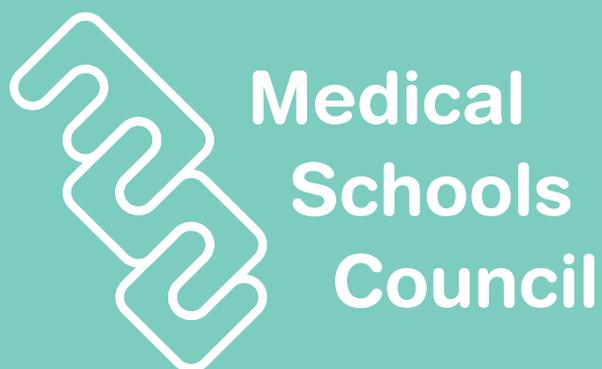


Implementing Selecting for Excellence

A progress update

May 2016



The [final report](#) from of the Selecting for Excellence project was published in December 2014. This report details the progress that has been made to implement the recommendations assigned to the Medical Schools Council (MSC).

Selecting for Excellence looked at selection to medical school with a particular focus on widening participation. For further information on the project please visit the [MSC website](#).

This document covers the following areas:

- Governance
- Widening participation
- Data analysis
- Selection methods
- Qualification Reform
- Making a difference

Governance

The Selecting for Excellence final report recommended that admissions deans from medical schools should be tasked with taking forward the recommendations made in the report. It suggested that a governance group should be set up, modelled on the successful [MSC Assessment Alliance](#).

The MSC Selection Alliance has now been established. It has a reference group formed of two representatives from every UK medical school. These representatives were nominated by deans of medical schools. The reference group meets twice a year to discuss issues relating to selection and widening participation

The Selection Alliance also has an elected board of 10 reference group members. The board is responsible for implementing the recommendations in the Selecting for Excellence final report and for setting the strategic direction of the Selection Alliance's work. The board members are:

- Mr Murat Akyol – [University of Edinburgh Medical School](#)
- Darren Beaney – [Brighton and Sussex Medical School](#)
- Dr Sally Curtis – [University of Southampton Faculty of Medicine](#)
- Dr Gordon Dent – [Keele University School of Medicine](#)
- Professor Jon Dowell – [University of Dundee School of Medicine](#)
- Dr Paul Garrud (Chair) – [University of Nottingham School of Medicine](#)
- Dr Paul Lambe – [Plymouth University Peninsula School of Medicine](#)
- Dr Gail Nicholls – [University of Leeds School of Medicine](#)
- Dr Paul Paes – [Newcastle University Faculty of Medical Sciences](#)
- Dr Heidi Phillips – [Swansea University Medical School](#)

Oversight group

The final report also recommended that an independent oversight board be established to hold the Selection Alliance to account in terms of its commitment to widening participation. Professor Tony Weetman has agreed to chair this group, which will meet for the first time in 2016.

Widening participation

The Selecting for Excellence final report made a series of recommendations in relation to what MSC should do to help medical schools widen participation with respect to socio-economic background.

Better information for applicants

The report identified that students from a lower socio-economic background may have less access to guidance and support in preparing to apply to medical schools than their more privileged peers. To address this issue, the Selecting for Excellence final report made a series of recommendations as to what MSC could do, in partnership with medical schools, to improve the information provided to applicants. As part of the launch of the report itself, guidance to applicants was produced on the skills, values and attributes needed to study medicine, and on work experience. These documents are on the MSC website and there is a need to further build on these.

In 2015, MSC worked with Health Education England as it redeveloped the NHS Careers website into a new multi-profession website called Health Careers. Information on entry requirements was collected directly from medical schools and fed into the Health Careers course finder tool. MSC also developed this information into a more detailed document which presents all entry requirements clearly in one place. [Entry requirements for UK medical schools](#) includes details on widening participation activity, as well as organising the courses into four easily understandable types. The information in the document includes, for each course:

- Number of applicants per interview and place
- GCSE and equivalent requirements
- A-level and equivalent requirements
- How the UCAS personal statement is used in selection
- Whether an aptitude test is required and if so which one
- Whether an interview is required and if so what form it will take
- If the medical school sets requirements for work experience
- How widening participation is considered during selection

Next steps

- The information in the entry requirements booklet will need to be updated on a yearly basis and MSC has started this process for 2017 entry.
- More information on applying to medical school needs to be produced for both applicants and teachers. This will form part of the MSC work on outreach.

Contextual admissions

The Selecting for Excellence Executive Group was firmly in favour of the principle of contextual admissions and the final report recommended that medical schools use more than one contextual measure to ensure that they identify individuals from a widening participation background. However, the report recognised that more research is needed to identify exactly which measures schools should use to identify those from a lower socio-economic background and how contextual information should be used within selection processes.

In January 2016, MSC commissioned a research team led by Professor Jen Cleland (University of Aberdeen) and Dr Sandra Nicholson (Queen Mary University of London). The funding for this research was provided by Health Education England and it is expected to produce the following outputs in relation to contextual admissions:

- A short literature review or horizon scanning exercise setting out current thinking on the use of contextual data in medical school admissions and, more broadly, across the higher education sector.
- The identification of different measures that could be used to identify applicants from a disadvantaged socio-economic background from across the UK and systems to employ them in the admissions process. This part of the of the research will identify from which organisation the different measures can be accessed by medical schools, how they can be verified as correct, and when in the application process would a medical school be able to access the information.
- Two to three case studies showing how medical schools currently use contextual data and what impact this has on the number of students from a widening participation background studying at their medical school.
- An analysis of the feasibility of introducing a central database of contextual data that could be used by medical schools as a single point of reference in identifying widening participation candidates.

This research is intended to form the first step towards the development of a framework that medical schools can use to undertake contextual admissions.

Outreach

In 2014, the Selecting for Excellence project published guidance for medical schools on improving the outreach that medical schools already provide. In the final report, a recommendation was made that medical schools should investigate whether it would be possible to collaborate to provide a greater coverage of outreach across the UK. It also recommended that MSC should determine whether there are any 'cold spots' in the UK where potential applicants do not receive outreach opportunities. It also recommended

that MSC should look at the feasibility of introducing a national programme of outreach for potential medical students.

In 2015, MSC commissioned Nursaw Associates, with funding supplied by Health Education England, to undertake a mapping exercise of all the outreach opportunities provided by medical schools and to look at the feasibility of both greater collaboration between medical schools on outreach and the introduction of a national outreach scheme.

The full report of this project is available in the annexe to this report. Some of the key findings from the mapping part of the project include:

- Approximately 40% of secondary schools and colleges are engaged with medical schools
- The areas of the country that do not have engagement, the cold spots, typically tend to be outside the immediate proximity of a medical school but do not necessarily fall into an 'urban' and 'rural' split and can depend on the outreach strategy of the local medical school
- There are parts of Lancashire, Teesside, Cumbria, Norfolk and Wales that do not have the coverage of other areas
- There are 330 schools that show over five engagements with medical schools

In summary, the report suggests a blended approach to outreach with the following elements:

- A survey every two years on outreach. This would allow a comparison from the 2014–15 baseline
- Support to medical schools to develop their own local response
- Online resources
- Regional conferences

Medical schools have also been supplied with the mapping data which includes key information about UK secondary schools. This will help them to target their outreach more effectively.

