The expansion of medical student numbers in the United Kingdom

Medical Schools Council Position Paper
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The Medical Schools Council

The Medical Schools Council (MSC) is the representative body for UK medical schools. The council is composed of the heads of UK medical schools and works to maintain and improve quality in medical education, training and research.

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Foreword

The NHS was founded in 1948 on the principles that it should meet the needs of everyone, be free at the point of delivery and that it be based on clinical need, not the ability to pay. As a result, a key challenge for the NHS from its inception has been to ensure that it plans for and addresses the healthcare needs of the population as they change over time. Currently, one of the biggest threats facing the NHS relates to its workforce, which is not growing sufficiently to meet the demands placed upon the service.

While NHS staff have quite rightly been a source of national pride throughout the pandemic it is clear that that the workforce has been put under incredible strain and has even incurred significant loss of life which has highlighted the shortages of staff in key areas, including doctors. The pressure of caring for seriously unwell patients with COVID-19 has led to the waiting list for elective care reaching the highest level since records began. When this backlog of patients is seen in the context of an ageing population with increasing comorbidities, it becomes clear that a comprehensive and radical rethink of workforce planning is now urgently required.

The UK has never produced sufficient numbers of doctors to be self-sufficient and international graduates have and will continue to make an outstanding contribution to patient care. Nevertheless, more international graduates join the GMC specialist register each year than UK graduates and the sustainability of this model will not be addressed by the current increased numbers in UK medical schools following the 2018/9 round of expansion. This is widely regarded as unsustainable and inappropriate in relation to the drain of doctors, largely from low- and middle-income countries, to the NHS. The emergence of new professions, such as Physician Associates, will provide additional expertise and capacity in many areas of patient care but there is broad consensus that increasing the number of doctors will be essential to address the recognised challenges in the care of an ageing population with multiple complex needs including frailty, cognitive impairment and polypharmacy. However, there are major challenges to the expansion of medical student numbers. A medical student will require on average 10 to 12 years of education – undergraduate and postgraduate – to become a GP and longer to achieve a consultant position in secondary care. This represents a significant investment on behalf of the taxpayer and individuals and therefore it is essential that there is a long term, strategic and

adequately funded plan. For this to happen the Government, the NHS and universities will need to work closely together to ensure that the supply of doctors closely matches demand.

This proposal for the first time puts forth a view from medical schools on how to increase the number of medical school places in the UK. It recommends that the number of medical students should be increased by 5,000 making a total of 14,500 graduating per year. It suggests that those places should be allocated to areas with the capacity to provide high quality clinical placements and to those regions where the shortage of doctors is most acute. The expansion should address recruitment to roles where the shortages are most pressing. Future expansion should ensure the widest possible participation and offer a range of routes into the profession including graduate entry, apprenticeship schemes, access and conversion courses and other novel approaches in addition to traditional entry for school leavers. It is imperative that the medical workforce, as with all others in the NHS, is diverse and representative of the communities it serves.

While the pandemic has exposed the gaps in our healthcare workforce, the good news is that this has not dissuaded dedicated and talented individuals from aspiring to become doctors. There are currently three to four times as many applicants to medical school than there are places available and every year there are many well qualified candidates who do not succeed in gaining a place.

In 2017, a House of Lords Select Committee argued that the absence of any long term strategy for the NHS workforce over the next 10-15 years represents ‘the biggest internal threat to the sustainability of the NHS’. This proposal from the UK’s medical schools offers a potential solution for expanding the medical workforce in order to achieve greater sustainability in the supply of doctors. It invites discussion and collaboration between organisations, all of which will be integral to the successful recovery of the NHS from the pandemic, and to the future health and prosperity of the nation.

Professor Malcolm Reed
Co-Chair, Medical Schools Council

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Key findings and recommendations

- The Medical Schools Council (MSC) recommends that the number of medical students should be increased by 5,000 making a total of 14,500 graduating per year. This figure is based on current levels of doctors entering the NHS and it is acknowledged that the exact needs of the UK population and the NHS are difficult to predict.

- The suggested figure falls short of the number of graduates required for the UK to have a fully sustainable medical workforce because MSC believes that medicine is a global profession and the input of doctors trained overseas is invaluable to the NHS.

- One potential challenge to facilitating medical school expansion is placement capacity. Medical schools are already developing ways to enhance clinical training that could support increased capacity including the use of virtual learning opportunities and trained educators within placements

- The development of new ways of delivering medical education will also have an impact on the feasibility of expansion. There is already a course up and running in Scotland that utilises online learning and part time education to support healthcare professionals wishing to become doctors and Health Education England (HEE) is looking to develop medical apprenticeships in the near future.

- The support and promotion of clinical academic careers will be essential if the UK is to expand the number of medical graduates. Students need skilled educators and clinicians to support their learning.

- Any expansion of medical school places should take place through a collaborative rather than competitive process. New medical schools should be placed in areas based on the availability of clinical placements and the needs of local populations within geographical areas.

Background

Over the last 50 years there have been a number of rounds of expansion of medical schools and the number of medical school places in the United Kingdom. Currently the number of medical school places is set to rise to 9500 places per annum. However, slightly more international graduates joined the GMC register in 2019 compared to UK graduates to meet the increasing demand for NHS doctors. The medical schools formed in the 1970s (Southampton, Nottingham, Leicester) are now large and well established, producing doctors for the NHS as well as aiding the development of major regional teaching hospitals with impact on patient care and, alongside their partner universities, encouraging discovery and clinical research.

