Title: Expanding undergraduate medical education **IA No: DH8080** **RPC Reference No:** n/a **Lead department or agency:** Department of Health **Other departments or agencies:** DfE, HEE, HEFCE, HMT	**Impact Assessment (IA)** **Date:** August 2017 **Stage:** Consultation **Source of intervention:** Domestic **Type of measure:** Other **Contact for enquiries** undergradmedicalexpansion@dh.gsi.gov.uk

Summary: Intervention and Options

RPC Opinion: Not Applicable

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANDCB in 2014 prices)	**One-In, Three-Out**	**Business Impact Target Status**
-5,644 m	£m	£m	Not in scope	Not a regulatory provision

What is the problem under consideration? Why is government intervention necessary?

Against a backdrop of increasing global demand for doctors in many countries, it is important the NHS is able to do more to train and recruit domestically to meet NHS demand. A key outcome of this policy change is to ensure that the domestic supply of doctors better matches with demand, now and in the future.

The Government sets limits on the number of medical undergraduate intake places. This impact assessment assesses the costs and benefits of increasing the number of places.

What are the policy objectives and the intended effects?

Increasing the number of undergraduate places available for domestic students is expected to increase the number of domestic doctors working in the NHS in future years. This should reduce the reliance on overseas doctors and agency staff.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

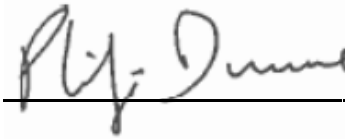
In the absence of this policy change the current reliance on overseas and agency staffing is expected to continue. With global and national demand for doctors increasing, as well as ongoing supply challenges in certain specialties, this is likely to put additional pressure on wage costs and/or supply of doctors which could limit the NHS's ability to deliver services.

The option to increase the domestic training numbers is intended to mitigate these pressures.

Will the policy be reviewed? If applicable, set review date:

Does implementation go beyond minimum EU requirements?		N/A		
Are any of these organisations in scope?	**Micro** No	**Small** No	**Medium** No	**Large** No
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)		**Traded:** n/a	**Non-traded:** n/a	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY:  ***Date:*** 9th August 2017

Summary: Analysis & Evidence

Policy Option 1

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year 1617	PV Base Year	Time Period Years 20	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	**High:** Optional	**Best Estimate: -5,644 m**

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional	Optional	**Optional**
High	Optional	Optional	**Optional**
Best Estimate	£0m	£270m	**£ 5,644 m**

Description and scale of key monetised costs by 'main affected groups'

Increasing domestic training numbers will increase the costs to the NHS from subsidising the training of doctors. Table 1. sets out how costs are distributed across Government.

These costs represent the financial costs associated with the policy. A central assumption is that the policy will be funded such that it does not displace NHS activity. Were any NHS activity to be displaced, societal costs would be higher, reflecting the increased value of this foregone activity.

Other key non-monetised costs by 'main affected groups'

None identified.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional	Optional	**Optional**
High	Optional	Optional	**Optional**
Best Estimate	£0m	n/a	**n/a**

Description and scale of key monetised benefits by 'main affected groups'

The monetised benefits to society of training more doctors have not been set out in this summary as they depend on inherently uncertain assumptions and have not been quantified.

Other key non-monetised benefits by 'main affected groups'

There are very important unquantified benefits from the proposed expansion of undergraduate places:

1) There are likely to be savings to the NHS, which could outweigh costs, from an increased supply of doctors and resilience against supply challenges, including additional costs from increased payments to agency staff to cover possible doctor shortfalls. These pressures might otherwise increase should it become harder to attract doctors as a result of overall demand increasing, worsening currency exchange rates and a more competitive labour market for doctors.

2) There will be benefits to other countries who would otherwise face additional shortfalls in their own doctor workforce. In an Impact Assessment which assesses the position for the domestic economy these additional benefits cannot be included.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5%

As discussed above, a key cost assumption is that NHS activity is not displaced.
Key assumptions around training more doctors are given in more detail in the body of this report.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs:	**Benefits:**	**Net:**	

This Impact Assessment (IA) covers the expansion of undergraduate Medical degree intakes.

This IA quantifies, as far as possible and based on the available evidence, the potential costs and benefits of the new policy compared to a counterfactual of continuing medical school intakes at current levels.

Problem under consideration

The NHS has a shortage in the supply of doctors from domestic training and this is expected to continue in future. In particular there are pressures in specialties such as General Practice (GP) and Accident and Emergency (A&E), and training places in these specialties remain unfilled. In addition domestic supply constraints are evident from the fact that the service employs a significant proportion of doctors from overseas, and Agency spend on locums to meet demand is significant[1].