Who's in Health?

One aspect of outreach which the Selecting for Excellence project identified as being challenging for medical schools was outreach to primary schools. It is vital that children have their aspirations raised at this young age and are given the message that a career in healthcare is exciting and a job that they could do in the future. It is also important that children remain committed to learning, and showing them how the things they are learning link to future jobs is one way of doing that, for example by showing them that the maths they are learning is used by doctors to work out drug dosages.

In order to facilitate outreach with primary schools, MSC has worked with Primary Futures, an initiative set up in association with National Association of Head Teachers and the Education and Employers Taskforce, to establish 'Who's in Health?'. This campaign

aims to match up a medical student or young healthcare professional with as many primary schools as possible. A matching service run by Education and Employers puts primary schools in touch with volunteers local to them. Schools and volunteers then work together to develop sessions suitable for pupils, enthusing them about healthcare careers and showing them that what they are learning will be useful for their future jobs.

In order to help schools and volunteers, MSC ran a competition for medical students to develop a session for children aged seven to nine. The standard of entries was very high and the winners were published on the MSC website. The booklet of winning entries can be used as as a resource for all volunteers,

In autumn 2015 the campaign was launched and the Chief Medical Officers of Northern Ireland, Scotland and Wales all took part in events in primary schools as well as Ben Gummer, the Parliamentary Under Secretary of State for Quality at the Department of Health, who visited a primary school in London.



CMO for Northern Ireland Dr Michael McBride in Belfast



CMO for Scotland Dr Catherine Calderwood in Edinburgh



CMO for Wales Dr Ruth Hussey in Cardiff



Health minister Ben Gummer in London

Next steps

- In 2016, MSC will continue to support the Who's in Health? campaign by working with Primary Futures to increase the number of events happening across UK primary schools. A focused piece of work will take place to target primary schools in areas where it is clear that less outreach takes place. The aim of this work will be to link widening participation teams within universities and medical schools with local primary schools to embed Who's in Health? in local areas.
- The Selection Alliance will also work to implement the recommendations made in the outreach report. This will include creating bespoke supporting materials that can be used by medical schools in outreach.

Data analysis

The Selecting for Excellence final report emphasised the need for better data collection on medical school demographics both to enable candidates from a widening participation background to be correctly identified at the point of selection and to ensure that progress in widening participation can be effectively tracked.

The Selection Alliance Board has been working with UCAS on the types of data that admissions deans would like to receive at the point of admission. UCAS does have a contextual data service and the Board is working with them to examine how this service might be improved. This fits with the wider work that Universities UK is undertaking with respect to widening participation.

The Board is also working with the [UK Medical Education Database \(UKMED\)](#) project to see how this new database might be used to improve the monitoring of widening participation. UKMED is a project led by the General Medical Council and MSC, as well as other stakeholders, aiming to link data across the continuum of medical education and training so it can be used for research purposes. For more information on UKMED, please visit the website.

MSC has commissioned a research project jointly with the UKCAT Consortium to look at the characteristics of graduate entrants to medical school. A significant percentage of applicants to standard medical courses are graduates and of course the UK also has a number of courses specifically designed for graduate entrants. Finding out more about these applicants may enable the Selection Alliance to develop a widening participation approach bespoke to these applicants, as many of the traditional ways of widening participation are based on school leavers.

Next steps

- In 2016, the Selection Alliance will publish a report on the demographics of current medical students in a way similar to the data section in the Selecting for Excellence final report. This will be fed back to medical schools.
- The Selection Alliance will look to build capacity for data analysis in order to enable the cross referencing of data sets, allowing the identification of key groups in widening participation, such as white males from a lower socio-economic background.
- The Selection Alliance will look at whether it would be possible to identify unsuccessful applicants to medical school in order to look at their demographics and what they eventually go on to study. Different varieties of longitudinal research will be made possible through UKMED.

Selection methods

Another key focus of the Selecting for Excellence final report was the selection methods that medical schools use. Research commissioned by the General Medical Council and made available to MSC in 2013 highlighted the fact that medical schools use a variety of different methods to select students, but that there was little concrete evidence to support this variation. The Selecting for Excellence Executive Group commissioned further research on selection methods using funding provided by Health Education England.

This research looked at whether there would be scope to introduce greater consistency in the selection methods used by medical schools. The research, carried out by a team led by Professor Jen Cleland of Aberdeen University, found that at present there is not enough evidence to create a common framework for selection. However, the research did find that the available evidence points to a selection process using academic attainment, multiple mini interviews and aptitude tests as being the most robust way to select students.

Multiple mini interviews

The Selection Alliance has established a multiple mini interview (MMI) working group which will look at facilitating the sharing of MMI items between schools and building an evidence base as to the effectiveness of different forms of MMI. The research undertaken by Jen Cleland found that the form that MMIs take varies between schools.

In order to facilitate the sharing of MMI stations, the Selection Alliance has agreed with the MSC Assessment Alliance that they will use the secure item bank (a means of storing assessment questions developed by medical schools) to host the content of shared stations, such as scenarios and questions for candidates. Medical schools that use MMIs will be asked to add one example station to this shared bank in the first instance. This will be used to test the feasibility of sharing items and to analyse what schools currently do, so that in the future the most effective ways of running stations can be established.

Work will also be done to establish the concurrent validity of MMI stations, whereby stations that test the same thing are identified. The results of these stations will then be compared to the results of a different, and well established, method of measuring the same thing.

Research into selection methods

The Selection Alliance has awarded a research grant for a study that looks at the cumulative impact of medical school selection processes on validity and widening participation. Funding for this project has come from Health Education England.

The research specification focuses on the fact that medical schools each have slightly different ways of sequencing and weighting elements of selection processes. For example, some may give equal weight to academic performance and aptitude test scores and use this as a threshold for interview, and the final decision will rest on performance at interview. Other schools may consider academic scores, aptitude tests and interview results together when they make their final decision. It is these differences on which this research will focus, looking at what impact weighting and sequencing have on widening participation candidates. The following are expected as outputs from this research:

- Statistical modelling of the impact of the weighting and sequencing of different elements of the overall selection process, in terms of:
 - The impact on widening participation candidates
 - The equity and validity of the overall process

- Recommendations as to how medical schools can design selection processes that are robust and that have a positive impact on widening participation.

Next steps

- The Selection Alliance will continue to work together to develop the evidence base on MMIs. In particular the next step will be to identify the area that will be the focus of the concurrent validity study.
- Further research will be commissioned on the extent to which different selection methods can be used to select students who have the correct values and attributes to become doctors. A method will be developed for collecting data on how students perform on the course with regards to issues around professionalism.