Expansion in the early 2000s added a further seven (now eight) medical schools (Brighton and Sussex, East Anglia, Hull York, Keele, Lancaster, Exeter, Plymouth, Warwick). This round of expansion increased the variety and mix of Higher Education Institutions (HEIs) beyond the traditional Russell Group universities and introduced innovative new courses including graduate entry medicine programmes (GEM) and problem-based learning (PBL).

A further review of predicted requirements for NHS doctors in 2012 resulted in a 2% reduction in places but this was followed by another expansion in England in 2016, adding a further 1500 places and establishing new medical schools at Aston, Anglia Ruskin, Edge Hill, Lincoln, Sunderland, UCLan and Kent and Medway. In Wales, a graduate entry medical school was created at Swansea University in 2004. In Scotland, a graduate entry programme was established between Dundee, St Andrews and the Highlands and Islands University in 2018 and in Northern Ireland a graduate entry school will open at the University of Ulster in 2021.

Despite this significant increase in medical school graduates, the UK is far from attaining the frequently stated aim of sustainability in the supply of healthcare professionals, including doctors for the NHS, with many regions (rural, coastal and many urban areas) and specialities (such as general practice and psychiatry) more affected than others.

The overall shortage of doctors affects the quality of service available to areas of the population and the absence of medical schools in many parts of the UK limits access for individuals from deprived backgrounds, restricting long term aspirations to widen participation in medicine. The shortage of applicants for both training and substantive posts results in considerable additional costs for the NHS due to the need to provide expensive locum services.

The UK is far from attaining **sustainability in the supply of healthcare professionals**, including doctors for the NHS.

How many medical student places are needed for the UK to be sustainable in doctors?

The number of new doctors required each year is not currently defined and it has often been stated that the UK should aspire to be sustainable in this area. In the consultation undertaken by the Department of Health in 2017 as part of the proposed expansion of medical student numbers it was noted that "around 25% of doctors in the NHS are non-UK nationals. Whilst we absolutely value the contribution these doctors make to the NHS, we need to expand the number of medical school places to be more self-sufficient with a medical workforce that can better respond to the demands placed upon the service."[1]

It is recognised that medicine, in common with many other professions, provides opportunities for training and employment globally and that the exchange of doctors and other healthcare workers between different nations is entirely appropriate and desirable. However, it has long been acknowledged that the UK's dependence on international medical and related graduates, often from low and middle-income countries, is neither sustainable nor appropriate.

The NHS People Plan makes no mention of an increase in the number of doctors in training with the major focus on clinical expansion being the commitment to increase the number of nurses by 50,000. However the temporary expansion in the intake to medical schools in 2020 and 2021, with funding from the Departments of Education (DfE) and Health and Social Care (DHSC), has demonstrated that there is some additional capacity in existing schools but this does little to address the geographical and widening participation issues noted above.

Two recent reports from medical royal colleges have suggested that the number of medical graduates should increase significantly. In 2018 the Royal College of Physicians[2] estimated that the number of medical students should double from the then figure of 7,500 a year. It began by estimating the number of consultant physicians that would be needed to meet future demand. It then extended that estimate to include all doctors, concluding that "an additional 7,500 medical students per year were needed at the very least". In 2020, with the involvement of MSC, it developed a blueprint for how those places could be introduced.[3]

The following year the Royal College of Psychiatrists[4] also said that the number of

1 Department of Health, Expansion of undergraduate medical education: Government response to consultation, August 2017. https://www.gov.uk/government/consultations/expanding-undergraduate-medical-education [Accessed: 25 November 2020]

2 Royal College of Physicians, Double or Quits; calculating how many medical students we need, RCP: London, June 2018. https://www.rcplondon.ac.uk/news/double-or-quits-calculating-how-many-more-medical-students-we-need [Accessed 25 November 2020]

3 https://www.rcplondon.ac.uk/projects/outputs/double-or-quits-blueprint-expanding-medical-school-places

4 Royal College of Psychiatrists, Doubling the number of medical students by 2029. RCPsych: London, September 2019. https://www.rcpsych.ac.uk/docs/default-source/news-and-features/news/rcpsych-brief_med-school-places-(sept2019).pdf?sfvrsn=14c41f59_2 [Accessed: 25 November 2020)

medical students should be doubled. Its reasoning behind this suggestion is based on the current conversion rates of medical students into consultant psychiatrists and the future needs of the mental health workforce.

MSC's proposal is that the number of medical students should be increased by 5,000 making a total of 14,500 graduating per year. The number of doctors joining the register is currently 16,749 while 3,000 doctors leave the register per year.[5] This shows that the number of doctors is rising rather than falling. However, it is clear from table 1 that currently over half of all those joining the register do not hold a UK Primary Medical Qualification (PMQ). Table 2 shows that while the number of doctors joining the register with a non-UK PMQ has been steadily rising, the number of UK graduates has not kept pace.

The simple conclusion would be to take the number of doctors joining the register in 2019, which is 16,749, and argue that the number of medical students graduating should match this figure. However, while sustainability of a UK trained workforce is desirable, MSC would not like to see an NHS that is staffed solely by UK trained doctors. The current pandemic has evidenced that medicine is a global concern and that all health services are enriched by the experiences of doctors that have trained in different contexts. MSC believes an expansion of 5,000 students per annum would address NHS staffing needs while also ensuring that a reasonable degree of overseas recruitment continues.

