



Cross-sectional Study

Another lost tribe: Quantifying the experience of international medical graduates applying for a national training number (NTN) in the United Kingdom with a cross-sectional study

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ARTICLE INFO

Keywords:

International medical graduate
National training number
Postgraduate training
Career progression

ABSTRACT

Background: International medical graduates (IMGs) have a primary medical qualification obtained from outside their country of practice. In the United Kingdom (UK), postgraduate medical training after foundation years involves obtaining a national training number (NTN) in their specialty of choice by national selection. In this paper, we aim to quantify how IMGs feel to obtain an NTN and what unique obstacles they may face in doing so. **Materials and methods:** A survey with a combination of closed and open-ended questions was circulated to IMGs via social media and text message. The survey was aimed at those IMGs practising at a middle grade (non-consultant) level, whether they had obtained a training number or not. Data collected included demographics, years of postgraduate experience before UK arrival, number of attempts at obtaining a training number, and the most significant perceived difficulty to obtaining a training number. We also asked whether difficulties in obtaining a training number would cause IMGs to contemplate changing specialty. Data from the survey responses were analysed using SPSS 22.

Results: Out of a total of 203 doctors approached, 197 responded, of which the majority were male. All responders had at least five years of postgraduate experience before relocating to the UK. Only 56 (28.8%) had a training number at the time of the survey. Almost all the responders had made at least one unsuccessful attempt to obtain a training number. In addition, 152 (76.6%) of responders felt that timely career progression in the UK was unlikely without having a training number. 57 (29.6%) of responders considered changing specialty due to inability to obtain a training number.

Conclusion: Obtaining an NTN remains a crucial goal among IMGs in the UK, despite the obstacles and repeated failures in doing so.

1. Introduction

In 2020, about 38% of hospital doctors working in the National Health Service (NHS) had obtained their primary medical qualification (PMQ) outside the United Kingdom (UK) [1]. They are also known as international medical graduates (IMGs). Following the publication of reports in 2011 by both the House of Commons Health Committee and the National Clinical Assessment Service (NCAS), valid concerns were identified about the practice of IMGs, including a disproportionate referral for fitness to practice proceedings [2–4]. Research into this area identified a significant attainment gap between UK and International medical graduates and aimed to identify its causes. As a result, the

difficulties that IMGs face, integrating into UK medical practice and life in the UK, are well documented. There is also a wealth of evidence of differential attainment between the UK and international medical graduates during postgraduate education, whether in training programs [5].

Evidence and resources have become more widely available for IMGs to integrate into the NHS and transition to living in the UK, such as the General Medical Council (GMC) course ‘welcome to UK practice’. There is a wealth of online resources in the form of blogs, social media posts on IMG forums and groups about applying for training numbers, but nothing that quantifies the collective experience of IMGs in obtaining a training number, their expectations of it and how that might influence

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<https://doi.org/10.1016/j.amsu.2021.102665>

Received 27 May 2021; Received in revised form 3 August 2021; Accepted 3 August 2021

Available online 8 August 2021

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career and speciality choices. Run through programs are currently being piloted in many specialties, presumably reducing the number of higher specialty training posts available. There is extensive evidence acknowledging the difficulties that IMGs can experience in recruitment [6,7]. Contrary to that, little information exists about IMGs' experience and struggle to obtain National Training Number (NTN) and their perception about career progression without a training number.

We hypothesized that there is little awareness among UK doctors about the importance of IMGs in obtaining NTN when they move to practice medicine in the UK. Besides, there is little awareness of the difficulties that IMGs may face in obtaining NTN following a transition to UK practice. Finally, we also hypothesized that without NTN, IMGs perceive career progression in the UK as onerous. This survey aims to quantify the difficulties that IMGs face during their pursuit of a training number in their specialty choice, aiming to inform career advice for potential IMGs choosing to practice in the UK.