Qualification reform

The impact of qualification reform on admissions teams within medical schools is another key focus for the Selection Alliance. GCSEs and A-levels in England and Scottish Highers are both being reformed. In the case of GCSEs, the marking system will change from an A*-to-G marking system to a 1-to-9 marking system. In terms of A-level reform, AS levels will be phased out as A-levels become linear.

Both of these changes could potentially cause problems for admissions deans. For GCSEs it will mean that, if schools have an evidence base that they use to create entry requirements based on GCSEs, they will no longer be able to do this because the two different marking systems do not map to each other. A grade 9 will not be equivalent to an A*.

AS levels will not be available at all secondary schools. For state schools, government funding will no longer be available for AS levels while in independent schools the evidence suggests that they will be requiring their students to take four A-levels. The additional problem for medical schools is that they may no longer be able to make offers based on AS scores; instead, they will have to use predicted grades.

These changes only relate to England, so while Scotland has always had a different exam system there may be different models in place across the UK. Wales has already indicated that it will not be implementing the changes that will take place in England. Also, change will be staggered as different students go through different exam systems and apply to medical school at different times.

Next Steps

- The Selection Alliance will continue to collect evidence and information on qualification reform and share this with admissions deans to allow them to make informed choices on entry requirements.
- The Selection Alliance will seek to facilitate cooperation among medical schools in how they use the new qualifications in selection.

Making a difference

Medical schools are aware that increasing the numbers of students from a widening participation background presents a challenge. They are also aware that widening participation work, properly implemented, is fundamentally about ensuring that the best applicants, no matter their background, have the opportunity to enter the profession. Therefore widening participation is essential both for social mobility and for the future of the health service. Measuring the success of their efforts is a core element.

In Figure 1, 22 medical schools are ranked according to the proportion of applications they receive from candidates defined as low participation on the NS-SEC scale. This is compared to the proportion of applications from these groups who receive offers. The figure shows a wide variation, with some medical schools offering to a high proportion of these applicants and others not.

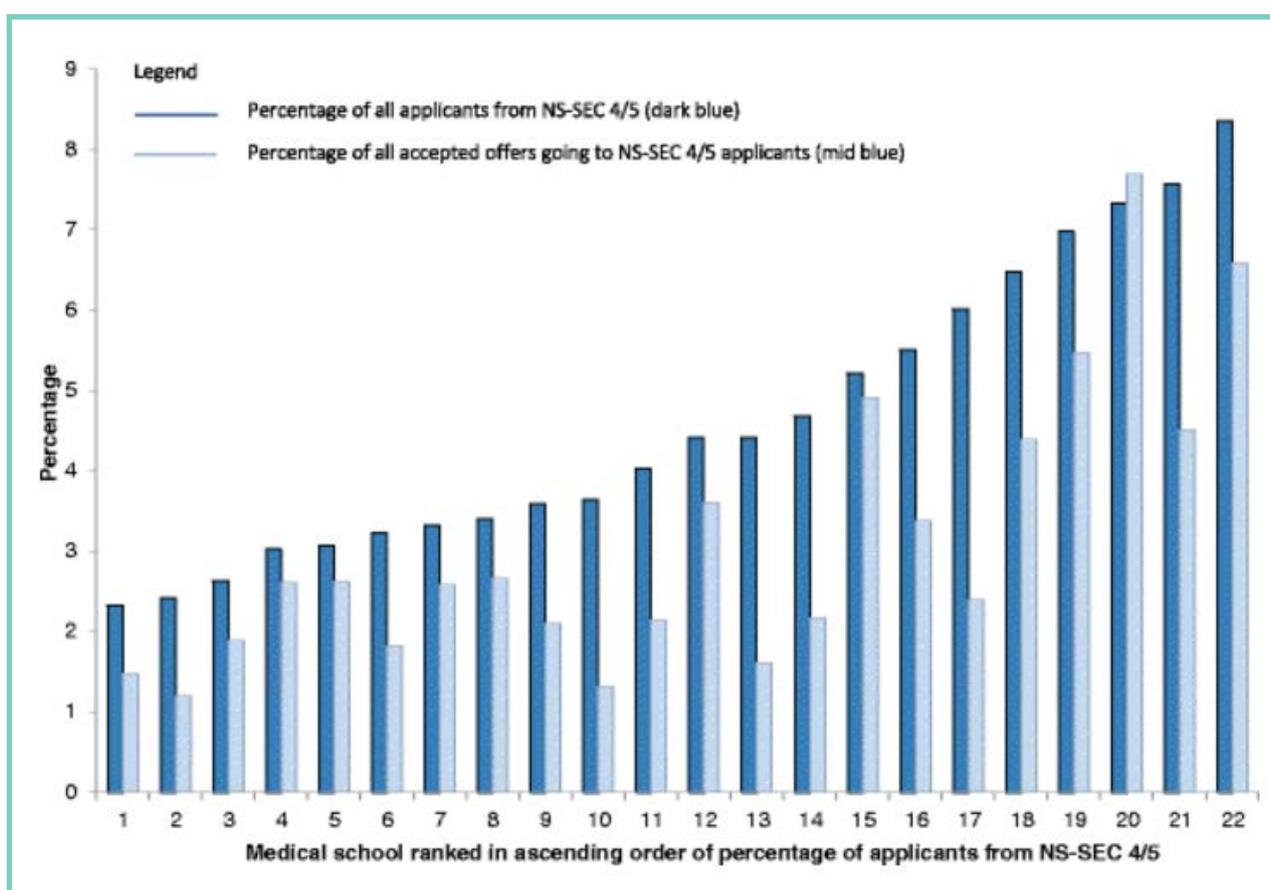


Figure 1 – The percentage of NS-SEC 4/5 applicants and applicants with accepted offers out of all applicants / all accepted offers for 22 UKCAT Consortium medical schools. Steven et al. 2016. 'Fair access to medicine? Retrospective analysis of UK medical schools application data 2009-2012 using three measures of socioeconomic status'. *Medical Education*. Available at <https://bmcmmededuc.biomedcentral.com/articles/10.1186/s12909-016-0536-1>

If the relationship between applications from, and offers to, these groups is taken to be a meaningful measure of the widening participation work of a medical school, then from this figure we can see that there are parts of the sector which are achieving very highly in how they locate and attract high-quality applicants from lower socio-economic backgrounds.

As the Selection Alliance encompasses institutions at both ends of this scale, it is the most effective national mechanism for identifying what works and spreading best practice across the sector.

Annexe

National outreach feasibility study

The Medical Schools Council (MSC) commissioned Nursaw Associates to conduct a feasibility study into the development of a national outreach scheme for medicine. This report outlines the findings from the study and proposes a series of options for consideration by the medical schools.