20,647 doctors left the register between 2012 and 2018 due to retirement. This is around just under 3,000 per year.

It is difficult to predict what the future number of doctors required will be in the context of increasing team-based approaches and the development and expansion of the advanced practitioner, physician associate and other roles. While it is clear that the UK population is ageing it is also the case that new technologies may mean that the delivery of healthcare has the potential to be streamlined. Additionally, generational changes within the medical workforce may lead to an increased desire for working less than full time which would have implications for the number of doctors needed to deliver service. An increase of 5,000 UK graduates per year would make a substantial contribution without risking over supply.

5 Doctors leaving (and have not returned) due to retirement. https://www.gmc-uk.org/about/what-we-do-and-why/data-and-research/the-state-of-medical-education-and-practice-in-the-uk#data-tables

4.9% was the **average annual growth rate of the GMC register** between 2013 and 2019. The overall number of doctors has grown in recent years due to an increase in International Medical Graduates joining the register (See figure 1 and 2).

Table 1 – Number of doctors joining the Register by PMQ

PMQ	2013	2014	2015	2016	2017	2018	2019
UK	7170	7560	7558	7577	7300	7337	7511
EEA	3194	3384	2264	1981	1979	1963	2108
IMG	2388	2617	2578	3148	3684	5102	7130
Grand Total	12752	13561	12400	12706	12963	14402	16749

Table 2 – Annual change in the number of doctors joining the Register by PMQ

PMQ	2013	2014	2015	2016	2017	2018	2019
UK	-	5.4%	0.0%	0.3%	-3.7%	0.5%	2.4%
EEA	-	5.9%	-33.1%	-12.5%	-0.1%	-0.8%	7.4%
IMG	-	9.6%	-1.5%	22.1%	17.0%	38.5%	39.7%
Grand Total	-	6.3%	-8.6%	2.5%	2.0%	11.1%	16.3%

Figure 1 – Annual change in the number of doctors joining the Register by PMQ

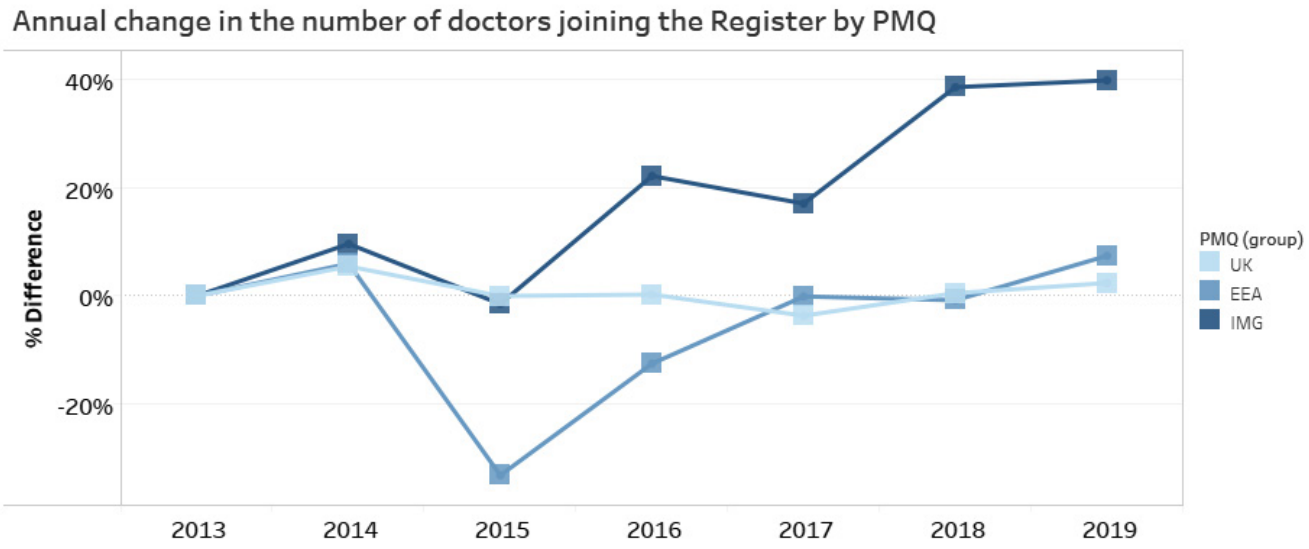
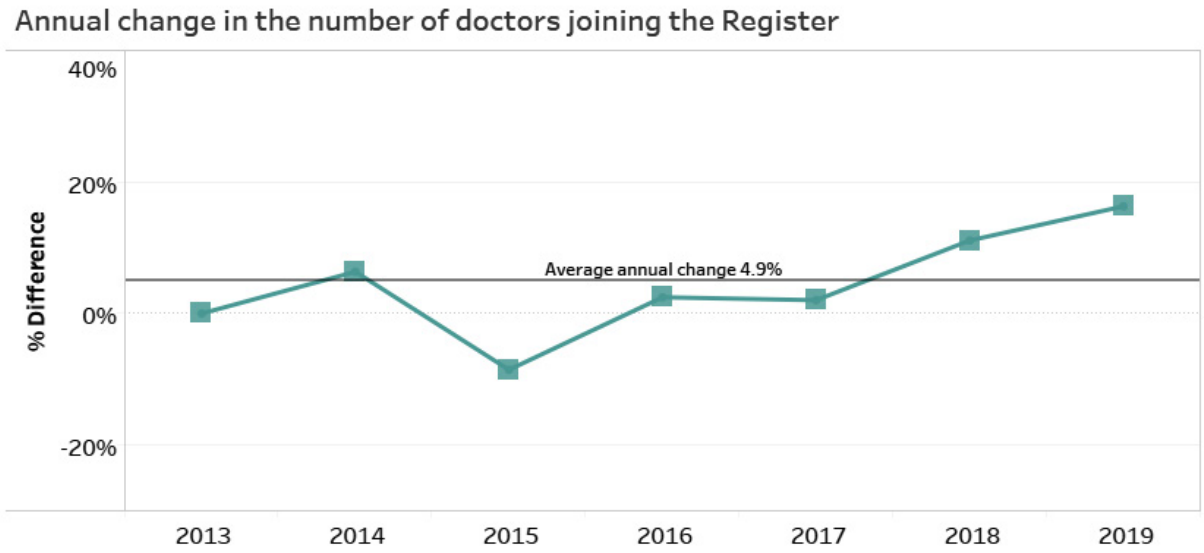