Demand for doctors in the UK and the rest of the world is increasing. Recent evidence from the World Health Organisation (WHO), and the Organisation for Economic Co-operation and Development (OECD) shows demand for doctors, particularly GPs, to be increasing. This is being driven by demography, changes to the type of health conditions experienced and the general rise in living standards as well as people's expectations.

Solving shortages by relying on overseas workers may not be sustainable in the long term given the rising demands for services. It also raises ethical questions. Many overseas doctors are recruited from developing health economies. Retaining their resources is important if these economies are to develop further. The Department of Health's code of conduct on international recruitment and the WHO's global code of practice, express the need to avoid active recruitment from developing countries (Source: WHO).

Rationale for intervention and policy objective

Training doctors is a costly process, and the Government sets limits on the number of medical undergraduate places to ensure government resources are spent effectively.

The policy objective is to increase domestic supply, thus reducing reliance on costly alternatives which might not be available in the future.

Medical training pipeline structure and funding

This section explains the current structure and funding of the medical training pipeline. It is not proposed to make any changes to the structure or funding of the medical training pipeline; only to enable an increased volume of students to enter.

Undergraduate medical degrees in England are 5 or 6 years duration, depending on the Higher Education Institution (HEI) and whether the student intercalates. Intercalation is when a student takes a break of one or more years during the undergraduate medical degree to study for a qualification in another subject. In some HEIs intercalation is standard; in others it is optional. Following the undergraduate degree, the training pipeline consists of:

- Foundation Programme (FP) 2 years, UK wide, then either:
    - Specialty training to become a GP within 3 years, or
    - Specialty training to become a Consultant within 5-7 years, depending on specialty.

The first two years of a medical degree are generally classroom based, while year three onwards includes clinical placements in the NHS. For this reason the first 2 years of the degree cost less to fund

[1] The NHS currently employs a significant number of doctors who trained overseas. Over 1,000 overseas doctors fill specialty training places each year (Source: HEE) but there are still gaps. For example, there are 500 unfilled specialty and GP training places (Source: HEE). Further information is in "Expansion of Undergraduate Medical Education" - Department of Health, 2017.

than years 3 onwards. This is the standard model, but increasingly HEIs are including more clinical contact in the early years of the degree.

Undergraduate degree costs

The funding elements of an undergraduate degree and which organisation funds them are as follows:

Years 1- 4

In Years 1 to 4 all undergraduate students are eligible to apply for tuition fee loans and [means-tested] maintenance loans from Student Loans Company (SLC). These loans are repayable after graduation at 9% of total earnings over £21,000. Students are also eligible for a variety of means-tested but non-repayable allowances for childcare, travel expenses and disability costs, if they meet certain criteria. This funding is from Department for Education (DfE).

In addition, the Higher Education Funding Council for England (HEFCE)[2] provides Teaching Grant funding to HEIs to cover the additional costs of teaching this expensive subject. HEFCE Teaching Grant funding is from DfE budgets.

Year 5 - 6

In years 5 (and 6), all undergraduate students are eligible to have their tuition fees and maintenance costs covered by an NHS Bursary. The maintenance bursary is means-tested and smaller than the maintenance loan available from SLC. Therefore a small top-up loan termed Reduced Rate Maintenance Loan (RRML) is also available to these students. Students are also eligible for a variety of non-repayable allowances for childcare, travel expenses and disability costs via the NHS Bursary. All of this funding is from Health Education England (HEE) an Arm's Length Body of DH. NHS Bursary is administered by NHS Business Services Authority (BSA). All NHS Bursary funding is in the form of non-repayable grants, except the RRML.

Clinical Placements

In addition, clinical placement costs are funded by HEE at a nationally agreed tariff rate of £33,286 + Market Forces Factor (MFF)[3]. MFF accounts for the unavoidable variation in costs due to geographical location.

Foundation Programme Costs

Following graduation, medical students complete a 2 year Foundation Programme (FP) which is UK wide and after successful completion they obtain full General Medical Council (GMC) registration.

The Foundation programme is funded jointly by HEE and NHS Providers who employ the medical trainees. There are two elements to this, firstly a clinical placement funding at nationally agreed tariff of £12,152 + MFF. Secondly, the individual trainee is paid a salary where HEE fund 50% of the basic salary and the NHS Provider funds the remainder of the employment costs, including any additional earnings through overtime and banding supplements etc.

The rates for 16/17 are set out in this document.

