Health service use and costs among migrants in an irregular situation: cross-sectional register-based study from a voluntary-based clinic

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Abstract

Aim

The increase in immigration to Europe has led to an increasing demand for information about healthcare needs and costs of vulnerable migrant populations, but few data based on actual demand for healthcare services and related costs exist.

Methods

In this single-centre retrospective register study, we examined the reasons for encounter and diagnoses, service use and costs of healthcare among patients at a voluntary clinic for migrants in an irregular situation in Helsinki, Finland in 2016. ICPC-2 classification and unit costs for primary healthcare in Finland were used as a basis for the cost estimation.

Results

546 patient visits accounted for 620 ICPC-2 coded reasons for encounter, diagnoses and process codes. The most common health problems were teeth/gum disease (10%), acute upper respiratory infection (5%) and oesophageal disease (3%). Visits seldom led to complementary investigations (2%), follow-up visit to the clinic (5%) or referral to public healthcare (11%). The total cost of treatment, excluding dental health costs, was 39 547 euros, or 71 euros per visit.

Conclusions

Migrants in an irregular situation present with a variety of health concerns, the majority of which can be treated in a basic primary healthcare facility. The cost of healthcare was relatively low, as most of the complaints could be treated with simple means. More research is needed to understand the health and cost benefits of extending public healthcare services for migrants in an irregular situation beyond emergency care.

Background

Following recent increases in migration to Europe, countries with previously limited experience on irregular migration face new challenges when establishing healthcare policies for migrants. Most European countries offer emergency care to everyone [1] but payment policies differ [2]. Some countries recognize the need to provide broader services for vulnerable populations such as children [1].

Although medical practitioners widely agree on the ethical justification, medical and humanitarian necessity and cost-effectiveness of providing at least necessary healthcare for all [3, 4, 5], proposals on broader entitlements to healthcare services for migrants often raise concerns about burden to the public healthcare system. However, few data based on actual healthcare costs exist to support decisions. Thus, we aimed to explore health problems, service use and costs of healthcare among patients at a voluntary clinic for migrants in an irregular situation in Helsinki, Finland.

Methods

Study area and setting

Finland is a high-income country with public health insurance based on residency. Municipalities are responsible for offering health services for their inhabitants. Migrants in an irregular situation, including vulnerable populations such as children and pregnant women, are entitled only to urgent care at their own cost. Health education, preventive care and medication or follow-up for chronic conditions are not provided (Health Care Act 1326/2010 50 §).

The number of migrants in an irregular situation in Finland is estimated at 2000–10 000, with the majority residing in Helsinki capital area. In 2013, the city of Helsinki, with the population of 635 181 [6], decided to extend the level of care beyond emergency care for children and pregnant women in an irregular situation [7].

Global Clinic

Global Clinic is a voluntary-run free-of-charge walk-in clinic offering anonymous primary healthcare services for migrants in an irregular situation living in the Helsinki capital area. The consultations take place once a week and a phone service operates daily. The multiprofessional team consists of health professionals (physicians, dentists, midwives, nurses, psychologists), lawyers and interpreters.

Study population

All patient visits to different health professionals (physicians, dentists, nurses, midwives and psychologists) from January 1 to December 31, 2016 were included. Information on basic sociodemographic characteristics, reasons for encounter, number of re-encounters, diagnoses, treatment and referral were systematically collected from the clinic's electronic health record (ASTA ®). Visits with missing information on basic characteristics and reasons for encounter and diagnoses were excluded.

Outcomes

Reasons for encounter and diagnoses were converted to International classification of primary healthcare codes (ICPC-2) [8] by the study physicians (P.T, H.S.). One visit may include several ICPC-2 codes. Causal codes were preferred over a symptom codes and other codes over process and operation codes. ICPC-2 codes were categorized further to ICPC-2 chapters.

Healthcare costs were calculated based on ICPC-2 codes using unit costs of primary healthcare services in Finland for 2011 [9]. Correction coefficient (1,07) was used to adjust the inflation from 2011 to 2016 [10]. Dental problems and operation codes were excluded from the total costs due to unavailability of information on operation costs. Costs were categorized to ICPC-2-chapters.

Statistical analyses

Descriptive statistics were calculated with MS Excel 2016. IBM SPSS Statistics 25 was used to compare means with independent samples t-test and categorical variables with Pearson chi squared. P values <0.05 were considered statistically significant.

Results

Altogether 556 patient visits to the Global Clinic in 2016 were included in the study (Table 1). Three visits were excluded due to missing information. The mean age was 35 years (range 0-69) without statistically significant difference by gender (p=0.10). Children represented 4% of all visits. Three-fourths of visits represented patients from other EU countries, mainly from Bulgaria and Romania.

Table 1. Basic sociodemographic characteristics of patient visits in the clinic 2016; n(%). Total n=556.

Age	**n (%)**
0-6	5 (1)
7-16	18 (3)
17-29	168 (30)
30-45	212 (38)
46-65	105 (19)
66-	2 (0)
Age unknown	46 (8)
Sex	**n (%)**
Female	235 (42)
Male	306 (55)
Sex unknown	15 (3)
Region of origin	**n (%)**
Europe	408 (73)
North-Africa and the Middle East	28 (5)
Sub-Saharan Africa	81 (15)
Asia	15 (3)
America	4 (1)
Region of origin unknown	20 (4)

Follow-up visits represented 37% (n=203) of all visits. Two percent of visits resulted in complementary investigations, 5% in follow-up visits to the clinic and 11% in a referral to public healthcare, most often to an emergency department (80%) and to maternal and child health centres (18%).

In total 620 ICPC-2 codes were registered to 546 visits. Ten visits did not receive any ICPC-2 code. Twelve percent (n=64) of all visits had more than one ICPC-2 code.