Figure 2 – Annual change in the number of doctors joining the Register



What are the challenges to expansion?

Cost

The government consultation prior to the last round of expansion (2017) estimated that the cost of educating a UK medical student exceeds £200,000. Using this estimate the annual cost of increasing the number of medical students by 5,000 is approximately £1 billion. This is a significant amount of money, but it is important to note that this is based on current funding models for medical education and there may be ways of reducing these costs.

University and clinical placement capacity

Currently there are over 150 universities in the UK with over 40 universities hosting a medical school. Many 'under-doctored' areas which often coincide with relative social deprivation may not have universities or NHS provider trusts in a position to host a medical school. However, there are a number of universities and associated hospitals that are pursuing the possibility of developing new medical schools. In addition, a number of existing medical schools are relatively small and would be able to expand should the opportunity arise. It appears likely that there is substantial potential capacity for universities to host medical schools and the limiting factor is access to clinical placements, particularly in primary care settings – this may be considerably affected by the proposed new primary care tariff from April 2022.

Medical schools with small student cohorts are likely to be less cost-effective due to the underlying fixed costs of developing a medical school and may benefit from expansion. Very large schools may find it challenging to increase their size due to limitations on facilities and placements within a reasonable reach of the school. As noted above, under-doctored areas may not have local universities considered suitable to host a medical school and potential solutions to this should be explored including partnerships with well-established medical schools.

Clinical academic staff

While much of the underpinning science in medicine is taught by biomedical scientists and a large proportion of clinical skills education is undertaken by NHS colleagues, all medical schools employ clinically qualified academic staff who are responsible for course design, leadership and delivery as well as contributing to NHS services. Clinical academics typically also undertake research, making substantial contributions to scientific discovery and the evidence base of clinical practice. Clinical academic numbers have remained static over the past ten years while the number of medical practitioners in consultant and general practice roles in the UK has increased substantially along with the expansion in medical schools and student numbers. Many of the remaining clinical academics are close to retirement and there are significant issues in the academic pipeline in relation to gender and ethnic diversity at the progression point from Lecturer/Senior Lecturer to Reader and Chair.[6,7]

6 Medical Schools Council, Clinical Academic Survey, 2021. https://www.medschools.ac.uk/clinical-academic-survey

7 Medical Research Council, 2017 UK-Wide Survey

For medical school expansion to be tenable there must be a concerted effort to train and retain clinical academics. This will require funding but also marketing of the career to students and early career doctors.

Broadening participation in medicine – 'doctors who look like me'

It is well-recognised that there are currently three times as many applicants to medical school than places available and many well-qualified candidates do not succeed in their application. The MSC believes that substantial increases in the number of places should include a broader range of entry routes and course delivery options to ensure the broadest possible criteria for selection to study medicine with the aspiration that the profession should genuinely reflect the society from which it is drawn and seeks to serve.

In recent years medical schools have worked extensively to increase recruitment from students from disadvantaged and more diverse backgrounds through a range of initiatives ('widening participation programmes') focusing on socio-economic background, school performance, time spent in care, free school meals, and refugee status as examples of criteria.

Evidence from the UK demonstrates that academic entry criteria should be adjusted for candidates applying from the least well performing secondary schools with a decrease of two A level grades having no adverse impact on performance at medical school. Contextualised admissions and a broader approach to prior experience through gateway, foundation and access courses can substantially increase the pool of potential applicants from a wide range of backgrounds (including from those who have taken subjects such as arts and humanities). Innovative options such as the apprenticeship route and less than full time education and conversion courses for healthcare professionals with relevant backgrounds can also be developed. It is important that the number and type of HEI providers significantly changes in order to make the study of medicine more widely available through providers that traditionally may not have hosted a medical school and with a broader range of options for study available to support the increasing diversification of the future workforce.

A recent UKMED study found that;

'The majority of doctors prefer to train at foundation schools that are reasonably close to the family home. Those who attended state-funded schools, from non-white ethnic groups and/or from lower socio-economic groups were significantly more likely to choose foundation schools nearer their parental home.' [8]

Maps of deprivation are provided in Annex 1. One option could be to place medical schools in areas of deprivation which in turn are likely to also be under-doctored areas. Up to 50% of graduates remain in the region they qualified which would improve the health economy in these areas and also allow for outreach to be focused on local populations.

