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Title: Why are aspiring neurosurgeons considering leaving the NHS to pursue a career in North America?

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Corresponding Author: Mr. Aswin Chari, MA (Cam), BMBCh (Oxon), MRCS

Corresponding Author's Institution: Imperial College London

First Author: Jigishaa Moudgil-Joshi, BMedSci

Order of Authors: Jigishaa Moudgil-Joshi, BMedSci; Ashwin Venkatesh, BA (Hons); Robin Borchert, MPhil; Aswin Chari, MA, MBChB, MRCS

Cover Letter

Dear Editor,

We are looking to submit a 'Letter to the Editor' entitled "**Why are aspiring neurosurgeons considering leaving the NHS to pursue a career in North America?**" for publication in your prestigious journal. We believe this would be of interest to your readership.

The aim of this letter was to highlight the interest of medical students and junior doctors, who are prospective neurosurgeons, in leaving the NHS in the UK. We believe this article would fit in well with 'World Neurosurgery' as you publish a large amount surrounding the topic of 'international medical graduates' who want to pursue a career in neurosurgery. It would draw attention particularly from UK students and policy makers, interested in making changes to neurosurgical training (and overall, medical training). We also believe that the publication of this would be particularly interesting to readers, given the hard work of NHS staff throughout the COVID-19 pandemic. Yes, we have an amazing NHS... but why are so many doctors leaving/considering leaving? How can we address these problems and prevent jeopardising the future of our NHS? As you may already be aware, the NHS is under immense strain. Recent issues with the junior doctor contract and Brexit (in the UK) have meant that many doctors are considering leaving the NHS – this puts the NHS in an incredibly risky position.

We put together this piece on behalf of The Neurology and Neurosurgery Interest Group (NANSIG), the official student wing of the Society of British Neurological Surgeons (SBNS). Given the most recent high-profile coverage of the struggles within the NHS (including doctor shortage, low pay etc) we hope you will consider this article for publication in your journal. It will also draw a worldwide readership for those interested in pursuing a career in the UK.

Reviewer's comments:

The submission is not formatted as an "Original Article" as suggested by our Editorial Office. Please seek editorial assistance from a seasoned neurosurgeon author and include that person as the corresponding author and submit as a Letter to the Editor.

Thank you for your consideration.

Kind regards,

Miss Jigishaa Moudgil-Joshi (BMedSci Hons.)

Edinburgh Medical School, The University of Edinburgh, 47 Little France Crescent, Edinburgh, EH16 4TJ

Title Page

Article Title: Why are aspiring neurosurgeons considering leaving the NHS to pursue a career in North America?

Author Information:

Jigishaa Moudgil-Joshi, BMedSci (Hons)¹

Ashwin Venkatesh, BA (Hons)²

Robin Borchert, MPhil¹

Aswin Chari, MA, MBChB, MRCS^{3,4}

¹ The University of Edinburgh, 47 Little France Crescent, Edinburgh, EH16 4TJ

² School of Clinical Medicine, University of Cambridge, Cambridge, CB2 0SP

³ Great Ormond Street Institute of Child Health, University College London, London, UK

⁴ Department of Neurosurgery, Great Ormond Street Hospital, London, UK

Corresponding author:

Aswin Chari, Developmental Neurosciences Programme, Institute of Child Health, University College London, 30 Guilford Street, London WC1N 1EH, United Kingdom. Phone: +44 (0) 7726 780 817, E-mail: aswin.chari@ucl.ac.uk

Lead author and guarantor

Jigishaa Moudgil-Joshi, Edinburgh Medical School, The University of Edinburgh, 47 Little France Crescent, Edinburgh, EH16 4TJ. Phone: +44 (0) 7478218649, E-mail: jjigishaa@btinternet.com

Transparency declaration

Miss Jigishaa Moudgil-Joshi affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

Other

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The career plans of many UK medical students and doctors have been negatively influenced by recent changes including the junior doctor contract introduced in 2017¹ and Brexit², leading to a number of UK-based doctors leaving the National Health Service (NHS). This “Drexit” (Doctor-Exit) has been well documented, with only 37.7% of F2s (equivalent of an ‘intern’ in the US) entering directly into UK speciality training (also known as ‘residency’ in the US) in 2018³. This is in contrast to the official 2010 F2 survey, where 83% of F2 doctors entered speciality training directly⁴. Factors which dissuade doctors from remaining within the NHS include lack of respect, fragmented teamwork, poor pay and chaotic rotas, with many moving their practice to the United States (US), Australia, New Zealand and Canada⁵.