Following the Foundation programme, trainees can either exit the training system going directly into employment, or start specialty training on the path to becoming a GP within 3 years, or a Consultant within 5 to 7 years, depending on the specialty chosen.

Specialty training costs

Specialty training is funded jointly by HEE and NHS Providers who employ the medical trainees. There is a salary component only. As with the Foundation programme, HEE funds 50% of the basic salary, while

[2] NB From April 2018 HEFCE will cease to exist and will be called Office For Students. For the purposes of this document, we use the term HEFCE to refer to this organisation.

[3] *https://www.gov.uk/government/uploads/system/...data/.../**Tariff**_guidance_acc2.pdf*

the NHS Provider picks up the remainder of the employment costs, including any additional earnings through overtime and banding supplements etc.

Description of options considered

The option considered proposes 500 extra places over current levels in 2018/19, followed by an extra 1,000 in subsequent years (meaning 1,500 over current levels).

Main monetised and non-monetised financial costs and benefits

The quantifiable costs and benefits of reform are attributed to various government departments and agencies as well as NHS Providers, and individuals. These are shown in the table below.

Organisation	**COSTS**	**BENEFITS**
DfE	Tuition fee and maintenance loan outlay (repayable). Non repayable allowances	n/a
HEFCE	Teaching Grant Funding	n/a
HEE	NHS Bursary, RRML, clinical placement and FP salary costs	n/a
NHS Providers	Costs of employing FP and speciality trainees	Savings from agency costs and wider potential future labour cost increases, activity increased by employing more doctors
Other countries		Additional doctors who do not move to England will be available to carry out health services elsewhere.

Main Financial Costs Table

Table 1 below summarises the main costs in financial terms of the policy proposal.

Table 1: Summary of main costs (£ million, rounded to nearest £1 million)[4].

Financial year	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	38/39	Total NPV
Costs (£m)										
DfE - undergraduate	0	2	5	7	8	9	8	8	6	139
HEFCE - undergraduate	2	10	20	27	34	40	41	39	25	619
HEE - undergraduate	1	5	17	44	85	122	133	129	82	1,860
Specialty & GP training - HEE	0	0	0	0	0	0	0	6	42	488
Specialty & GP training - Providers	0	0	0	0	0	0	0	11	76	884
Foundation Programme - HEE	0	0	0	0	0	6	30	55	47	801
Foundation Programme - Providers	0	0	0	0	0	6	30	56	52	853
Total Costs NPV	4	17	41	78	128	183	241	304	331	5,644
Net Position NPV	4	17	41	78	128	183	241	304	331	5,644

Table 1 Notes

General

Intermediate years between 2025/26 and 2038/39 are omitted from the table for presentation purposes.

Row ”Total NPV” is the sum of the items listed in this section and presented in NPV format.

Column “Total NPV” is the sum for each individual row in NPV format, across all years to 2038/39 i.e. a period of 20 years from when the policy change starts.

Cost basis

All values in Table 1 are estimates which have been produced for the purposes of this Impact Assessment. Note that actual allocations and budgets may differ from the figures presented above due to different assumptions and purposes of the analysis.

- In addition to the monetised costs set out above, this policy may have further impacts which cannot be fully quantified at this time.
- All amounts are in £ million, rounded to the nearest £1 million. Totals may not sum due to rounding.
- Figures are presented in 2016/17 prices.

[4] Cost or benefits from changes to how overseas students are charged for clinical placements have not been included as the policy is still under review.

- Figures have been converted to Net Present Value (NPV) using a discount rate of 3.5%.
- Costs which are incurred in academic years have been converted to financial years using a 7/12th, 5/12th split.

Student numbers

Costs in Table 1 above relate to an expansion of 500 students in 2018/19, and an extra 1,000 in subsequent years and are for these additional students only, above and beyond the costs of the current intake of approx. 6,000 students per year. Attrition of 5% over the course of the medical degree has been assumed.

Phasing

As there is no "big bang" expansion straight to a number of 1,500 additional students in 2018/19, the costs are phased in over a period of time.

Due to the length of medical degrees (5-6 years) and the subsequent Foundation Programme (2 years) and further speciality training (3 years for GP, 5 to 7 years for Consultant), the system does not reach steady state for undergraduate and FP costs until 2026/27 and longer for the full cost of employing the new intakes.

Note also that as the more expensive years of undergraduate training are from year 3 onwards, and the academic years have been converted to financial years, costs in this SR period (to 2020/21) are relatively small at £ 62 m.

Costs – Monetised

This section explains in more detail the definitions, assumptions and methodology relating to costs in Table 1.