While many graduates choose to stay

of Clinical and Health Research Fellowships, November 2017. https://mrc.ukri.org/publications/browse/clinical-and-health-research-fellowships-survey-2017/

8 Kumwenda et al, Geographical mobility of UK trainee doctors, from family home to first job: a national cohort study, BMC Med Educ 18, 314 (2018). https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-018-1414-9

local to their medical school, a significant number, particularly widening participation students, may also wish to return to train near their family homes. Where there are under-doctored areas where it is not possible to create a medical school, this could be addressed by concerted efforts by medical schools to undertake outreach in these locations.[9]

The narrow definition of excellence as demonstrated by performance in examinations needs to be re-evaluated. While there is evidence[10] to show that students from a widening participation background may do less well on postgraduate assessments, such as the ARCP, there is also evidence that they are more likely to stay local to their medical school and enter careers in general practice.[11,12]

Furthermore, the arguments in favour of a medical profession which broadly reflects the society from which it is drawn are self-evident. Some degree of change in performance in postgraduate exams and ARCP may be inevitable and acceptable given that these assessments can favour those from backgrounds where preparation for examinations is supported from the earliest stages of education.[13]

Process of expansion of medical school places

There have been three rounds of expansion and one minor reduction in medical student numbers in the past 50 years. These expansions have all followed different processes, requiring collaboration and agreement for funding which has predominantly affected the NHS due to its significantly greater cost of contribution to undergraduate medical tariff. This issue has been further highlighted following the introduction of student loans whereby education fees are subsequently repaid by the individual whereas the NHS contribution to tariff is not. Currently, rounds of medical school expansion are intermittent, unpredictable and inefficient. A strategic approach is required to ensure that any expansion is made on a UK-wide basis, is properly planned and accounts for long term costs, placement capacity and the implications for postgraduate training posts. A proposal for putting this in place is discussed on the next page.

9 Mwandigha LM, Tiffin PA, Paton LW, et al. What is the effect of secondary (high) schooling on subsequent medical school performance? A national, UK-based, cohort study. BMJ Open 2018;8:e020291 https://bmjopen.bmj.com/content/8/5/e020291

10 Unpublished research by S Curtis and D Smith UKMED project P38

11 Kumwenda B, Cleland J, Prescott G, et al, Relationship between sociodemographic factors and specialty destination of UK trainee doctors: a national cohort study, BMJ Open 2019;9:e026961. https://bmjopen.bmj.com/content/9/3/e026961.full

12 Gale, T.C.E., Lambe, P.J. & Roberts, M.J. Factors associated with junior doctors' decisions to apply for general practice training programmes in the UK: secondary analysis of data from the UKMED project. BMC Med 15, 220 (2017). https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-017-0982-6

13 Reed, M., Medical Schools: Celebrating the differences, RCP Commentary Magazine, November 2020. https://www.rcplondon.ac.uk/education-practice/rcp-journals/commentary-magazine

Proposal

In order to meet the NHS requirement for sustainability and growth, an expansion in the number of medical students will eventually be required to increase places by 5,000 to produce 14,500 medical graduates each year. The major barriers to this expansion are the cost, placement capacity and the current inefficient and unpredictable process of expansion.

Cost

Cost is a major barrier to the expansion of medical education; adding an additional 5,000 graduates would cost approximately £1 billion per annum.[14]

The cost of training medical students is currently distributed between government departments and individual students. In England the major cost lies within the NHS in the form of the Undergraduate Medical Tariff (UMT). This funding stream is currently under review by HEE which is developing a new Education Contract and Tripartite Agreement (TPA) mechanism with the aim to ensure that UMT is transparently allocated and spent on education. Further proposals will result in primary care tariff rising to match secondary care UMT.

It is recognised that undergraduate tariff is not currently invested in medical education. The use of UMT to employ substantial numbers of clinical academics in specialities where there are clinical staff shortages but opportunities for education benefit (such as general practice, psychiatry, geriatrics, acute medicine and some specialities such as radiology and pathology) may represent a cost-effective use of UMT to support both education and clinical service in primary and secondary care.

HEE has also proposed a place-based approach to clinical education, requiring that all tariff funding is transparently allocated to education and training but not necessarily ring-fenced by profession. The aim of this is to achieve a more equitable and flexible utilisation of tariff funding and encourage investment in high quality facilities and inter-professional learning in the clinical setting. While this may impact on the nominal tariff associated with each individual medical student, the overall income to NHS primary and secondary care providers would not be adversely impacted by these proposals. This may have the effect of sharing the cost of educating undergraduate students and postgraduate trainees across all professions and effectively reducing the cost and increasing the benefit of creating additional medical student places.

These proposals, and particularly the introduction of primary care tariff equivalent to that seen in secondary care, are likely to have the impact of significantly increasing the available clinical placement capacity. This is due to the provision of a favourable funding model associated with a commitment to provide quality education

14 Costs in this paper are drawn from work done by RCP (London) - https://www.rcplondon.ac.uk/projects/outputs/double-or-quits-blueprint-expanding-medical-school-places

and training for medicine, nursing and allied health professions.

Funding arrangements in the devolved nations are different to those in England but all governments and training providers across the UK are grappling with similar issues. The importance of ensuring funding is used for education and the need to balance the allocation between primary and secondary care are common themes.

Clinical placement capacity

Clinical placement capacity is a hard issue to resolve; the above discussion around the funding of placements should create more space within the system to accommodate more students.

