

International Medical Graduates from India and Pakistan: An analysis of specialty areas on the UK medical register

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The UK National Health Service (NHS) has used international medical graduates (IMGs) from its inception, and since the 1960s, particularly from India and Pakistan. Within the UK medical community, there has been a complex pattern of simultaneous dependency and denigration of IMGs (1). Although the number of UK medical schools has recently increased, policymakers must also take account of the popularity of working in particular specialty areas and geographical regions. Once doctors have qualified, they are in an international jobs market, and can opt to migrate or take non-clinical roles rather than take jobs that they deem undesirable. This means that the policy goal of achieving medical 'self-sufficiency' is unlikely to be successful and the NHS will therefore continue to depend on doctors from overseas to fill the gap.

The movement of professionals from lower to higher income countries is known as 'brain drain', and has particular ethical consequences in medicine. It has been suggested that where medical professionals cannot be dissuaded from moving, the country that trained them should at least gain from their movement (2). Such arguments have gained political traction in recent times, as demonstrated by the Doctors and Nurses (Developing Countries) Bill debated by the UK Parliament in November 2020, suggesting that the UK should pay to train two doctors or nurses in developing countries for each doctor or nurse recruited to the NHS from those countries. The exit of the UK from the European Union has caused additional uncertainty about migration policy, and the international travel disruption caused by the COVID19 pandemic raises further interest in future healthcare workforce policies and practices.

Given the historical and ongoing reliance on doctors from India and Pakistan, this study sought to identify the current distribution of specialty areas that doctors from these countries are working in, and compare this to the specialty area spread of doctors trained in the UK. The General Medical Council Data Explorer is a publically available tool that allows searches of the UK medical register. Searches were conducted in November 2020 to identify two groups within the register – the first of doctors whose primary medical qualification (PMQ) was in either India or Pakistan, and the second whose PMQ was obtained in the UK. Comparisons were made between the proportions of doctors in each of these groups in different specialty areas, as defined by their inclusion on specialist registers.

Data were analysed with two methods. Firstly, correlation between the two groups was sought through Spearman's rank correlation. In addition, the proportion of each group within each specialty group was examined using a z statistic for the comparison.

As of November 2020, there were 335722 doctors on the UK medical register, of which 44028 (13.1%) had PMQs from India and Pakistan, and 205103 (61.1%) had PMQs from the UK. In the group qualified from India and Pakistan, 62.5% of doctors were male, and in the group qualified from the

UK, 49.1% were male ($z = 52.42, p < 0.00001$). Table 1 shows a comparison between the specialty areas spread between the two groups.

Overall, there was close rank correlation in order of choice of specialty areas by the two groups. (Spearman's rank correlation coefficient $r_s = 0.94, p < 0.001$). However, doctors from India and Pakistan were more likely to be working in the specialty areas of psychiatry, paediatrics, ophthalmology, and obstetrics and gynaecology, whereas doctors from the UK were more likely to be working in specialty areas of medicine and emergency medicine. The significant difference noted for ophthalmology is likely to reflect the small overall numbers of doctors entering this specialty, being under 2000 and less than 1% of the total. In the specialty areas of surgery, radiology, pathology, and anaesthetics, the proportions of doctors in each group were statistically equivalent.

This study reaffirms the significant contribution that doctors from India and Pakistan continue to make to the UK medical workforce across all the major medical specialty areas. Whilst the overall spread of doctors in the two groups was not significantly different, there were differences in the areas of psychiatry, paediatrics, and obstetrics and gynaecology, where doctors from India and Pakistan were more likely to practice than UK-trained doctors, and in medical specialties and emergency medicine, where they were less likely to practice than UK-trained doctors.

A previous UK study examining applications to specialty training showed, like this study did, that paediatrics and psychiatry were more popular career choices for IMGs than doctors trained in the UK (3). Research has suggested that experiences in UK medical schools seems to impact the rejection of psychiatry as a career choice (4), which may partly explain the relatively higher numbers of doctors from India and Pakistan in this specialty area observed in this study. It has also been shown that IMGs are more likely to face challenges in postgraduate medical training including royal college exams (5), which may impact on the proportion of IMGs completing training and entering specialist registers. Attitudes towards particular specialties may also differ in Indian and Pakistani medical schools and healthcare systems compared to in the UK.

A strength of this study is the systematic nature of the search of the medical register in order to make comparisons of medical graduates from India and Pakistan to those from the UK. As India and Pakistan are the second and third most frequent countries of origin of UK doctors respectively, and share many common cultural, historical, educational, and healthcare factors, their grouping is valid. A limitation of this study is that in grouping specialty areas, important nuances within these (such as different medical and surgical specialties) may have been missed. A further limitation is the exclusion of specialty and associate specialist doctors, who will not be captured by this methodology as they do not feature on specialist registers.

Further research in this area should focus on understanding the reasons why doctors from these countries have more or less frequently opted for particular specialty areas, including sociocultural, educational, and healthcare factors relevant to their own training, and issues to do with access and competition to enter these specialty training programmes after arriving in the UK. Additional research should also seek to understand the extent to which decisions about specialty area career choices were influenced by geographical factors in both training and employment. Further studies examining doctors in training would help to project whether current patterns are likely to change in the coming years.

Doctors from India and Pakistan work across all specialty areas, but are more likely than their UK-trained counterparts to practice in the areas of paediatrics, psychiatry, and obstetrics and gynaecology, and less likely to practice in medical specialties and emergency medicine. Future investigations in this area should help to uncover the reasons for these discrepancies, and guide policymakers and educators responsible for postgraduate medical training and medical workforce planning in the UK.

Declarations of interest: none

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What is already known on the subject

- Doctors from India and Pakistan make important contributions to the UK medical workforce
- Despite the opening of new UK medical schools, the UK continues to rely on international medical graduates

Main messages

- International medical graduates in the UK from India and Pakistan are on specialist registers across all major specialty areas in broadly the same proportions as UK graduate counterparts
- Doctors from India and Pakistan are more likely to be working in the specialty areas of paediatrics, psychiatry, and obstetrics and gynaecology, and less likely to be working in medical specialties and emergency medicine

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Table 1 Specialty areas of doctors trained in India and Pakistan compared to those trained in the UK

Specialty areas	Doctors trained in India and Pakistan (n = 44028)	Doctors trained in the UK (n = 205103)	Z score
Surgery	2264 (1%)	10583 (5.2%)	- 0.15
Radiology	1005 (2.2%)	4837 (2.4%)	- 0.95
Psychiatry	2063 (4.7%)	5921 (2.9%)	19.45 **
Pathology	528 (1.2%)	2244 (1.1%)	1.91
Paediatrics	1630 (3.7%)	4208 (2.1%)	20.77 **
Ophthalmology	387 (0.9%)	1554 (0.8%)	2.63 *
OBGYN	1159 (2.6%)	2493 (1.2%)	20.15 **
Medicine	3301 (7.5%)	17455 (8.5%)	- 6.98 **
Emergency Medicine	350 (0.8%)	2207 (1.1%)	- 5.31 **
Anaesthetics ITU	1821 (4.1%)	8552 (4.2%)	0.75
* $p < 0.01$ ** $p < 0.00001$			