Charging of overseas visitors in England and Universal Health Coverage: A cross sectional analysis of NHS Trusts

Authors

Joanna Dobbin¹, Adrienne Milner², Alexander Dobbin³, Jessica Potter⁴

¹Academic Clinical Fellow, Centre for Primary Care and Public Health, University College London, Royal Free Hospital, Pond Street, London, NW3 2QG, United Kingdom

²Senior Lecturer, Department of Health Sciences, College of Health, Medicine and Life Sciences Brunel University London, Mary Seacole Building, Uxbridge, UB8 3PH, United Kingdom

³Independent researcher, No affiliation

⁴MRC Fellow, Centre for Primary Care and Public Health, The Blizard Institute, Queen Mary University London, Turner Street, London, E1 2AB, United Kingdom

Corresponding author

Dr Joanna Dobbin MBBS MSc, j.dobbin@ucl.ac.uk 0044 7833457884
Abstract

Background
In 2017, new regulations in England introduced upfront charging for non-urgent care within the NHS. Individuals from outside the European Economic Area who have not paid the immigration surcharge are chargeable for NHS care at 150% of cost.

Methods
A freedom of information (FOI) request was sent to 135 acute non-specialist NHS Trusts in England to create a database of overseas visitors charges. This was analysed using multiple linear regression to explore the relationship between sex, age, nationality, ethnicity, urgency and the cost of health care.

Results
Of 135 acute non-specialist Trusts in England 64 replied, providing a data set of 13,484 patients. Women were found to be invoiced higher amounts than men (p=0.002). Patients were more likely to be women (63% vs. 37% men), and within this group, almost half of patients were of reproductive age, with 47.9% (3165) aged 16 to 40 years old. Only seven Trusts supplied data on urgency, and within these trusts the urgency of treatment was significantly related to cost, with the most urgent (immediately necessary) treatment costing the most (p<0.001).

Conclusion
This research reflects that migrant women, and particularly undocumented women, are disproportionately impacted by the NHS charging policies in England.
Introduction

The principles of universal health coverage as laid out by the World Health Organisation state that all people and communities should have access to effective health care without financial hardship. With nearly 2 million migrants arriving in Europe since 2015, how to integrate the health care of this population within host country health systems is a crucial issue. Migrants, of all forms, often suffer from increased barriers to accessing health care, and many are vulnerable due to having suffered both physical and mental trauma during their movement. With increasing nationalism and migration pressures across Europe, how the health community incorporates migrant health into domestic policy is a pressing issue.

The National Health Service (NHS) in England was created in 1948, and since its inception the treatment of foreign visitors has been a point of contention. In 1952 Nye Bevan, credited with founding the NHS wrote, “one of the consequences of the universality of the British Health Service is the free treatment of foreign visitors. This has given rise to a great deal of criticism, most of it ill-informed and some of it deliberately mischievous”. Despite these ‘criticisms’, treatment remained free for all until 1982 when the NHS charges to overseas visitors regulations were introduced, setting in place legislation that some patients were chargeable for secondary care. These regulations were expanded with the Immigration Act 2014, and again in 2017 with the introduction of upfront charging, in which 150% of
estimated costs must be paid in full before patients receive non-urgent treatment. The stated purpose of the introduction of these charges was to “ensure that migrants here temporarily make a fair contribution to the cost of health services in the UK”.

In addition to the introduction of upfront charging, one of the key changes to the policy was the introduction of the concept of ‘ordinary resident’. Whilst the 1982 legislation entitled ‘anyone living in England for the past 12 months’ to healthcare, the 2014 Act specifically excluded undocumented migrants from its eligibility list (with some key exceptions). Whilst the full list of concessions is complex, (including those from within the European Economic Area (EEA), and visa holders who pay a health surcharge) for the purpose of discussion, these rules predominantly impact overseas visitors, British expatriates and undocumented migrants.

This study presents a demographic survey of who was charged as an overseas visitor within the NHS from 2016 to 2018, and discusses the potential impact of these charges on existing health inequalities for migrants, women and ethnic minorities within England.

## 2. Methods

### 2.1 Data

A freedom of information (FOI) request was sent to all 135 NHS acute non-specialist hospital Trusts in England, on the 25/04/17 by email or online form (appendix 1). All Trusts were contacted to limit sample bias. Follow-up requests via email were sent again between the 8th of May and 21st of June, with each Trust receiving up to 2 follow up requests. Trusts were asked for data from the financial years for both 2016/17 and 2017/18 to increase data capture.
2.2 Variables / Data collection

The following variables were requested from Trusts to be used in our analysis: nationality (individual country or coded by continent), ethnicity (grouped as per Office of National Statistics (ONS) guidance), invoice amount, invoice date, year of entry into the UK, year of birth (or coded to state if they were born before or after 1971), sex and urgency of treatment. Definitions of urgency categories were not supplied in the request.