Regionality will also be crucial in siting new medical schools. Currently placements are most under pressure in large urban teaching hospitals. It would not be wise to place more medical schools in these areas. Instead, distribution should focus on building capacity in rural and coastal settings and smaller hospitals serving local populations.

The pandemic has led to the rapid development of online resources to support the delivery of clinical education. These resources allow students to learn about specific conditions in a way that cannot be guaranteed in clinical practice where learning is driven by the patients that students see on their individual placements. This shift will allow placements to be effectively supported by wrap-round online learning opportunities that may mean placements are formulated differently in the future.

Additionally, medical schools are beginning to develop methods that allow more students to be in clinical placements than has previously been possible. This is through more specific timetabling and support for learning through the allocation of dedicated clinical teachers from a range of professional disciplines to optimise learning opportunities. This facilitates an increase in the number of students on placements without affecting the quality of the educational experience.

There is also a welcome shift towards making the final year at medical school more focused on preparing students for practice and giving them a hands-on role within clinical teams. This may boost placement capacity and availability as providers will benefit from having students that are able to contribute to patient care in a meaningful way while also ensuring graduates are better prepared for practice. This has been demonstrated by the experience of Foundation interim Year 1 doctors during the first phase of the pandemic.

Process of medical school expansion

Previous rounds of expansion have been intermittent, unplanned and competitive with some universities and partner NHS organisations undertaking extensive and expensive preparations only to be denied the opportunity to develop a medical school. To commission new medical schools, expansion requires a medium-term strategic and funded approach and expansion of existing medical schools requires a focus on under-doctored regions and specialities. If the target of achieving a sustainable workforce capable of meeting the NHS requirement for growth is to be met

then it is likely that up to 13 new medical schools, each producing a maximum of 250 graduates per year, along with expansion of existing medical schools, to an average of 200-250 graduates per year, would be required to provide a further 5000 graduates each year.

Based on the Office for Students intake numbers from the 18/19 entry, up to 17 medical schools could potentially expand to a maximum of 250 students. However, it is unlikely that all current medical schools would want to expand to 250 students so it may be that more new medical schools will be required. If this were to be strategically planned over a five-year period, two to three new medical schools developed each year along with a planned expansion of existing schools to 200-250 graduates per year would provide a further 1,500 to 2,000 graduates.

Summary

In order to achieve a sustainable medical workforce, significant expansion of medical schools will be required. The major barriers to this are cost, principally that incurred by the NHS, and the lack of a strategic approach to growth as a result of the required funding from different government departments. Innovative proposals have been developed and this paper describes the options available from the perspective of medical schools and universities.

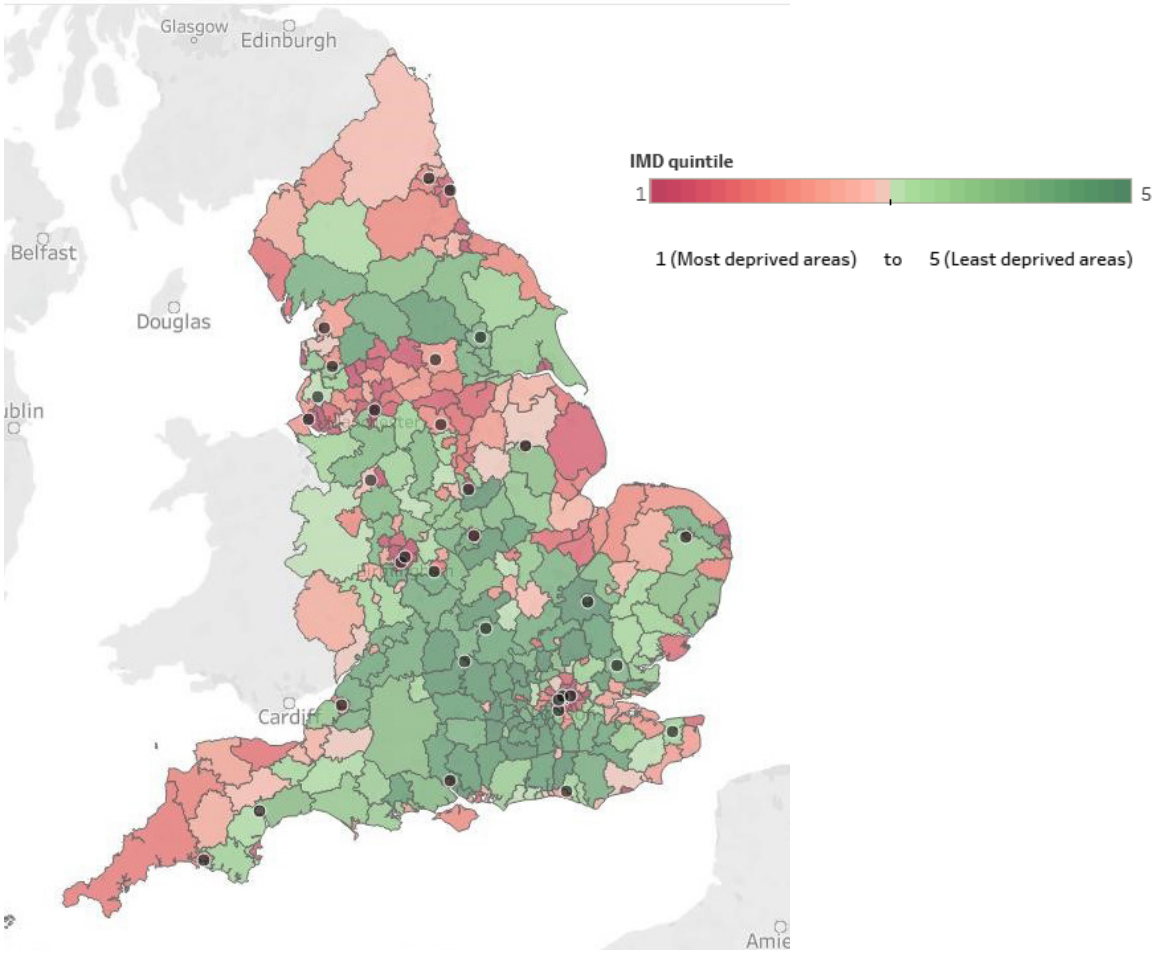
To acheive a sustainable workforce it is likely that up to **13 new medical schools**, each **producing a maximum of 250 graduates per year**, along with **expansion of existing medical schools, to an average of 200-250 graduates per year,** would be required to provide a **further 5000 graduates each year**.