DfE - Undergraduate

The RAB rate of the tuition and maintenance loan outlay

The Resource Accounting and Budgeting (RAB) charge has been set at 10%.

Non–repayable grants

Non-repayable grants are given for childcare, travel expenses and disabled students. The outlay of the grants is based on the average amount currently paid to eligible medical students.

There will be additional admin costs to Student Loans Company (SLC) for processing a higher volume of loan applications and payments/repayments associated with the additional students, but these have not been quantified at this stage.

HEFCE - Undergraduate

Teaching Grant Funding

Teaching Grant funding is for the additional costs associated with teaching expensive specialist subjects such as medicine where specific staff, equipment or facilities are required. Costs are based on unit costs provided by HEFCE.

HEE - Undergraduate

There are four parts to this:

- *NHS Bursary Tuition* - Tuition is based on the standard maximum tuition fee amount.

- *NHS Bursary Maintenance* - Maintenance is based on the current average amount paid to a medical student (Source: NHS BSA Annual Report).
- *Reduced Rate Maintenance Loan (RRML)* - RRML is based on the 2016/17 loan rate for a student living away from home outside of London.
- *Clinical placement tariff + Market Forces Factor* – Clinical Placement tariff + MFF is based on the 2016/17 tariff of £33,286 + MFF per year of placement.

HEE - Foundation Programme

The HEE foundation programme costs are comprised of Clinical placement costs + MFF and Salary support for Foundation Programme trainees.

Clinical placement costs are paid by HEE to NHS Providers who employ the trainees and covers £12,152 + MFF per year plus 50% of basic salary.

NHS Providers - Foundation Programme

This refers to the remainder of the salary costs, including any additional earnings through overtime and banding supplements etc.

HEE - Specialty Training

There is no clinical placement element by this stage, the HEE contribution is 50% of basic salary.

NHS Providers - Specialty Training

This is the remainder of the salary costs, including any additional earnings through overtime and banding supplements etc. Salary rates are from Paybill per Full Time Equivalent (FTE) metrics from DH Workforce pay analysis team.

Benefits

Background

Theory suggests that the greatest economic benefit from increasing the supply of doctors, in an increasingly tight labour market, will come from avoiding having to pay elevated rates of pay. This can apply across all sources of labour but may be particularly noticeable in respect of marginal sources of supply, including international recruitment and agency staffing. In an economy where resources are finite and costs are increasing it might also be necessary to constrain activity.

Therefore the two key benefits from increasing the number of domestically trained doctors are to reduce the risks of increasing labour costs and relative reductions in health care activity.

In addition there could be benefits to other countries that would not lose their trained doctors to service the English health system.

Possible labour cost benefits illustrated - Agency

Just one of a number of labour market mechanisms through which an increased supply would deliver benefits is by reducing expenditure on high-cost agency staff.

If healthcare providers don't have the staff they need gaps are sometimes filled with locum staff. In 2015/16 the NHS spent £1.34 billion on medical locum staff (Source: NHS Improvement). Estimated pay

premiums of Agency staff compared to permanent staff vary, but analysis[5] suggests that assuming a premium of some 80% is not unreasonable. In addition permanent staff members can bring a deeper understanding of their organisation and provide continuity and resilience thus increasing efficiency and effectiveness.

It is difficult to estimate the impact of increasing the number of domestically trained doctors on agency. However it is possible to illustrate that in the long term it can be more cost effective to train a new doctor than pay agency staff.

This Impact Assessment estimates the cost of training medical undergraduates to be approximately £350,000 per trainee from starting their degree to completing the foundation programme. If the cost of specialty training is also taken into account this figure rises to approximately £500,000.

Most of these trainees are expected to go on to become permanent staff members and work for the health service for the majority of their careers. Assuming an agency premium of some £60,000 then the costs of undergraduate and foundation training is recouped within 6 years [6],and within 10 years if the costs of specialty training are included.

Productive work provided by doctors in training

Once students are qualified as doctors they undertake productive work as they continue to study and learn towards their specialism. They receive a salary, the costs of which are included in the estimated costs table.

This in turn delivers a tangible benefit, though it is difficult to quantify the productivity of this group and the extent to which their activity is additional to other staff.

One broad assumption would be to count this salary as additional benefit. Alternatively, to reflect that this remains a period of learning, a more cautious approach would be to assume only the salary costs paid by NHS providers (around 50%) reflect the additional value from this group of doctors during specialty and GP training.

Avoiding reductions in valuable health activity

As well as delivering cost savings through reduced agency and other staffing premia, an increase in the supply of doctors would be expected to mitigate risks to the supply of health services that provide net benefits to society.