2.3 Data analysis

Analysis was carried out using R Console version 3.3.3. The effect of; nationality, sex, age, ethnicity, and Trust on (log)treatment cost were analysed using a linear regression mode. Treatment cost was transformed due to the positive skew in the data, using log function, after which linear regression was applied. An unadjusted model was used to examine the effects of sex and age, and subsequently one model in which age and sex were adjusted for, as these are known to affect the utilisation of NHS in-patient services. A linear regression model examining urgency data adjusted for age and sex was run separately. Effect sizes were calculated from the unadjusted regression coefficient. Age was deliniated into age brackets based around broad medical needs, and nationality was grouped by continent. All variables were non-parametric with a positive skew, and natural logs were used to transform the data to be normally distributed for analysis. Cases with missing values were removed from the analysis.

3. Results
Over 13,484 anonymised patient data from 64 Trusts were collected using an FOI designed to examine charging patterns (figure 1 shows a flow diagram of data supplied by trusts). For each variable, descriptive statistics and significant results from the regression analysis are presented below.

Figure 1 – Flow diagram of data sets included in the final analysis

3.1 Nationality

9953 patients from 44 Trusts were included in the analysis on pay patterns by nationality. A geographical representation of the number of patients charged by nationality is shown in Figure 2. Most patients invoiced were from Nigeria (1436), India (1170), USA (729), Pakistan (606), China (410), Ghana (235) and Canada (206). 2481 patients had data missing on their nationality. 797 patients had their nationality recorded as ‘unknown’, ‘other’ or ‘not stated’. An adjusted linear regression model showed that patients from the continent of North America (USA and Canada) are charged significantly less than those from other continents ($\beta = -2.4, p=0.016; \, f^2<0.02$).

Figure 2 – A geographical representation of nationality of patients charged as overseas visitors in the National Health Service from 2016 to 2018

3.2 Sex

64 Trusts responded with information on the sex of the patients they were charging, which created over 10,000 cases. This data showed that the majority (63%) of patients charged
were female. Figure 3 shows the boxplots of cost by sex. The multiple linear regression results show that women are charged on average significantly more money for health care than men, \( \beta = -3.129, 0.002 \), however the effect size was small \( f^2 < 0.02 \).

Insert figure 3 here

Figure 3– Box plot showing median, interquartile range and 1.5*interquartile range by sex

3.3 Age

Examining the total amount charged for each age group by sex shows the large proportion of the total cost that is attributed to women of reproductive age. Nearly a third of all patients invoiced, 30.12% (3165), were women of reproductive age. Patients over 65 had significantly higher health costs \( \beta = 2.54, 0.01 \), and those under 16 were charged significantly less \( \beta = -5.513, p < 0.0001; f^2 < 0.02 \).

3.4 Ethnicity

Ethnicity data were provided by 12 Trusts. Of these 2,872 patients had missing data, leaving 3,351 eligible for analysis. In this group, the largest patient ethnicity was “any other ethnic group’, with 1,234 patients in this category. After this, those invoiced were most likely to be mixed-ethnic or multi-ethnic, with the largest subgroup being white/Black African (856), (see supplementary table 1). Results from linear regression analysis showed no significant relationship between ethnicity and cost of health care. Statistics on age, sex and ethnicity can be compared with NHS admission episodes of hospital visits.8

3.5 Urgency
The determined urgency of treatment was provided by only 7 Trusts. Since October 2017 this information has affected patient care as non-urgent care requires upfront payment in full before treatment commences. This provided 559 patients of which the treatment for 268 was deemed immediately necessary, 138 urgent and 153 non-urgent. A linear regression model adjusted for age and sex showed that there was significant difference of the cost of treatment by urgency category ($\beta = 7.57, p<0.0001$) with the more urgent the treatment the greater the cost of treatment, with a small to medium effect size ($f^2=0.03$).

4. Discussion

4.1 Main findings of the study

An FOI request was sent to 135 NHS Trusts in England to examine charging of overseas visitors. The key findings include variations in patient costs by sex and age, and variations in cost by urgency category. Overall women’s health costs were significantly higher than men’s (p=0.002), women make up the majority of patients (63%), and the highest frequency age bracket of women charged (47.86%) are of reproductive age (16-40 years). Age is significantly related to the cost of health care with patients over 65 paying most (p=0.011), and children under 16 paying least (p<0.001). Those from North America were found to pay less than those from other continents. There was no demonstrable relationship between ethnicity and cost of treatment, however, there was a high amount of missing data on this particular variable as was there for the variable of urgency, which may have impacted results. The categorisation of treatment by urgency status demonstrates that treatment deemed ‘non-urgent’ costs significantly less than ‘urgent’ care, which is again significantly cheaper than
‘immediately necessary’ care (p<0.001). The effect sizes for these relationships were small. This implies that there are other potential significant influences on cost of treatment than the demographic factors we have examined, for example, type of treatment (surgical or otherwise), in-patient or out-patient treatment and length of hospital stay.