Nursaw Associates would like to thank all the medical schools for their time and contribution to the study. The wealth of data that the schools provided has strengthened the study. We would also like to thank all the organisations that participated in the consultation. Thank you to Paul Garrud, Kim Piper and Heidi Philips for their contribution to the survey design (any design faults are my own). Thank you to the Centre for Evaluation and Monitoring, Durham University who mapped the data with ever-lasting patience. Lastly, but importantly, thanks also to the Medical Schools Council and in particular Clare Owen and Lisa Hevey for their support, ready advice and good humour.

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1. Scope of the study

The feasibility study was commissioned to determine whether there would be value to the medical schools across the UK developing a national outreach programme for schools and colleges.

The feasibility study arose from the Selecting for Excellence final report (2014),¹ which was initiated in 2013 due in part to concerns raised by the Social Mobility and Child Poverty Commission that medicine was not doing enough to increase the numbers of people studying medicine who are from a lower socio-economic background. The Selecting for Excellence report from the Medical Schools Council made two key recommendations that has led this work, namely:

- MSC should consider and test potential collaboration between medical schools on outreach programmes
- More work needs to be done to identify geographical areas across the UK where young people do not have access to outreach programmes run by medical schools. MSC should work with Health Education England and other bodies to establish what can be done to provide outreach activities to students living in these areas.

In order to take forward these recommendations, the feasibility study's objectives were to:

- Scope the current outreach provision by medical schools in the UK
- Identify areas where medical schools could collaborate effectively on outreach activities
- Identify target areas for a national outreach scheme
- Recommend areas where medical schools could collaborate on outreach and agreement for and design for a pilot project
- Recommend the form a national outreach scheme could take

The study is focused on outreach for the 11–19 year old age group. Throughout Selecting for Excellence it was accepted that engagement with primary schools is a challenging area and, therefore, this is part of a separate programme of work.

2. Audit and mapping of the current outreach

The first phase of the study was to establish the current pattern of outreach activity by medical schools. This we wished to map by geographical area in order to understand the patterns of provision and the type of engagement that was taking place and where. The information would also act as a baseline for any future activity.

The survey to medical schools was comprehensive, allowing us to not only understand what activity was taking place where, and its intensity, but also who was leading it and who was partnering. These additional elements to the survey were to help inform the development of the options for a national outreach programme.

¹ Medical Schools Council (2014). Selecting for Excellence Final Report. www.medschools.ac.uk/SiteCollectionDocuments/Selecting-for-Excellence-Final-Report.pdf

From the survey we mapped the results of the medical schools engagement with secondary schools, sixth form colleges and further education colleges.² We chose to map engagement by school/college rather than individual due to the:

- **Availability of data within medical schools** – Medical schools hold data about the schools they have worked with along with the school students attend if based on individuals. It was therefore felt the best way to ensure a comprehensive view of engagement.
- **Influence of schools and colleges in access to medicine** – From Paul Garrud's research³ it is clear that the type of school or college an applicant attended can play a key role. The research found that 20% of schools or colleges provide 80% of applicants to medicine with grammar or independent schools being responsible for about half of all medicine applicants.
- **Desire to develop a sustainable programme** – Engaging with schools and colleges provides the opportunity to create a programme that is sustainable and brings long-term change.

This mapping is unique within the UK. We have achieved a 100% response rate and no other subject area (or widening participation outreach programme) has completed such a substantial and comprehensive mapping of outreach across the UK.

2.1 Variables used

The information we collated covers the following variables:

- Name and postcode of school or college
- Type of activity from a drop down menu of activities as defined by the Medical Schools Council's 'A journey to medicine: Outreach guidance'.⁴
- Number of students engaged
- Year group
- Level of intensity
- Who leads the activity in the university
- Who delivers the activity
- Internal and external collaborators (including NHS partners).

We have mapped this information alongside a series of national statistics which provide an indication of average educational achievement and socio-economic disadvantage of the students within each secondary school. The appropriate government departments for England, Wales, Scotland and Northern Ireland have provided the school-level data. The variables are:

- **POLAR3 quintile** – This classifies local areas into five quintiles based on the proportion of 18 year olds who enter HE aged 18 or 19 years old. Quintile 1 indicates

² We also asked for primary school information but this information was too limited to map.

³ Garrud, P. (2014). Help and hindrance in widening participation. Medical Schools Council commissioned research report. Available at www.medschools.ac.uk/SiteCollectionDocuments/Selecting-for-Excellence-research-Dr-Paul-Garrud.pdf

⁴ www.medschools.ac.uk/SiteCollectionDocuments/MS-C-A-Journey-to-Medicine-Outreach-Guidance.pdf

the lowest levels of participation and quintile 5 indicates the highest levels.

- **Free school meals** – The percentage of students in UK secondary schools claiming free school meals (FSM). Equivalent data are not available across countries; therefore we have produced a separate map for each country in the UK.
- **Education attainment** – These are:
 - England GCSE performance, percentage 5 A*–C including English and Mathematics
 - England A-level performance, average A-level score per FT student
 - Scotland S4 performance, percentage attaining 5+ awards at level 5
 - Scotland S5 performance, percentage attaining 3+ A grades at level 5
 - Wales Key Stage 4 performance, average Key Stage 4 points score
 - Wales A-level performance, average points score per FT student
 - Northern Ireland GCSE performance, percentage 5 A*–C including English and Mathematics
 - Northern Ireland A-level performance, average A-level score per FT student
- Progression to UK higher education

Destination data are only available for England and Scotland, so these maps have not been produced for Wales and Northern Ireland.

For England we have mapped the percentage of students at KS5 in each school going on to the top third of UK higher education institutions, as defined by the mean UCAS A-level tariff score of entrants in 2011/12. The 'tooltip' includes the percentage of students going on to any HEI and to Russell Group institutions. For Scotland we have only one source of data that is the percentage of students in 2012/13 going on to study at a UK HEI.

From this information we have produced a series of 'views', namely:

- Each school/college that is engaging or not with individual medical schools.
- A graph of the number of individual engagements with a school for each type of activity by institution. This can be filtered by type of activity or by institution or a combination.
- A map of the type of activity across the UK, which could be used, for example, to investigate whether some parts of the UK are more likely to be engaged with a specific type of outreach activity than others.
- A map showing all UK secondary schools coloured by the POLAR3 quintile of their postcode. The quintiles on the map are coloured using the same colour scheme as HEFCE, with quintile 1 (lowest participation) coloured red and quintile 5 (highest participation) coloured purple. The shape of marks on the map indicates whether or not a school has been engaged in outreach activity and the tooltip shows the number of engagements.
- Four maps showing the percentage of pupils in UK secondary schools claiming free school meals (FSM). Equivalent data are not available across countries, therefore we have produced a separate map for each country in the UK. The points on the

map are coloured by the rate of FSM, with higher FSM represented by darker red colouring. The map can be filtered by moving the slider, for example to identify schools with the highest rates of FSM. Schools are marked on the map with a circle if they are currently engaged with at least one medical school, and with a cross if they are not. Hovering over an individual point on the map will show a 'tooltip' containing information about that point including educational performance.

- Two maps showing the progression to UK higher education institutions for England and Scotland. There is no available data for Wales and Northern Ireland.

