Good practice in health care for migrants: views and experiences of care professionals in 16 European countries. *BMC Public Health*. 2011;11:187.
 97. Robert G, Martínez JM, García AM, Benavides FG, Ronda E. From the boom to the crisis: changes in employment conditions of immigrants in Spain and their effects on mental health. *Eur J Public Health*. 2014;24(3):404–9.
 98. Romero-Ortuño R. Access to health care for illegal immigrants in the EU: should we be concerned? *Eur J Health Law*. 2004;11:245–72.
 99. Rondet C, Cornet P, Kaoutar B, Lebas J, Chauvin P. Depression prevalence and primary care among vulnerable patients at a free outpatient clinic in Paris, France, in 2010: results of a cross-sectional survey. *BMC Fam Pract*. 2013;14:151.
 100. Sabbatani S, Baldi E, Manfredi R. Causes of hospitalization among extra-European Union children in a large hospital of northern Italy, in a five-year observation period. *Braz J Infect Dis*. 2007;11(1):6–8.
 101. Sandhu S, Bjerre NV, Dauvrin M, Dias S, Gaddini A, Greacen T et al. Experiences with treating immigrants: a qualitative study in mental health services across 16 European countries. *Soc Psychiatry Psychiatr Epidemiol*. 2012;48(1):105–16.
 102. Schoevers MA, Loeffen MJ, van den Muijsenbergh ME, Lagro-Janssen AL. Health care utilisation and problems in accessing health care of female undocumented immigrants in the Netherlands. *Int J Public Health*. 2010;55(5):421–8.
 103. Schoevers MA, van den Muijsenbergh ME, Lagro-Janssen AL. Self-rated health and health problems of undocumented immigrant women in the Netherlands: a descriptive study. *J Public Health Policy*. 2009;30(4):409–22.

104. Scotto G, Fornabaio C, Prato R, Saracino A, Tartaglia A, Di Tullio R et al. Tuberculosis and immigrants: a SIMIT (Italian Society of Infectious Diseases) clinical, epidemiological multicentric research investigation. *New Microbiol.* 2009;32(1):39–47.
105. Sebo P, Jackson Y, Haller DM, Gaspoz JM, Wolff H. Sexual and reproductive health behaviors of undocumented migrants in Geneva: a cross sectional study. *J Immigr Minor Health.* 2011;13:510–17.
106. Stornaiuolo G, Cuniato V, Cuomo G, Nocera E, Brancaccio G, De Rosa M et al. Active recruitment strategy in disadvantaged immigrant populations improves the identification of human immunodeficiency but not of hepatitis B or C virus infections. *Dig Liver Dis.* 2013;46:62–66.
107. Straßmayr C, Matanov A, Priebe S, Barros H, Canavan R, Díaz-Olalla JM et al. Mental health care for irregular migrants in Europe: barriers and how they are overcome. *BMC Public Health.* 2012;12:367.
108. Teunissen E, Sherally J, van den Muijsenbergh M, Dowrick C, van Weel-Baumgarten E, van Weel C. Mental health problems of undocumented migrants (UMs) in the Netherlands: a qualitative exploration of help-seeking behaviour and experiences with primary care. *BMJ Open.* 2014;4(11):e005738.
109. Torres-Cantero AM, Miguel AG, Gallardo C, Ippolito S. Health care provision for illegal migrants: may health policy make a difference? *Eur J Public Health.* 2007;17(5):483–5.
110. van den Muijsenbergh M, van Weel-Baumgarten E, Burns N, O'Donnell C, Mair F, Spiegel W et al. Communication in cross-cultural consultations in primary care in Europe: the case for improvement. The rationale for the RESTORE FP7 project. *Prim Health Care Res Dev.* 2014;15:122–33.
111. van Ginneken E. Health care access for undocumented migrants in Europe leaves much to be desired. *Eurohealth.* 2014;20(4):11–14.
112. Villanueva SD, Puelma M, Krähenbühl J, Gehri M. The health status of children without a resident permit consulting the Children's Hospital of Lausanne. *Swiss Med Wkly.* 2010;140:w13048.
113. Wahlberg A, Källestål C, Lundgren A, Essén B. Causes of death among undocumented migrants in Sweden, 1997–2010. *Glob Health Action.* 2014;7:24464.