The poor response rate must be highlighted, and the range of Trusts which could be included in each descriptor varied between 7 and 64. The greatest number of patient records was able to be included when examining sex, with 64 Trusts included. This accounts for nearly half of NHS Trusts. Conversely, only seven Trusts provided information on urgency, and 12 on ethnicity.

4.2 What is already known on this topic

Estimates suggest there are roughly 618,000 undocumented migrants within the UK, of which about a third are estimated to be women. Research has shown that undocumented migrants in the UK experience high levels of poverty, often with only informal access to health services, no access to health insurance, and barriers to accessing both primary and secondary care. Within undocumented migrants, women, children and detainees have been identified as the most vulnerable, with obstetric care being quoted as one of the key drivers for undocumented migrants in Europe seeking healthcare. Studies across Europe show women underutilising services and suffering from poorer maternal outcomes. International bodies, including the UCL-Lancet commission on migration and health have voiced concerns over migrants being excluded from universal health care without proper international standards, targets, and public health initiatives in place to address the issue. A systematic review has shown links between immigration policies and worsening health outcomes from
undocumented migrants\textsuperscript{15} as well as a study from Spain showing a 15\% increase in mortality after the country restricted access to health care for non-migrants.\textsuperscript{16} Further to this, medical professionals and politicians have raised concerns over upfront charging exacerbating health inequities and breaching equality legislation.\textsuperscript{17,18} NHS England has a moral and legal obligation to work within the Equality Act 2010.\textsuperscript{19} However despite extensive legislation dating back to the 1960s, inequities for black and ethnic minority patients within the UK are abundant.\textsuperscript{20,21} For example, inequities across maternal mortality outcomes by ethnicity are growing: black women and women from poorer socio-economic circumstances are significantly more likely to die during childbirth.\textsuperscript{22} The MBRRACE-UK (Mother and babies; Reducing risk through audit and confidential enquiries across the UK) report from 2019 documented three maternal deaths that were potentially attributed to women avoiding NHS care due to fear of being charged.\textsuperscript{23} This highlights the intersection between migration and ethnicity and how it can effect health inequalities.

Women are already known to utilise NHS secondary services more than men. Hospital admitted patient care activity in the NHS in England\textsuperscript{8,24} showed that in 2017-18, 55\% of consultations were with women, with 2.5 times more episodes for women aged 20-39 than their male counterparts, indicating that maternity services are accountable for a large part of this disparity.

Older people are also known to, on average, access health services more than their younger counterparts. However, socioeconomic deprivation, and consequential poor health, is not equally distributed in older people, but is rather an accumulation of health inequities throughout life.\textsuperscript{25} Age intersects with the impacts of sex and ethnicity on health. Women are more likely to live in poverty in older age,\textsuperscript{26} as are some ethnic minorities,\textsuperscript{27} and older people
from lower socioeconomic groups are shown to have increased mortality and morbidity compared with their counterparts.

There has, of yet, been no economic analysis of the cost of delayed access to healthcare caused by fear of the NHS charging regulations. However there are many studies that show patients are deterred from accessing healthcare due to fear of charging regulations and evidence this may delay access to treatment.\textsuperscript{28,29,30} The cost of delayed diagnosis and treatment will vary for individual cases and diseases. However, to give an example of the cost saving potential of preventative medicine, 80\% of the total cost of diabetes treatment in the UK is required to manage the complications of diabetes compared with just 20\% for primary care treatment and prevention.\textsuperscript{31} Although this is just one example, similar estimates are made with antenatal care.\textsuperscript{29} Furthermore, the importance of reducing delayed care is supported by evidence suggesting that regulations which restricted access to public healthcare for undocumented migrants in Spain were reversed after emergency attendances in hospitals increased.\textsuperscript{16}

4.3 What this study adds

The demographics of patients by age and sex highlights the large proportion of women of reproductive age within this cohort, in alignment with NHS hospital usage data. Although these charging patterns follow known NHS utilization, discrimination becomes an issue when charges are put in place. As discussed above, health inequalities for women, and in particular migrant women and those from ethnic minorities are well documented in the UK. The results from this study on sex, are the most robust, as nearly half of Trusts replied with this information. They demonstrate that the impact of these policies will greatly effect
undocumented migrant women, and contribute to the barriers they face in accessing healthcare. Concerns around migrants being left behind as steps towards universal health care are made have been echoed by public health experts including those from the Institute of Migration (IOM). In addition, the World Bank estimates that out of pocket healthcare costs disproportionately affect women.