More technical information on the variables we have used is included in final section.

2.2 Findings from the mapping

The mapping has enabled us to identify the 'hot' and 'cold' spots of outreach engagement by the medical schools along with the nature of the engagement with schools serving disadvantaged communities. It can also serve as a baseline to any future activity.

There are limitations to these data and our results should be seen in the context that they do not:

- Capture all widening participation outreach undertaken by universities
- Include those activities with schools whose engagement has not been logged by medical schools
- Include those activities with individuals where their school was not known
- Capture activity undertaken by other organisations, such as the NHS

It should also be noted that these data are subject to change as we are to undertake a verification exercise with the medical schools.

The data do give us substantial information and show that medical schools are (on the whole) keeping good data and targeting their resources and activities appropriately. It is reassuring to conclude that there is a substantial outreach taking place across the country.

Figure 1 shows the extent of outreach by the medical schools. The orange spots represent a secondary school or college with which medical schools have actively engaged with during academic year 2014/15. The blue dots indicate the medical schools.

It is clear that there are different approaches being taken across the four nations. The availability of school educational and socio-economic data in Scotland for medical schools (and the associated funding for activities in targeted secondary schools) has ensured that disadvantaged schools are more likely to be engaged than those in the rest of the UK. Within Wales there is little intensive support in place and English medical schools do not venture over the border.

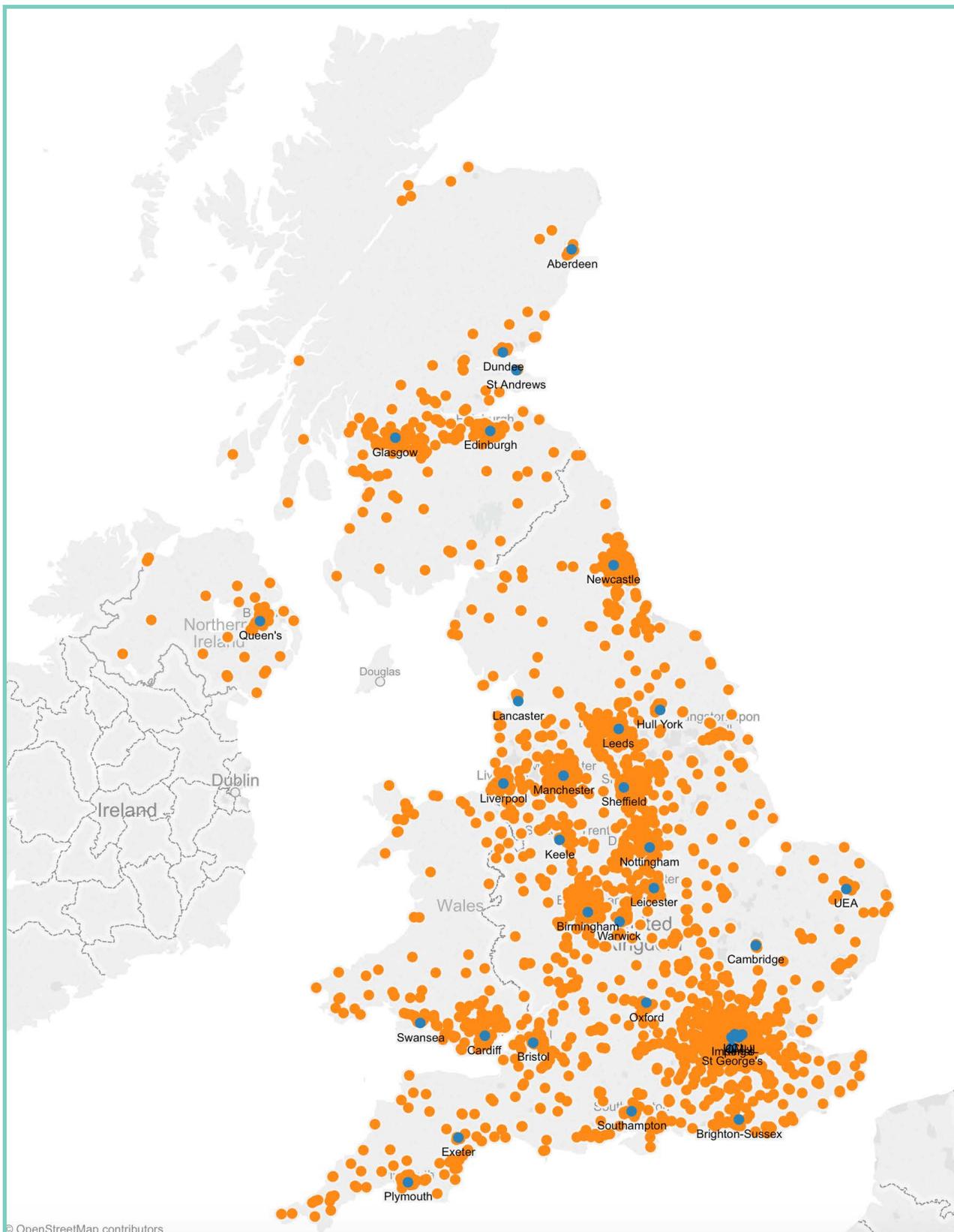


Figure 1 – Map of engagement by medical schools (note that islands that do not have any engagement have been omitted)

Figure 2 shows the engagement of medical schools by POLAR3 quintile. The spots represent those schools that are engaged, the crosses those who are not engaged with medical schools. The colour represents the POLAR3 quintile, red is quintile 1, orange is quintile 2, yellow is 3, turquoise is 4 and purple is 5. The most disadvantaged area is POLAR3 quintile 1, the most advantaged quintile 5.