The most common health concerns belonged to digestive (22%), including dental health problems, musculoskeletal (12%) or dermatological (11%) ICPC-2 categories (Figure 1). The three most common ICPC-2 diagnoses were teeth/gum disease (10%), acute upper respiratory infection (5%) and oesophageal disease (3%). No statistically significant differences by gender were observed among these most common health concerns. For women, 17% of visits were related to pregnancy, childbearing or family planning.

The total cost of care based on 620 ICPC-2 codes was 39 547 euros, or 71 euros per visit on average. Digestive, excluding dental health problems, musculoskeletal and dermatological problems represented 41% of the total costs (Figure 1). For women, 10% of costs were related to antenatal follow-up.

Discussion

Our study shows that migrants in an irregular situation have medical complaints covering the whole range of medical specialties. Still, most health problems were amenable to treatment in a very basic healthcare setting. Accordingly, the cost of the treatment would have been relatively low, if the treatment had been provided in public primary healthcare.

Our results are in line with previous studies from European countries reporting varying healthcare needs [11], low incidence of tropical diseases or acute severe infectious diseases such as tuberculosis or HIV [11, 12], frequent encounters for obstetric or gynaecological problems [11], and a surprisingly low incidence of psychiatric conditions [13].

The average cost per visit in Global Clinic was lower than for physician
$s \geq \neq ralpracticeencounter \in F \in l \text{ and } \in 2016[9]. A \text{ or } d \in g \rightarrow estimates[4] \text{ and } evnceomactualserviceuse[14] \text{ and } actualcosts[15], e$
healthcare entitlements beyond emergency care is likely to cost less than estimated based on healthcare costs in the general population.

Immigrants in an irregular situation tend to use less healthcare services than they are entitled to [16, 17]. Multiple administrative, economic, language and cultural barriers, and fear of authorities, decrease the accessibility of services. This was also seen in our study, where pregnancy was a common reason for encounter even if most of the women were entitled to public free-of-charge maternity care. Our study suggests that in vulnerable populations, access to care should be encouraged by low-threshold services, sufficient information in relevant languages, and establishing trust.

The observed relatively low number of children among migrant patients in an irregular situation seen also in Denmark [11] can reflect the age distribution of the irregular migrant population in Nordic countries, or lower barriers to public healthcare compared to adults.

As the demographics of migrants in an irregular situation in the study area are unknown, we were unable to make comparisons with the general population. In addition, we were unable to include costs for emergency healthcare given at other healthcare facilities. On the other hand, as we used unit costs even for revisits and visits with multiple complaints, we may have overestimated the costs.

Conclusions

Even without the possibility to compare the healthcare costs in the general population, we feel confident to conclude that the costs of primary-level non-emergency public healthcare to migrants in an irregular situation is low, and most of the complaints can be treated with very simple means. More research is needed to understand the health and cost benefits of extending public healthcare services for migrants in an irregular situation beyond emergency care.

Declarations

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study protocol was approved by the ethics committee of Helsinki Deaconess Institute in fall 2013 and updated in 2016.

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

These data are not publicly available due to protection of privacy of a vulnerable population.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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AUTHORS' CONTRIBUTIONS

All the authors designed the study together.

N.T. collected the data, carried out the data analyses, was mainly responsible for the writing of the manuscript, and drew the figures and tables.

P.T. and H.S. conceptualized the study, coded the diagnoses after systematically reviewing the patient records, and drafted and critically reviewed the manuscript.

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Figures

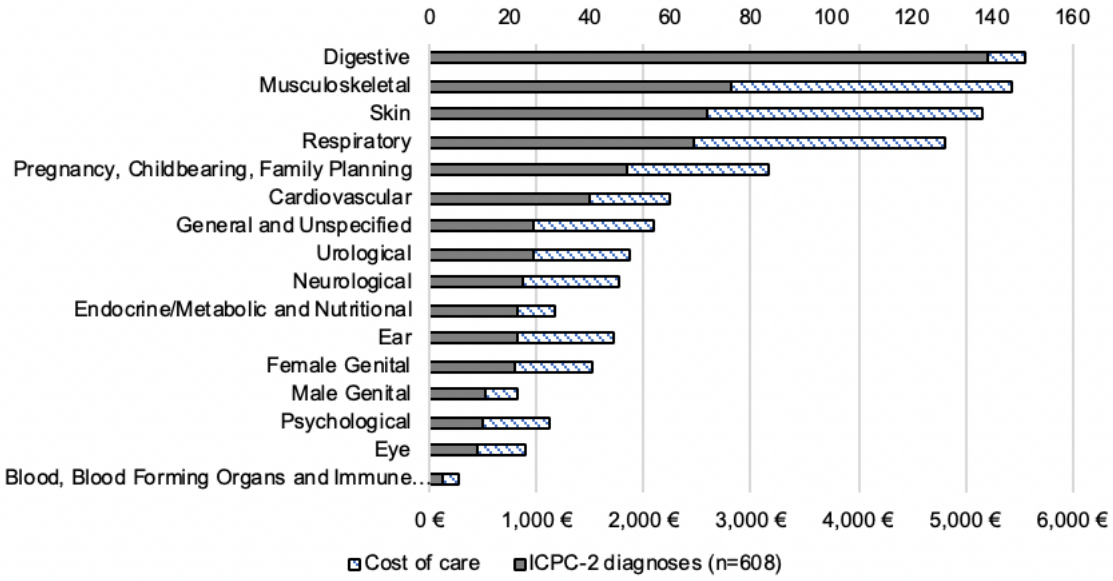

Figure 1

ICPC-2 codes (n=620) and costs categorized to ICPC-2 (International Classification of Primary Care) chapters.