Annex 1 - Deprivation in the UK

Indices of multiple deprivation are used to classify the relative deprivation of small areas. Multiple indicators make up the domains used to calculate the Index of Multiple Deprivation. These include Income, Employment, Education, Health, Crime, Barriers to Housing and Services, and Living Environment.

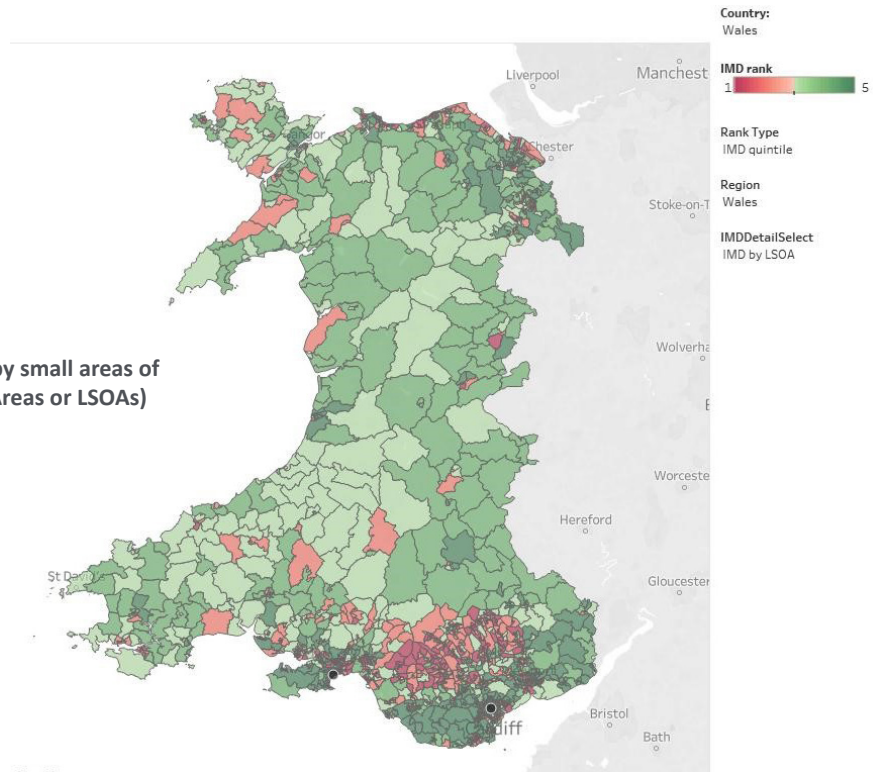
The components of the overall deprivation score are similar in all four nations of the UK. However, the weights assigned to each component, the geographies used for the calculations, and the years are different. This means levels of deprivation cannot be compared between nations.

Map of medical schools in England and the English Index of Multiple Deprivation



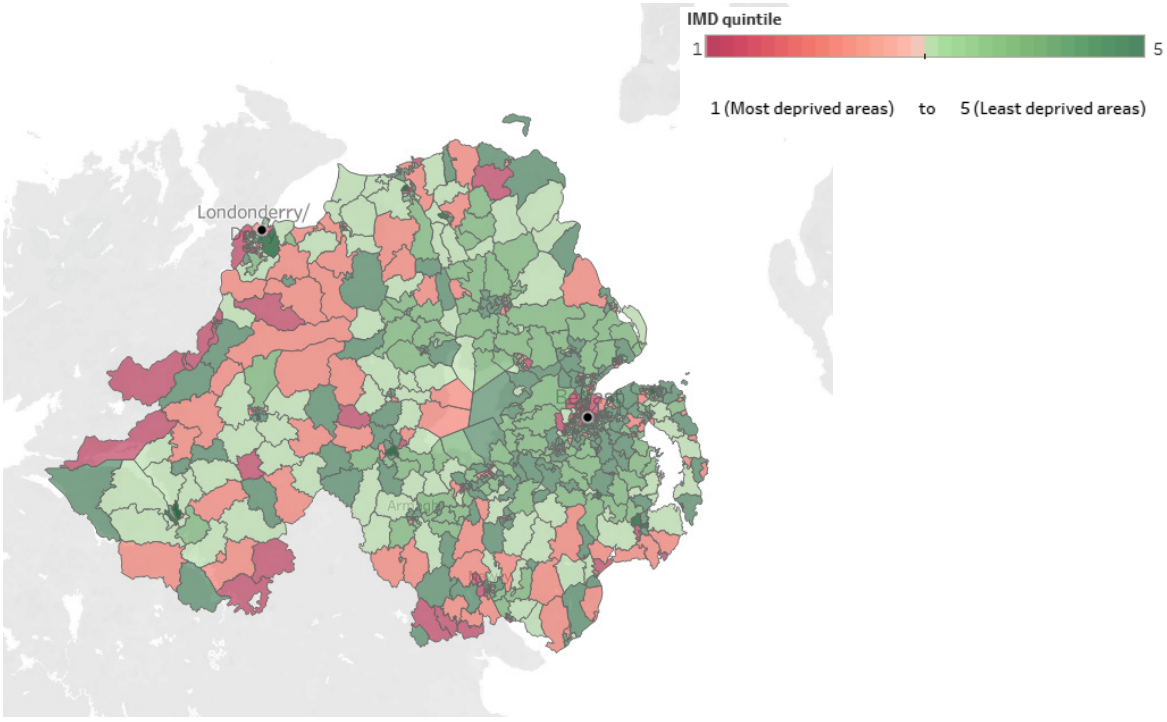
Index of multiple deprivation by English Local Authority Districts