Our analysis of urgency of treatment demonstrates that the more ‘urgent’ the treatment, the greater the cost. However, these results are tempered by the extremely small number of Trusts that were able to supply this information (only seven). This survey has highlighted that Trusts require a standardised data collection tool, in order that an equality analysis can be performed on the impact of the charging policies. We are unable to infer the number of patients who do not access ‘non-urgent’ care due to upfront charging, or the number driven into the urgent or immediately necessary bracket because of late presentation - a recognised concern of the 2017 amendment. This suggests the economic gains of upfront charging need a comprehensive review with the cost of delayed care taken into account. As previously mentioned, preventative treatment can cost significantly less than reactive care. Furthermore, what constitutes essential or non-urgent is open to interpretation, which can perhaps be both to the benefit and detriment of patients. Further analysis into which treatments are being deemed ‘non-urgent’ would be useful.

The World Health Organisation (WHO) Sustainable Development Goal (SDG) of Universal Healthcare states that everyone should have access to ‘essential’ services without suffering financial hardship. While there is a debate to be had about what constitutes ‘essential services’, maternity care, under the current NHS guidance, is always considered urgent care and so cannot be withheld, yet this type of care remains chargeable. The Department of
Health and Social Care (DHSC) have highlighted that “cost recovery is also compromised by the fact that undocumented migrants make up the largest group of chargeable overseas visitors – approx. 500,000, many of whom have few resources to pay charges incurred” and that “these people would be exposed “to significant financial risk”. This study has highlighted that this financial burden risks being disproportionately experienced by women.

4.4 Limitations of the study

The major limitation of this study is the variation and discrepancies in information provided by each Trust. Overall the response rate was poor, with only 66 Trusts returning data in a format that could be used, only 12 Trusts providing data on ethnicity, and just seven Trusts providing data relating to ‘urgency’ of care provided. Furthermore, of the Trusts that provided ethnicity data, 2,872 patients had missing data, leaving only 3,351 patients eligible for analysis. The ethnicity data demonstrate the high proportion of non-white overseas visitors being charged, compared to overall use of the NHS, which is majority utilised by those with a classified ‘white’ ethnicity. This reflects a statement made by the Department of Health and Social Care that ‘non-white people or people for whom English is not their first language are, on some occasions, targeted in the application of the Charging Regulations due to speculation or assumption that they are not resident here’. However, due to the small number of Trusts that were able to supply this information as well as the high level of missing data on this variable, the result from the current study that ethnicity is not significantly related to charging are not generalisable.

Information on year of entry to the UK could not be analysed due to lack of responses. It is well documented that British people born under colonial rule outside of the UK – the so-
called Windrush generation - have been incorrectly charged and denied medical care under the NHS charging regulations because they lacked appropriate documentation. Year of entry to the UK and nationality would allow an analysis of the scale of the Windrush scandal. Whether this information was simply not recorded, or whether it was never known at the time of charging is unclear. One of the issues around analysing the implementation of upfront charging is the difficulty establishing how many patients who were not eligible for NHS care received it without having to prove their eligibility. Due to the logistics of asking all patients for documentation, and the variation in how the guidance has been implemented between Trusts, this cannot be estimated with any accuracy. There is bias in the data as some larger Trusts made up a disproportionate amount of the patient encounters. This was reduced by requesting information from all Trusts, and otherwise could not be adjusted for without losing large amounts of the dataset.

In order to perform a full analysis of the impact of upfront charging in relation to ‘non-urgent’ treatment, and to compare to the WHO recommended access to ‘essential’ services, future studies should seek to collect data on the full range of treatments for which patients were charged.

5. Conclusion

The health care offered to migrants within Europe has come under scrutiny over the past few years due to the rise in numbers of people migrating. In England, the 2017 amendments to charging of overseas visitors have received criticism for its negative impact on black and ethnic minorities and women. This research, although limited by a poor response rate, has shown the sex and age of those charged is in alignment with patterns of NHS use within
England. Nevertheless, we demonstrate charging for these services will disproportionately affect women, particularly those of reproductive age. The goal of universal health care, which falls under WHO sustainable development goal 3, states that ‘nobody should be left behind’, and this should include people who migrate.

Declarations

Ethics approval and consent to participate
Not applicable

Consent for publication
Not applicable

Availability of data and materials
The data are available on the websites of individual Trusts, published under the Freedom of Information Act. A master database which supports the conclusions of this article is available on request from the author.

Competing Interests
None

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Author’s contributions

JD, JLP and AM designed and wrote the concept note and the FOI request.

JD managed the project, contacting Trusts and collating the data.

JD and AD analysed the data.

JD, JLP and AM edited the manuscript and prepared it for publication.

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