2. Methods

This online cross-sectional study was conducted, as a snapshot, between February 2021 and April 2021, using a Google form. The questionnaire included 14 closed-ended questions based on a rating scale. The International Medical Graduates working in the NHS UK on non-consultant posts were our target participants. IMGs in the UK was defined as "a doctor who received a basic medical degree from a medical institute outside the UK and now working in the UK". The survey was pre-tested with ten IMGs in the UK as volunteers to assess vagueness. The questions focused on basic demographic details, possession and plan to apply for NTN, area and year of work experience in the UK, years of postgraduate experience before moving to the UK, lowest score area in NTN interview in the past, views on changing the field or acquiring alternate pathway, views on career progression in the UK and the most significant impediment to obtaining training, and weightage of ease or difficulties in obtaining an NTN. The questionnaire was distributed via email, social media and messaging applications. The participants consented before participation in this anonymised online survey with an option of opting out.

The questionnaire can be available on request.

Statistical analysis was performed using SPSS 22. The study was performed in line with ethical guidelines for internet-mediated research. As participants volunteered in this survey, no formal ethical approval

was required. However, the study was reported in line with the Strengthening the Reporting Of Cohort Studies in Surgery (STROCSS) criteria [8], and was retrospectively registered with Research Registry at <http://www.researchregistry.com> on April 14, 2021 with unique identifying number: researchregistry6744 [9].

3. Results

There were 203 responses, out of which six respondents opted out with a total response rate of 96.55%. Most of the participants in the survey were male 137(69.54%) (Picture 1).

The majority (103, 52.5%) of responders had had less than five years' postgraduate experience before transitioning to UK medical practice. Although only 56 (28.8%) of responders were currently in possession of a training number in their chosen specialty, the remaining 141(66.9%) were planning to apply for an NTN in a said specialty. A total of 163 (82.8%) responders had made at least one unsuccessful attempt at obtaining NTN. However, 77 (39.3%) responders have had between 1 and 3 attempts to obtain an NTN.

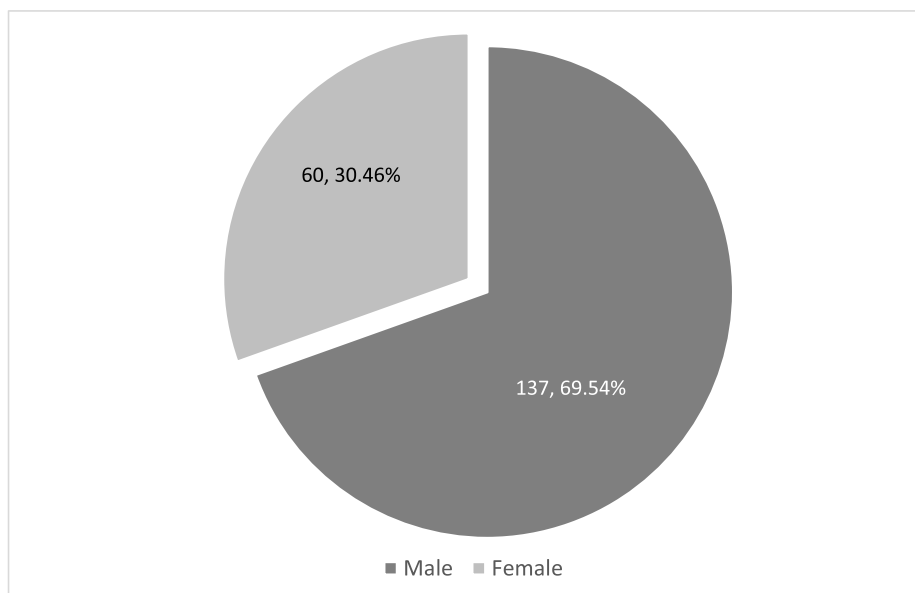
95 (50.5%) stated that the portfolio section of the interview was the lowest scoring section of their NTN interview on each of the times they were unsuccessful, followed by 'other' and the academic station in that order (Table 1).

98 (50.3%) of responders considered applying for the Certificate of Entry on the Specialist Register (CESR) pathway due to repeated failures to obtain an NTN, while 57 (29.6%) had considered changing specialty entirely for the same reason.