Overall assessment

The costs of expanding medical undergraduate provision are reasonably robust. They are relatively simple to work through and understand. The benefits are more complex to estimate. The policy change is seeking to address significant risks in the current system that might occur in the absence of change. These are inherently more difficult to assess robustly as they depend on behavioural change over time both in England and across the world. However, it is certainly plausible that the benefits of the policy change can readily outweigh the costs.

Social costs/benefits

In assessing health policy change the Department often makes an assessment of the societal benefits of the change by considering how a policy will impact on the number of Quality Adjusted Life Years (QALYs). This assessment is especially important to make where policies are being considered which

[5] Based on staffing returns to c70 hospital trusts as reported by Liaison - "Taking the temperature report" and NHS Improvement's "Submission to the NHS Pay Review Body" – September 2016.

[6] Approximate cost of putting a doctor through medical school and the foundation programme is £350,000. A premium of £60,000 multiplied by 6 is £360,000.

will spend a fixed sum of resources. Where the choice is between policy X which delivers 10 more QALYs than policy Y for the same resource the social cost benefit assessment is important.

Studies have estimated that at the margin 1 additional QALY will cost the NHS £15,000. Therefore a policy to increase domestic students that costs some £300m pa (before considering the benefits) would reduce the NHS ability to deliver 20,000 QALYs pa. However, if the funds for expansion are sourced from outside the NHS budget the impact on QALYs will reduce, and given it is expected that the benefits outweigh the costs, however the additional domestic student policy is funded the number of QALYs delivered should also increase.

Risks and assumptions

1. Quality of additional students

There is a risk that additional students are perceived as not as high quality as the current, smaller intake. Intelligence from universities suggests that this is not the case, they receive a high volume of quality applications and are constrained in how many students they can accept by available funding.

2. Attrition

Attrition, or the rate at which medical students drop out of the training pipeline is an existing and future risk which affects the numbers of students graduating. Working with key national bodies and the sector there are a range of initiatives underway and the Government will extend this work to account for this increase as well as put in place appropriate monitoring as part of implementation.

3. Clinical placement capacity

Stakeholders have flagged up supply of high quality clinical placements and the associated funding as a possible constraint on this expansion. Taking this feedback on board, we propose to only expand intakes by an initial 500 in 2018/19.

4. Employment costs

There is a risk that the NHS may continue to employ agency staff and foreign doctors leading to cost pressures and reducing funding available for other staff groups and non-pay activities. However, we will take account of shortage specialties and geographies in allocating additional places.

5. Targeting additional doctors to shortage specialties and geographies

There is a risk that simply putting additional medical students into the system will not result in increased numbers of doctors willing to work in shortage specialities and geographies without added incentives or system re-engineering.

6. Supply induced demand

There is a risk that patient demand is stimulated more than is expected as a result of the new supply of available doctors.

Direct costs and benefits to business calculations (following OITO methodology)

No direct costs for businesses have been identified.

Summary and preferred option with description of implementation plan

Option 1 is the preferred option. Implementation will be from 1st September 2017 when the UCAS application window for students to start courses in September 2018 opens. DH governance for this

project consist of a steering group of directors and an implementation group composed of key stakeholders which meets monthly to take key decisions and monitor risks.

Next steps on this work are:

- 1st September to 15th October 2017 UCAS application window for September 2018 entry to medical degrees.
- September 2018 first expanded intake of 500 medical students start courses.
- Long-term: monitoring and evaluation of the policy.

Monitoring & evaluation plans

The Department will work with arms-length bodies and partners to monitor the progress of the policy using available data.

Abbreviations

BSA – Business Services Authority

DfE - Department for Education

DH – Department of Health

HEE – Health Education England

HEFCE – Higher Education Funding Council for England

HEI – Higher Education Institution

IA – Impact Assessment

MFF – Market Forces Factor

NHSE – NHS England

NHSI – NHS Improvement

NPV – Net Present Value

RAB – Resource Accounting and Budgeting

RRML – Reduced Rate Maintenance Loan

SLC – Student Loans Company

TEF – Teaching Excellence Fund

UCAS – Universities and Colleges Admissions Service

References

(DH, 2017), “Expansion of Undergraduate Medical Education: A consultation on how to maximise the benefits from the increases in medical student numbers” – Department for Health, 2017.

(NHSE, 2017), “General Practice Forward View: International GP Recruitment” – NHS England, 2017.

(WHO, 2016), “Working for health and growth: Investing in the health workforce” – World Health Organisation, 2016.