- 
114. Welbel M, Matanov A, Moskalewicz J, Barros H, Canavan R, Gabor E et al. Addiction treatment in deprived urban areas in EU countries: accessibility of care for people from socially marginalized groups. *Drugs Educ Prev Policy*. 2013;20(1):74–83.
 115. Poverty and social exclusion in the WHO European Region: health systems respond. Copenhagen: WHO Regional Office for Europe; 2010.
 116. Willen SS. How is health-related “deservingness” reckoned? Perspectives from unauthorized im/migrants in Tel Aviv. *Soc Sci Med*. 2012;74(6):812–21.
 117. Wolff H, Epiney M, Lourenco AP, Costanza MC, Delieutraz-Marchand J, Andreoli N et al. Undocumented migrants lack access to pregnancy care and prevention. *BMC Public Health*. 2008;8:93.
 118. Wolff H, Lourenço A, Bodenmann P, Epiney M, Uny M, Andreoli N et al. Chlamydia trachomatis prevalence in undocumented migrants undergoing voluntary termination of pregnancy: a prospective cohort study. *BMC Public Health*. 2008;8:391.
 119. Wolff H, Stalder H, Epiney M, Walder A, Irion O, Morabia A. Health care and illegality: a survey of undocumented pregnant immigrants in Geneva. *Soc Sci Med*. 2005;60(9):2149–54.
 120. Wolff H, Janssens JP, Bodenmann P, Meynard A, Delhumeau C, Rochat T et al. Undocumented migrants in Switzerland: geographical origin versus legal status as risk factor for tuberculosis. *J Immigr Minor Health*. 2010;12(1):18–23.
 121. Yates T, Crane R, Burnett A. Rights and the reality of healthcare charging in the United Kingdom. *Med Confl Surviv*. 2007;23(4):297–304.
 122. Rechel B, Mladovsky P, Ingleby D, Mackenbach JP, McKee M. Migration and health in an increasingly diverse Europe. *Lancet*. 2013;381(9873):1235–45.
 123. FRAN Quarterly. Quarter 3, July–September 2014. Warsaw: FRONTEX; 2015 (http://frontex.europa.eu/assets/Publications/Risk_Analysis/Fran_Q3_2014.pdf, accessed 28 July).

124. Weine S, Demin A, editors. White paper: promoting health among migrants in the U.S. and Russia through a public health approach. Washington, DC: Eurasia Foundation for the Public Health Working Group of the US–Russia Social Expertise Exchange; 2014 ([http://www.usrussiasocialexpertise.org/sites/default/files/PH%20White%20Paper%20-%20EN%20-%20Final%20\(w%20Cover\).pdf](http://www.usrussiasocialexpertise.org/sites/default/files/PH%20White%20Paper%20-%20EN%20-%20Final%20(w%20Cover).pdf), accessed 28 July 2015).
125. MPC Team. Russia: the demographic-economic framework of migration, - the legal framework of migration, - the socio-political framework of migration. Florence: Migration Policy Centre; 2013 (from CARIM East database and publications) (http://www.migrationpolicycentre.eu/docs/migration_profiles/Russia.pdf , accessed 6 August 2015).
126. Mukomel V. Integration of migrants: Russian Federation. Florence: Robert Schuman Centre for Advanced Studies, European University Institute; 2013 (CARIM–East RR 2013/02) (<http://www.carim-east.eu/media/CARIM-East-RR-2013-02.pdf>, accessed 28 July 2015).
127. MIPEX. Migrant Integration Policy Index (<http://www.mipex.eu>, accessed 29 July 2015).
128. Kuznetsova I, Mukharyamova L. Labor migrants and health care access in Russia: formal and informal strategies. *Journal of Social Policy Studies* 2014;12(1):7–20.
129. Council of Europe. Conclusions of the European Committee of Social Rights (http://www.coe.int/t/dghl/monitoring/socialcharter/conclusions/conclusionsindex_en.asp, accessed 29 July 2015).
130. General Assembly resolution 2200A (XXI) of 16 December 1966: International Covenant on Economic, Social and Cultural Rights. New York: United Nations, 1966.
131. European Commission. Charter of Fundamental Rights of the European Union Official Journal of the European Communities. 2000;C364/1.
132. NHS Scotland: fair for all. Edinburgh: Scottish Executive (<http://www.sehd.scot.nhs.uk/publications/ffar/ffar1.pdf>, accessed 29 July 2015).