The majority (152, 76.6%) believed that career progression in the UK in a timely manner was impossible without NTN. Also, the top 3 categories that respondents felt prevented them from getting a training

Table 1
Lowest scoring stations in National Training Number Interview
n = 164.

Section	Number of responders (n, %)
Academic	19, 11.2
Clinical	3, 1.8
Leadership	13, 7.5
Portfolio	95, 50.8
Not applicable	34, 28.9



Picture 1. Demographic.

number were the number of posts available, prior research experience, and lack of mentorship, in that order (Picture 2). However, the number of recorded responders to this survey question was only 192. The reason for the attrition of 5 responders is unknown.

In addition, it was interesting to note that despite only a minority of the respondents having training numbers, an overwhelming majority (159, 80.3%) had said that their obtaining a training number was a factor that carried considerable weight in their decision to relocate to the UK.

Despite only a minority of the respondents being in training posts, the majority (187, 94.9%) had reported being rated as safe and reliable to work with as per GMC Good Clinical Practice (GCP) guidelines on their appraisal.

4. Discussion

This survey aimed to quantify the importance of IMGs in obtaining an NTN in their specialty of choice and the possible hurdles that IMGs experience. To the authors' knowledge, this is the first cohort study directly addressing the hurdle of obtaining a training number for IMGs within the UK and, concurrently, IMGs perception of how important it is to obtain NTN.

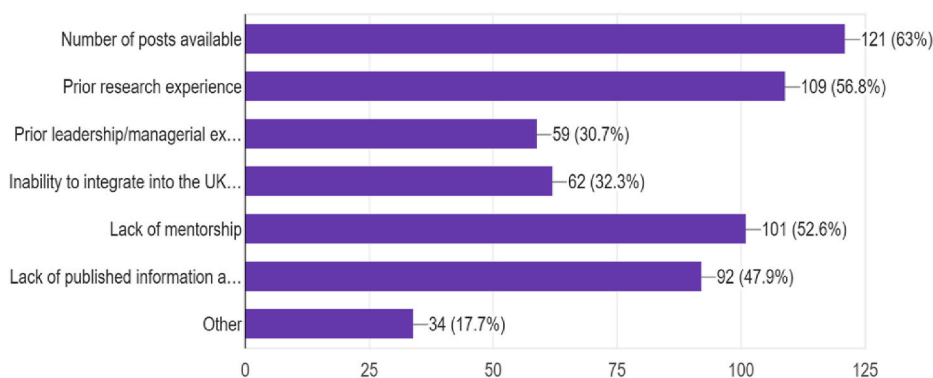
Woolf et al. [7] have identified the factors preventing the progression of IMGs and contributing to differential attainment in terms of career progression, and among them was identified a lack of experience with UK recruitment systems. This may lead to the perception of bias in the training process by the IMGs. IMGs face several difficulties in transitioning from their countries of origin to another one [3]. Ranging from communication gap with people to understanding their background, IMGs find working in the UK as intense and challenging to integrate into the system. Overcoming these, gives them a strong sense of motivation. However, IMGs' motivation may rapidly wane if their expectations are unmet or unmatched by their reality once they have relocated to the UK [6,10,11]. IMGs are overrepresented in the Specialty and Associate Specialist (SAS) and Locally Employed Doctors (LED) categories, defined by the GMC as those doctors who are neither on the GP nor the specialist register and are currently not in training. The GMC working paper on the topic has stated that most career SAS and LED doctors are IMGs and are between 35 and 40 years of age, which corresponds to the demographic of our survey respondents, of whom most were aged 30 and 40 years [12].