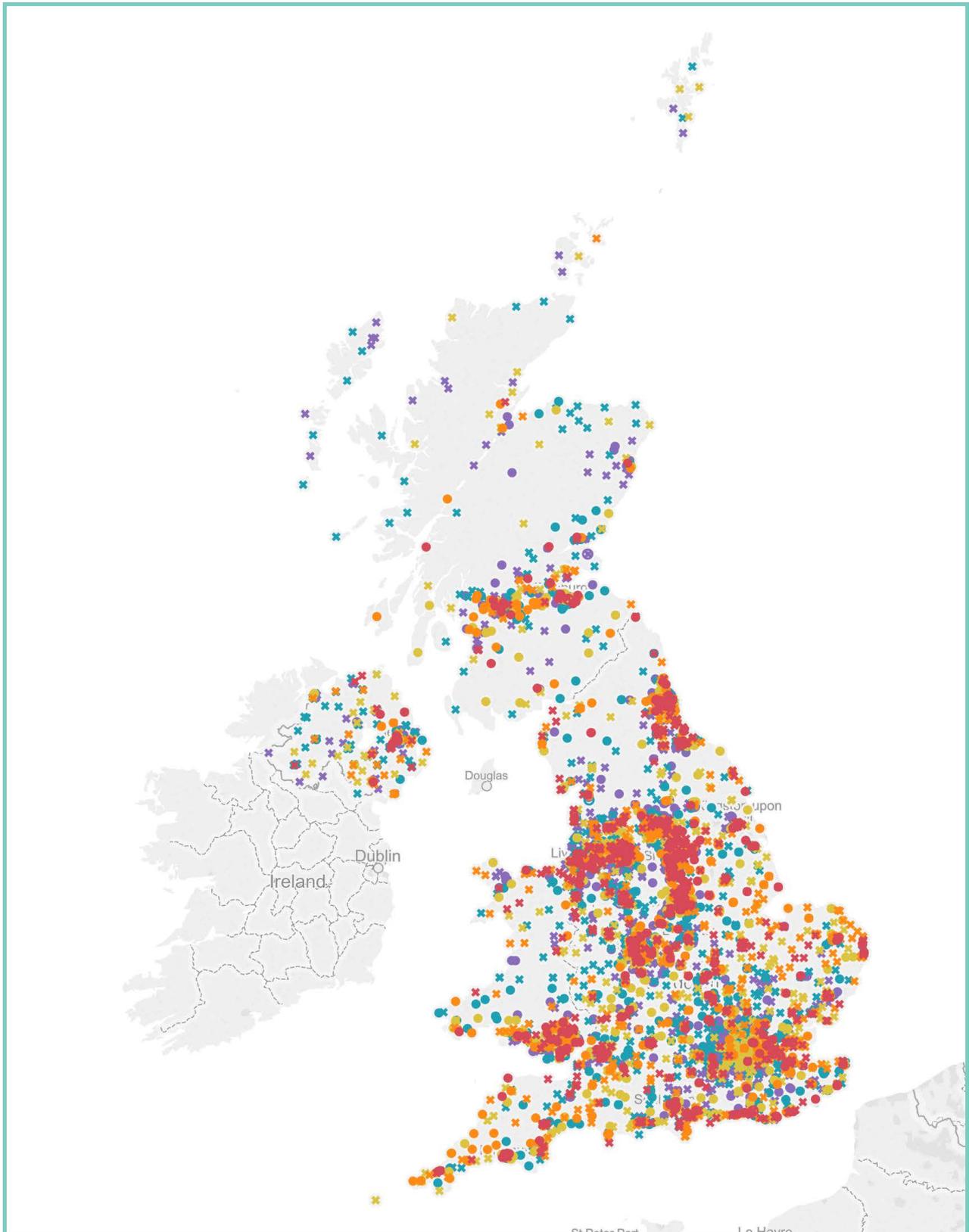


Figure 2 – Secondary Schools by POLAR3 and engagement with medical schools

The mapping has enabled us to identify the type of activity taking place. This has shown that there is a wide variety on offer. Figure 3 shows the type of activity that has been reported by medical schools. The vertical bars show the number of activities recorded by Medical Schools, the colour represents different medical schools. Further work is underway to update this information.

As anticipated we have identified both 'hot' and 'cold' spots. There are significant areas of the UK, which do not have the support and level of engagement from medical schools as other areas.

There are 330 schools that show over five engagements with medical schools. While some of the multiple engagements may be individual students in our samples, we found that it was often multiple engagements by different medical schools. For example, one school, which had 18 different engagements, had eight different medical schools involved in workshops, open distance learning, summer schools, mentoring, masterclasses, roadshows, application support and student shadowing. While this school is the exception, it is still the case that 40 schools have 10 or more interventions. Of this sample we found that the majority are state schools with only two independent schools. A third were academically selective and a third were in London. The majority of the schools were located in large urban areas – London, Birmingham, Manchester and Leeds – and were typically large sixth forms.

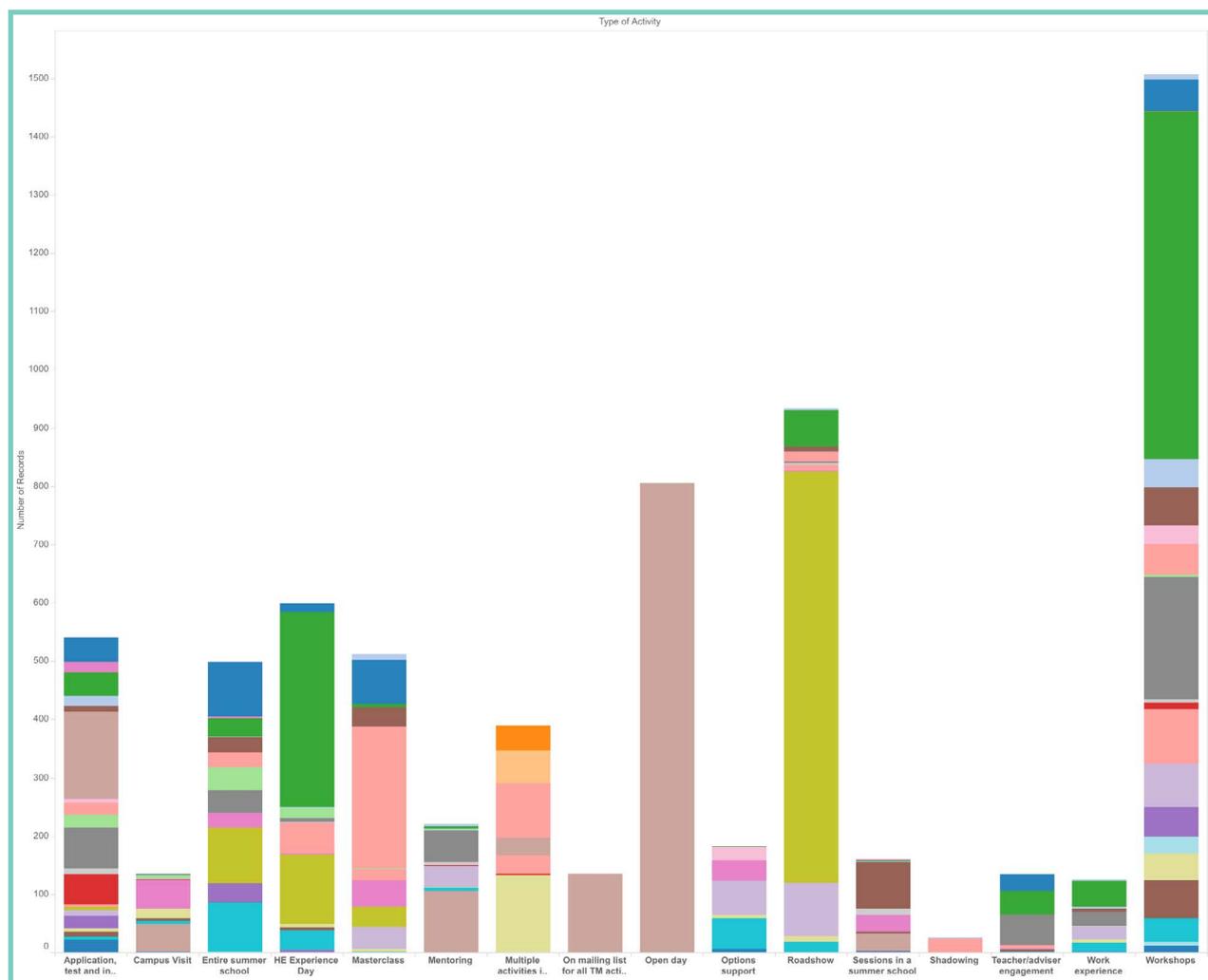


Figure 3 – Activities by institution

In London, schools will often be engaged in intensive activities with more than one medical school, while in Wales school students may only be offered a single activity. Figure 4 shows the number of engagements by certain schools and colleges within London. The different colours indicate individual medical schools.