ANNEX 1. SEARCH STRATEGY

Databases

The search used the databases of PubMed, Scopus, Cochrane Collaboration and the Organisation for Economic Development and Co-operation (OECD). The following websites were consulted in order to find grey literature and current statistics: Health Evidence Network (HEN); European Observatory; EU law and other public EU documents (EUR-lex); Community Research and Development Information Service (CORDIS); Statistical Office of the European Union (Eurostat); OECD; Evaluating the Impact of Structural Policies on Health Inequalities and their Social Determinants, and Fostering Change (SOPHIE); Migrant Integration Policy Index (MIPEX); Platform for International Cooperation on Undocumented Migrants (PICUM); Health for Undocumented Migrants and Asylum seekers (HUMA) Network; and Google.

Search terms

The search of academic literature was performed in the title/abstract field by using the keywords and MeSH terms shown below.

Issue 1

PubMed: “transients and migrants/legislation and jurisprudence”[MeSH] OR “emigrants and immigrants/legislation and jurisprudence”[MeSH] OR “transients and migrants/statistics and numerical data”[MeSH] OR “migrants” OR “undocumented migrants” OR “irregular migrants” OR “irregular migration” OR “migration policies” OR “migration laws” AND (“Europe”[MeSH Terms] OR “Asia, Central”[MeSH] OR Europ* OR country)

Scopus: (transient OR migrants OR immigrants OR emigrants OR undocumented migrants OR irregular migrants OR irregular migration) AND (legislation OR law OR regulation OR statute OR migration policy OR migration laws) AND (europe OR country)

Issue 2

PubMed: (“transients and migrants”[MeSH] OR “emigrants and immigrants”[MeSH]) AND (health[MeSH] OR health OR “health status” OR “health condition*” OR

disease[MeSH] OR disease) AND (europe[MeSH] OR Europ* OR country) AND (risk OR risk[MeSH] OR epidemiology[MeSH] OR epidemiology OR "cost of illness"[MeSH])

Scopus: (transient OR migrant OR nomad OR immigrant OR foreigner OR alien OR emigrant) AND (health OR "health status" OR "health condition*" OR disease*) AND (europ* OR country) AND [risk OR epidemiology OR ("burden of disease" OR "burden of illness" OR "illness burden")]

Issue 3

PubMed: ("transients and migrants"[MeSH] OR "Emigrants and immigrants"[MeSH]) AND (europe[MeSH] OR Europ* OR country) AND (("delivery of health care"[MeSH] OR health care OR "health care") OR ((legislation OR "legislation as topic"[MeSH] OR entitlement OR right*) AND ("Delivery of health care"[MeSH] OR health care OR "health care"))))

Scopus: (transient OR migrant OR nomad OR immigrant OR foreigner OR alien OR emigrant) AND (europ* OR country) AND (("Delivery of health care" OR health care OR "health care") OR ((legislation OR entitlement OR right*) AND ("Delivery of health care" OR health care OR "health care"))))


HEN: (transient OR migrant OR nomad OR immigrant OR foreigner OR alien OR emigrant) AND (Europ* OR country) AND (("delivery of health care" OR health care OR "health care") OR ((Delivery of health care" OR health care OR "health care") AND (legislation OR entitlement OR right*)))

European Observatory: transient OR migrant OR nomad OR immigrant OR foreigner OR alien OR emigrant

Issue 4

PubMed: ("transients and migrants"[MeSH] OR "emigrants and immigrants"[MeSH]) AND (europe[MeSH] OR Europ* OR country) AND (health care quality, access, and evaluation[MeSH] OR quality indicators, health care[MeSH] OR barrier*)

Scopus: (transient OR migrant OR nomad OR immigrant OR foreigner OR alien OR emigrant) AND (europ* OR country) AND (health care quality OR quality indicator* OR barrier*)



Cochrane: (transient OR migrant OR nomad OR immigrant OR foreigner OR alien OR emigrant) AND (Europ* OR country) AND (health care quality OR quality indicator* OR barrier*)

OECD: transient OR migrant OR nomad OR immigrant OR foreigner OR alien OR emigrant