A frequently encountered point in the literature regarding SAS doctors is the lack of clarity and advice about career progression [6,13]. This perhaps explains our responders overarching insistence on applying for an NTN multiple times despite failing at least once. In addition, it is well evidenced that job satisfaction is protective against burnout [14]. IMGs may face a period of adjusting to the new workplace while working hard but failing to seek advice from colleagues. Repeated applications for an NTN in the face of multiple failures may indicate that either their

current jobs or lack of clarity about career progression may be a source of lower job satisfaction in their current roles. It may also mean that IMGs who repeatedly fail to obtain an NTN are at a greater risk of burnout [6]. All of the above may also explain why our responders attached significant importance to the feasibility of obtaining a training number before ever locating to the UK. It is well known that the most straightforward way of obtaining a consultant post in the UK is obtaining a specialty training number through national selection [15]. However, obtaining a consultant post through the CESR route is more arduous, with the onus being on the applicant to prove they have a similar experience to the benchmark of the specialty trainee, a more difficult task as SAS and LED posts are more concerned with service provision [16]. It is also interesting to note that a GMC survey found that only 52% of SAS doctors and 43% of trainees felt that a CESR was an assurance of a doctor's ability to practice independently, whereas 85% of trainees and 75% of SAS doctors felt that a traditional Certificate of Completion of Training (CCT) awarded through completion of specialty training was more of an assurance of a doctor's ability to be a consultant [17]. This contrasts with the most responders in our survey who indicated that they were rated as safe and reliable to work with. It would be interesting to compare this aspect between IMG consultants appointed through CESR and those appointed after completing a specialty training programme, but this is beyond the scope of this study. All the above supports the theory that IMGs attach significant importance to obtaining NTN and career progression through the 'traditional' route.

A shortage of doctors is not peculiar to the UK but is a global problem. A change to immigration requirements has been touted as the quickest way to boost UK doctor numbers in the short term [17], and measures have already been implemented to do that in the form of placing medical practitioners on the shortage occupation list by the Home Office and the relaxation of visa requirements for medical practitioners in light of the COVID 19 pandemic. Presumably, this increased the pool of IMGs within the UK; however, with the concurrent lack of an increase in foundation and specialty training post numbers. There is a possibility that the shortage would paradoxically exacerbate the problem of IMGs disappointment in their application to specialty training posts [18].

In our survey, most responders were from surgical specialties, closely followed by general practice and anaesthetics. The competition ratios for general surgery at the specialty trainee 3 (ST3) level last year were 4.67 to 1, while core surgical training was 3.84 to 1. Acute care common stem (ACCS) and core anaesthetics had a ratio of 2.6 to 1, while ST3 anaesthetics had a 2.15 to 1 ratio. The ratio of general practice (GP) was the lowest at 1.5 to 1, but it had the highest number (3836) of posts available [19]. Overall, in general, the specialties appeared to be evenly represented in our responders, with the surgical specialties combined representing just under half of the responders and all other non-surgical specialties (including obstetrics and gynaecology and paediatrics) comprising the remainder. We decided to classify the choice early in our



Picture 2. Greatest impediment to obtain a National Training Number (NTN) (n, %).

pilot based on which royal college governed specialty training for each choice, hence the reason for lumping surgical specialties together as a typical response. We acknowledge this as a limitation of our study because it does not analyse for each surgical specialty.

In our survey, responders had some prior postgraduate experience before relocating to the UK and applying for a training number. We consciously omitted those who had come straight into Foundation Year 2 (FY2) posts here in the UK because they would be able to follow the expected trajectory of postgraduate medical training. Our survey was more concerned with doctors who came to work in a SAS type post and wanted to re-enter training, for which there is little published evidence concerning the struggles they face in this process. Most responders had five or fewer years of postgraduate experience, while the least number of responders had more than ten years' experience. This is interesting because most responders reported that their lowest scoring section was the portfolio section in each of the times; they failed to obtain NTN. Many specialty training interviews have a portfolio station, most notably with the exclusion of GP training [20]. Taking general surgery as an example (before interviews were moved to an online format due to the COVID-19 pandemic), applicant portfolio scores were reduced the more years of postgraduate experience the applicant had at the time of applying. Currently, with self-scoring and online interviews, applicants' self-assessment scores are divided by a number that gets higher the more years away they are from graduation, which would then decrease their overall score [21,22].