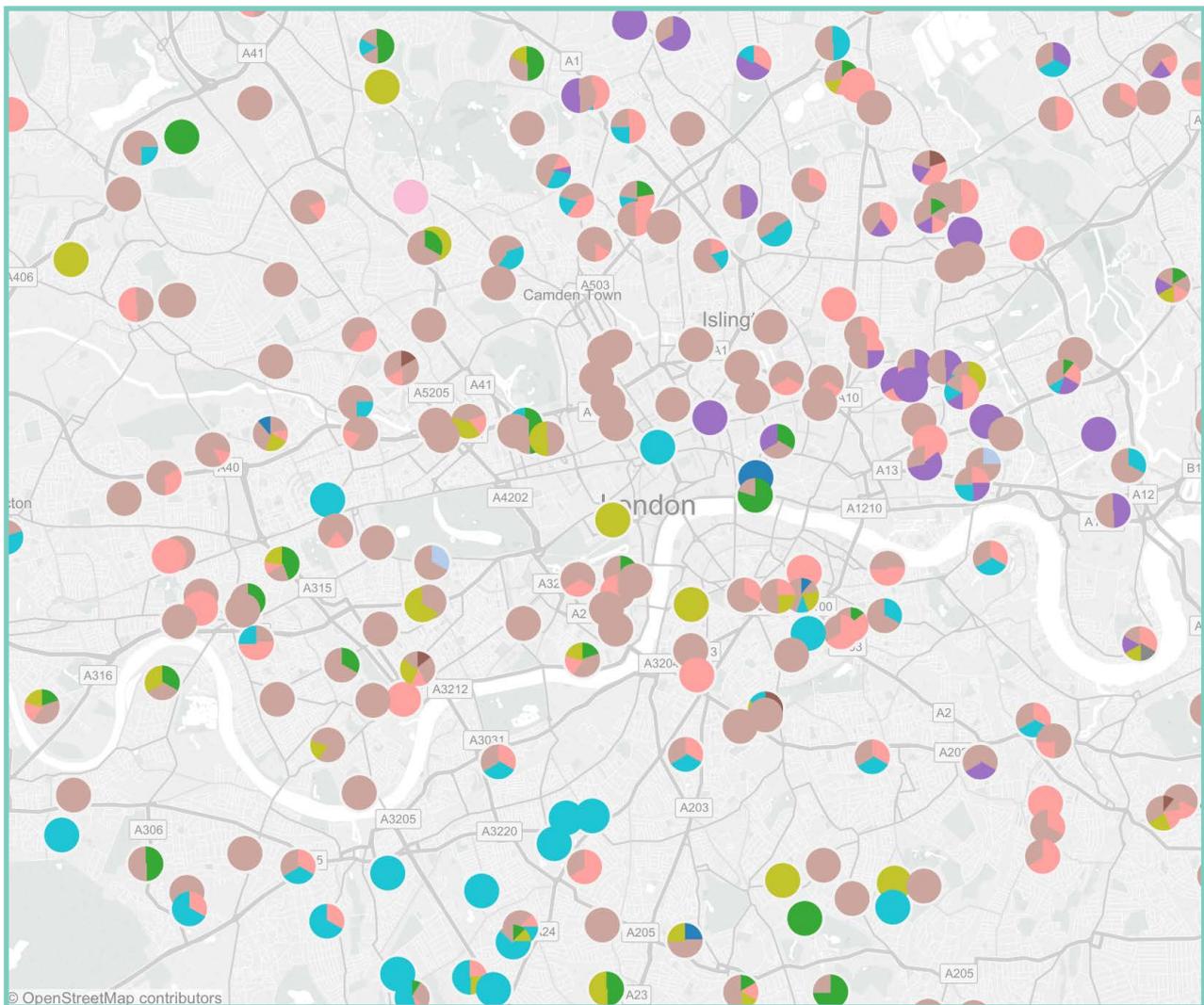


Figure 4 – Detailed Map of School and College engagement with medical schools

The areas of the country that do not have engagement, the cold spots, typically tend to be outside the immediate proximity of a medical school but do not necessarily fall into a 'urban' and 'rural' split and can depend on the outreach strategy of the local medical school. There are parts of Lancashire, Teesside, Cumbria, Norfolk and Wales that do not have the coverage of other areas. Figure 5 shows the schools and colleges that are not engaged.