The Neurology and Neurosurgery Interest Group (NANSIG), the official student wing of the Society of British Neurological Surgeons (SBNS), hosted an online webinar delivered by UK-trained neurosurgeons practicing in the US and Canada, who provided information and insights for UK graduates interested in pursuing a career in neurosurgery in North America. Those who attended the webinar (n=250) were invited to take part in an online feedback survey following the event. The aim of this survey was to investigate the interest of UK-based medical students and junior doctors in pursuing a neurosurgical career in North America, and the reasons underlying this. Of the attendees, 222 (89%) completed the survey, of which 213 (96%) were UK-based. Of these UK attendees, n=210 (99%) were medical students and foundation year doctors.

Overall, n=149 (70%) of the UK-based attendees were interested in leaving the UK to practice medicine, with 140 (94%) attendees considering practicing neurosurgery in the US (≥ 3 on a Likert Scale of 1 to 5). Of those considering a move to the US, 63 (45%) cited superior training quality in the US compared to the UK as the main reason behind this. Other attractive factors included quality of life (n=54, 39%), higher pay (n=29, 21%), family reasons (n=24, 17%), research opportunities (n=16, 11%) and the recognition of excellence in US medical practice (n=18, 13%).

Of the UK-based attendees, 99 (46%) were considering practicing neurosurgery in Canada (≥ 3 on a Likert Scale of 1 to 5). Quality of life (n=51, 52%), perceived superior training (n=25, 25%), salary (n=5, 5%), the Canadian healthcare system (n=12, 12%) and family (n=14, 14%) were considered key attractive factors that influenced UK-based prospective neurosurgeons to consider a career in Canada.

The results of this survey highlight a wide gamut of reasons driving UK medical students and junior doctors to pursue a neurosurgical career in North America. Although the US and Canadian systems remain difficult to enter as an international medical graduate (IMG), nearly 1 in 4 physicians currently practicing in both countries attended a foreign medical school^{6,9}. However, it is important to note that currently in the US, only 8% of neurosurgery residents are IMGs⁶ and, in Canada in 2018, there were only 15 neurosurgery trainees (including fellows) who were IMGs (including Canadian citizens and residents)⁷. Issues such as passing examinations (needed for a full medical practice licence), obtaining a visa⁸ and stiff competition remain major obstacles in both countries⁹.

The UK has 2.8 doctors per 1000 of the population (below the EU average of 3.4/1000), with all specialities within the NHS being impacted by this shortage¹⁰. Therefore, in order to tackle the demand on the NHS, the reasons for “Drexit” need to be addressed; there is an unprecedented number of medical graduates applying for jobs outside of the UK, or not applying for training posts¹⁰. Neurosurgery is an incredibly competitive speciality, both within the UK and North America. UK neurosurgery training remains highly competitive with amongst the highest competition ratios of all the specialties and there are currently a surplus of qualified neurosurgical trainees not appointed to substantive consultant posts^{11,12}. The fact that 70% of UK-based participants who attended this webinar are even considering leaving the UK suggests that there has been a significant negative impact of factors such as junior doctor contract imposition, burnout, and inflexible work rotas¹⁰, on UK doctors’ career plans. We feel it is important that such data is taken into account for workforce planning¹¹, both at specialty level and more generally in order to mitigate potential shortages that may further jeopardise the future of UK healthcare and the NHS.

We have no competing interests

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Authors' Contributions:

All authors contributed equally to this manuscript. All authors have approved the final manuscript and are willing to take responsibility for the content.

Declaration of interests

All authors declare that they have no conflicts of interest.

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