It appears that IMGs can be appointed to SAS and LED roles but are repeatedly un-appointable to NTN posts, with the portfolio section of the interview being the issue for most of them. Within the scope of this survey, it is impossible to determine why that is, given that the portfolio is an assessment of career progression. This would be an area for more extensive research and insights into how clinicians progress in other healthcare systems before coming to the UK. Only 11.2% of responders had the academic station as the lowest scoring station in their NTN interviews. However, the second commonest impediment to obtaining an NTN in our survey was prior research experience (with training posts available being the first). This survey cannot explain why IMG applicants for NTNs feel that their prior research experience is insufficient to deem them appointable. However, many IMGs within the UK come from low and middle-income countries (LMICs). Equity of involvement in healthcare research has been an issue cited in the past, with one article indicating that an absolute increase in the number of first authors from LMICs between 1990 and 2013 on specific randomized controlled trials, there was a decrease in the proportion of said authors of all authors cited as first authors for RTCs [23].

Our survey did show that most doctors were rated by their supervisors as safe and reliable to work with as per the GMC's good clinical practice guidance. Also, our survey aimed at middle-grade doctors and not consultants. A good middle-grader should, at least in theory, make good consultants. However, lack of mentorship was also cited as an impediment to obtaining NTN. There are no specific courses that focus on the specific challenges of IMGs in obtaining a training number rather than standard interview practice courses or the authors' knowledge. While NHS education for Scotland (NES) operates a 'buddy system' for international medical graduates for support and mentorship, it is uncertain whether other systems like this exist elsewhere. More importantly, an essential aspect of becoming a trainee is feedback, and it has been noted that numerous IMGs come from a culture where receiving feedback would be a source of humiliation [24].

Our study involved a sample of IMGs from a wide range of specialties with differing levels of postgraduate experience. It involved questions that specifically targeted IMGs' perception of the importance of obtaining a training number and how they felt they could progress in their career without one. It also clarified some of the potential areas where IMGs might need more focused effort to match the level of UK graduates that would make them more competitive whether they choose to apply for an NTN or apply for CESR.

Our study has its limitations; most notably, it did not address the difference between IMGs and Non-IMGs with reference to our aims. This study also did not address the ethnicity of origin and whether there was any impact of the native language. A further comparative qualitative study between IMGs and non-IMGs is required to identify who successfully obtained training numbers while identifying why they were individually successful in obtaining NTNs, and possibly extrapolating that experience to other IMGs.

5. Conclusion

International Medical Graduates (IMGs) are insistent on obtaining a training number in their choice of specialty to the point of planning for it before arriving in the UK, despite repeatedly failed attempts. IMGs perceive their lack of research experience and a concurrent lack of mentorship as significant barriers to obtaining NTN. It may be prudent to set up a buddy system to mentor IMGs into getting a training number by focussing on their perceived areas of deficiency and, more importantly, to manage their expectations as competition for reducing numbers of jobs increases.

Ethical approval

As participants volunteered in this survey, no formal ethical approval required. The study was performed in line with ethical guidelines for internet-mediated research.

Sources of funding

None.

Author contribution

Islam Noaman: Study design, data acquisition, data analysis, writing & editing. Adeel Abbas Dhahri: Study design, data acquisition, data analysis, writing & editing. Elsamoual Mohammed: Data acquisition, data analysis, writing.

Conflicts of interest

None.

Registration of research Studies

1. Name of the registry: Research Registry.
2. Unique Identifying number or registration ID: researchregistry6744.
3. Hyperlink to your specific registration (must be publicly accessible and will be checked): <https://www.researchregistry.com/browse-the-registry/#home/registrationdetails/60776a51b6e282001bc7a9a7/>

Guarantor

Islam Noman.
Adeel Abbas Dhahri.

Consent

N/a.

Funding sources

The authors received no external funding sources for this paper.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Declaration of competing interest

There are no conflicts of interest on the part of the authors preparing this manuscript.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.amsu.2021.102665>.

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