Issue 5

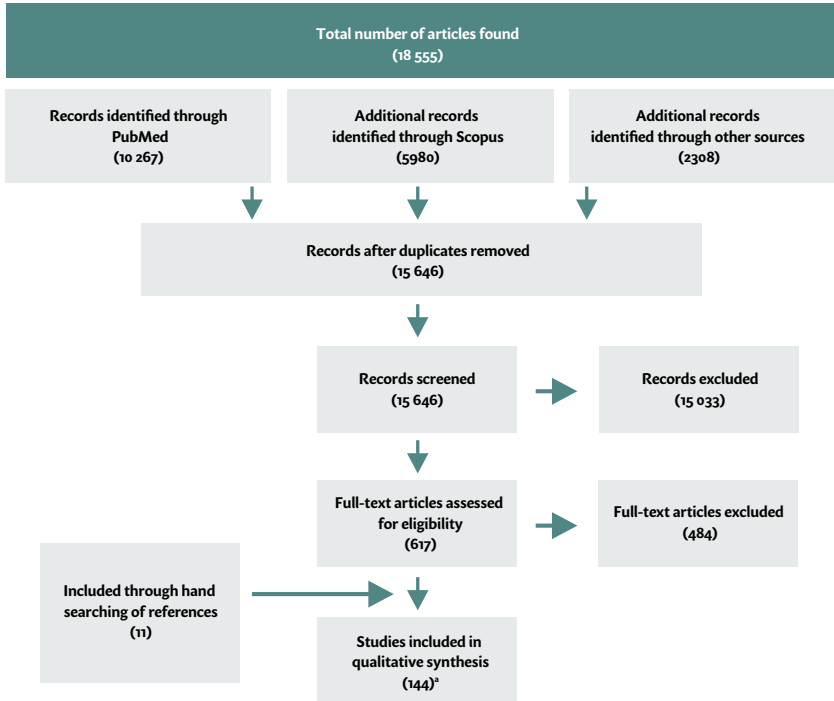
PubMed: (transient OR migrants OR irregular migrants OR undocumented migrants OR immigrant OR emigrant OR irregular migration) AND (health[MeSH] OR health carequality, access, and evaluation[MeSH]) AND (“health knowledge, attitudes, practice”[MeSH] OR “cultural competency”[MeSH] OR “health policy”[MeSH terms] OR “public policy”[MeSH terms] OR institutional policy[MeSH terms] OR migration policy[MeSH terms]) OR “health communication”[MeSH] AND (“Europe”[MeSH terms] OR “Europe”[MeSH terms] OR europ* OR “Asia, Central”[MeSH] OR country))

Scopus: (transient OR migrants OR immigrants OR emigrants OR undocumented migrants OR irregular migrants OR irregular migration) AND (health care quality OR health care access) OR (knowledge, attitudes, practice OR cultural competency) OR (health policy OR health communication OR institutional policy OR migration policy) AND (europe) OR (country)

NB. The term “country” in the search indicates use of the following specific countries: Albania OR Andorra OR Armenia OR Austria OR Azerbaijan OR Belarus OR Belgium OR Bosnia OR Herzegovina OR Bulgaria OR Croatia OR Cyprus OR Czech Republic OR Denmark OR Estonia OR Finland OR France OR Georgia OR Germany OR Greece OR Hungary OR Iceland OR Ireland OR Italy OR Israel OR Kazakhstan OR Kyrgyzstan OR Latvia OR Lithuania OR Luxembourg OR Macedonia OR Malta OR Moldova OR Monaco OR Montenegro OR the Netherlands OR Norway OR Poland OR Portugal OR Romania OR Russia OR San Marino OR Serbia OR Slovakia OR Slovenia OR Spain OR Sweden OR Switzerland OR Tajikistan OR Turkey OR Turkmenistan OR Ukraine OR United Kingdom OR Uzbekistan.

The flowchart in Fig. A1. shows selected studies based on the transparent reporting of systematic reviews and meta-analyses (PRISMA) template for the whole study. (Five additional figures are available online (<http://bit.ly/Figs2-6>) and show the breakdown of this set of studies into ones dealing with the five specific issues.)

Fig. A1. Flowchart of studies selected for all five issues



* Because 29 of 144 articles dealt with more than one issue, the final real number of studies included was 115.

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