Map of medical schools in Wales and the Welsh Index of Multiple Deprivation



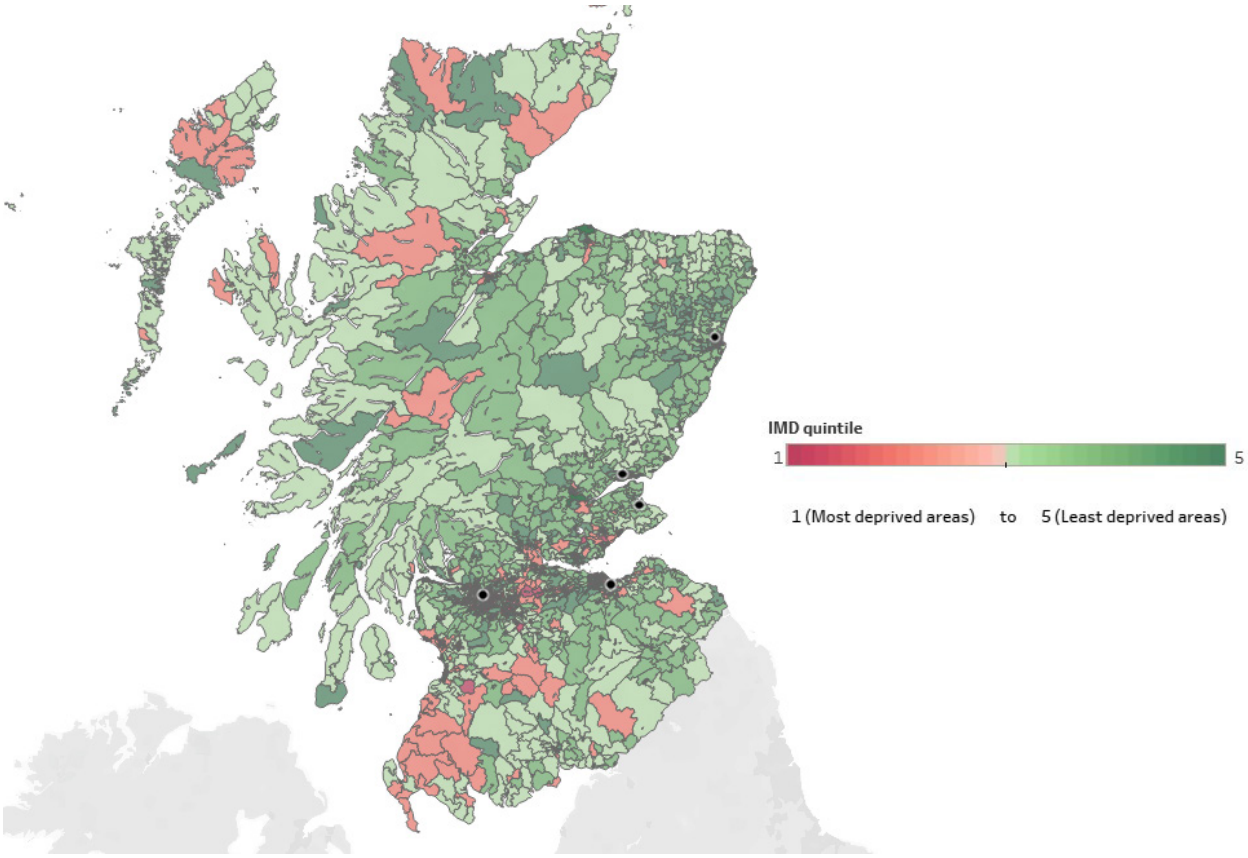
Index of multiple deprivation by small areas of Wales (Lower Super Output Areas or LSOAs)

Map of medical schools in Northern Ireland with the Northern Ireland Multiple Deprivation Measure



Index of multiple deprivation by Super Output Areas or SOAs

Map of medical schools in Scotland with the Scottish Index of Multiple Deprivation



Index of multiple deprivation by small areas of Scotland (Data Zones or DZs)

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The Medical Schools Council is the representative body for UK medical schools.

www.medschools.ac.uk