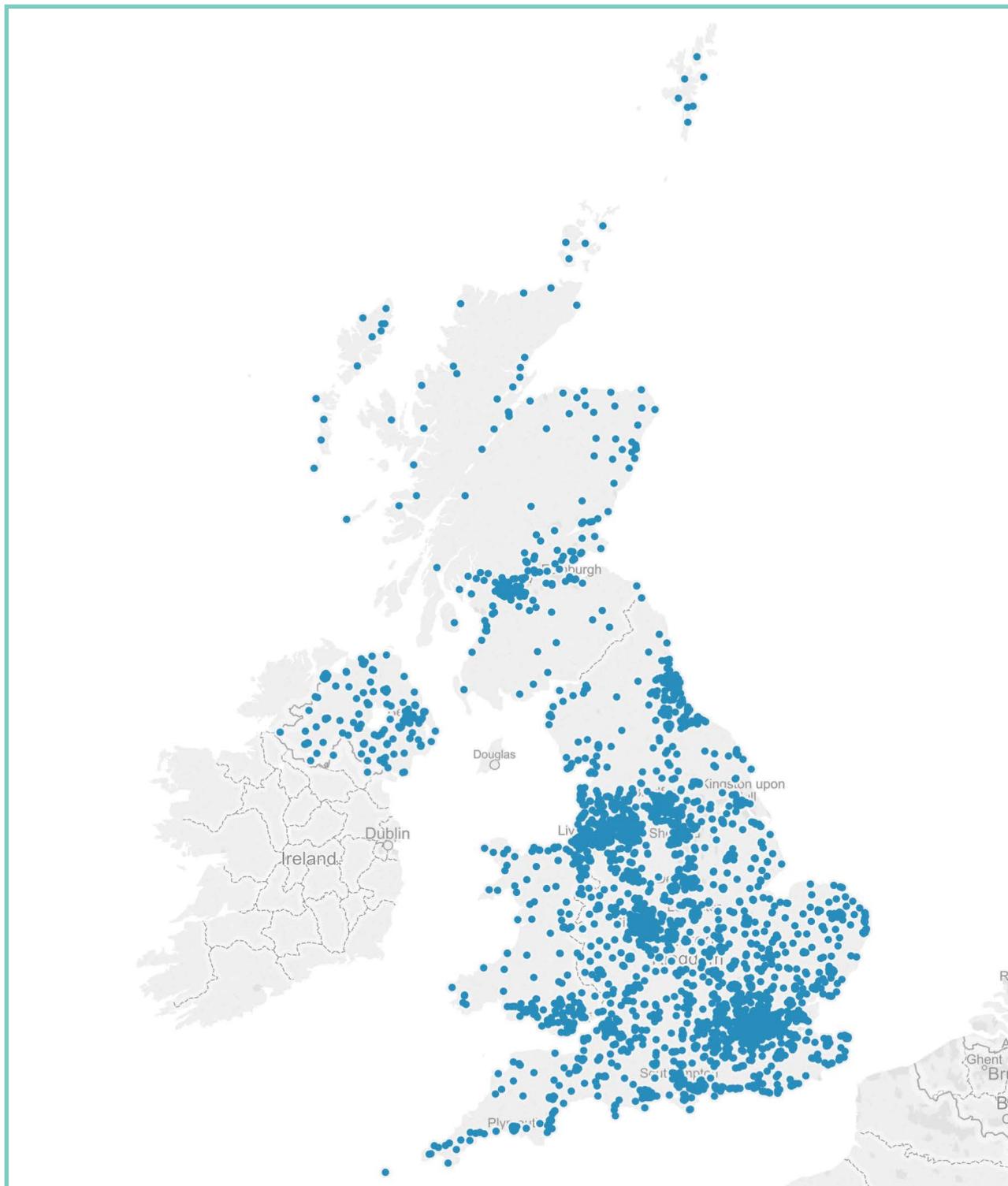


Figure 5 – Schools and Colleges not engaged with medical schools

However, we know that coverage can be achieved in areas such as these, with Cornwall and Scotland ensuring good engagement. This echoes the findings from research commissioned by Selecting for Excellence and supported by HEE and OFFA, led by Dr Paul Garrud from Nottingham School of Medicine.⁵ He found that ‘around half of UK secondary schools and colleges did not provide any applicants to medicine over a three-year period’.

Approximately 40% of secondary schools and colleges are engaged with medical schools. Of those engaged, the schools and colleges had on average lower levels of students with FSM (except Scotland) and achieved 100 more A-level points than those not engaged. Figures 6, 7, 8 and 9 show the schools engaged (spots) and not engaged (crosses) and their level of FSM entitlement. The darker the red the larger the number of school/college students receiving FSMs.

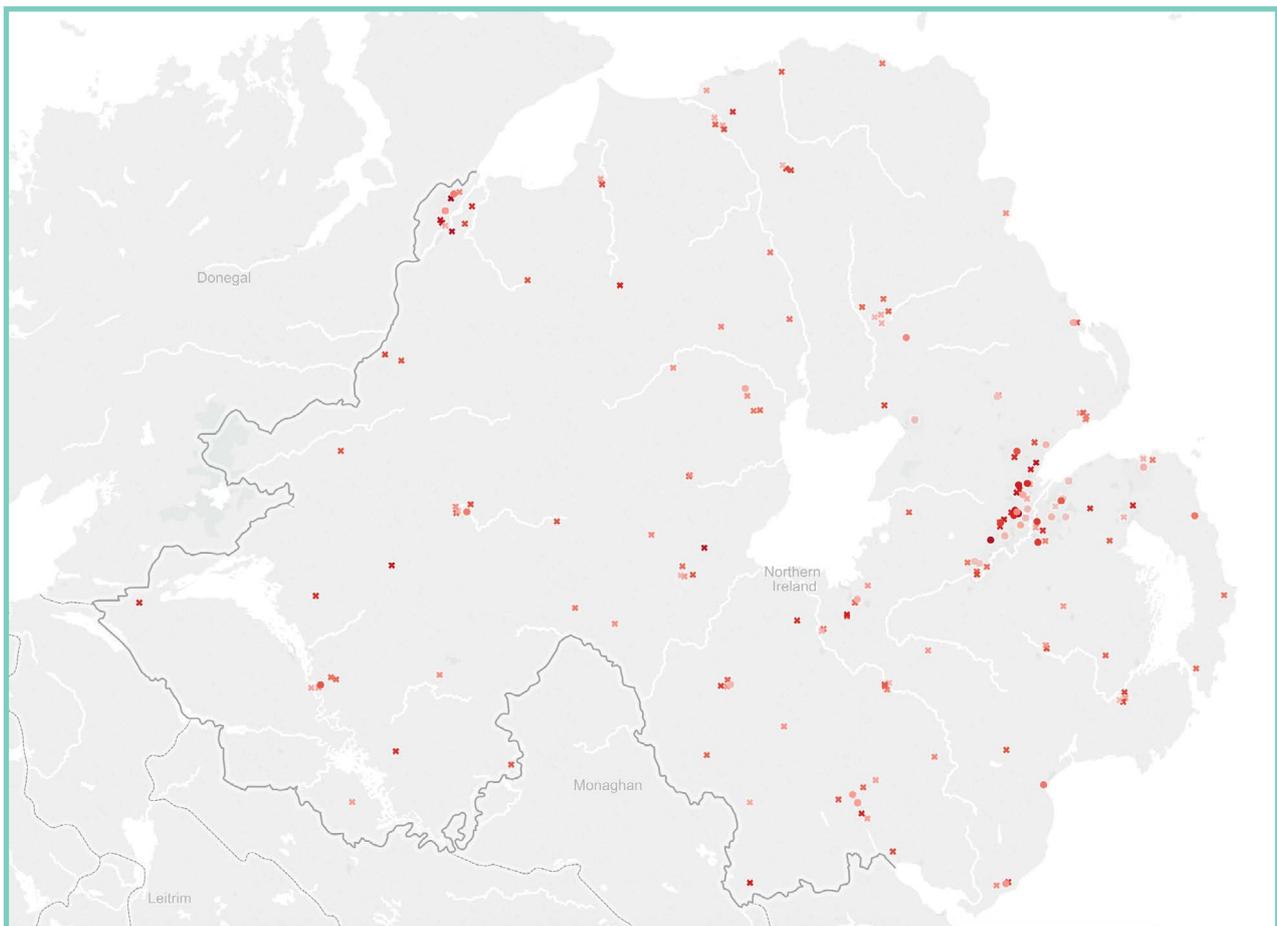


Figure 6 free school meal entitlement in Northern Ireland

⁵ Garrud, P. (2014). Help and hindrance in widening participation. Medical Schools Council commissioned research report. Available at www.medschools.ac.uk/SiteCollectionDocuments/Selecting-for-Excellence-research-Dr-Paul-Garrud.pdf

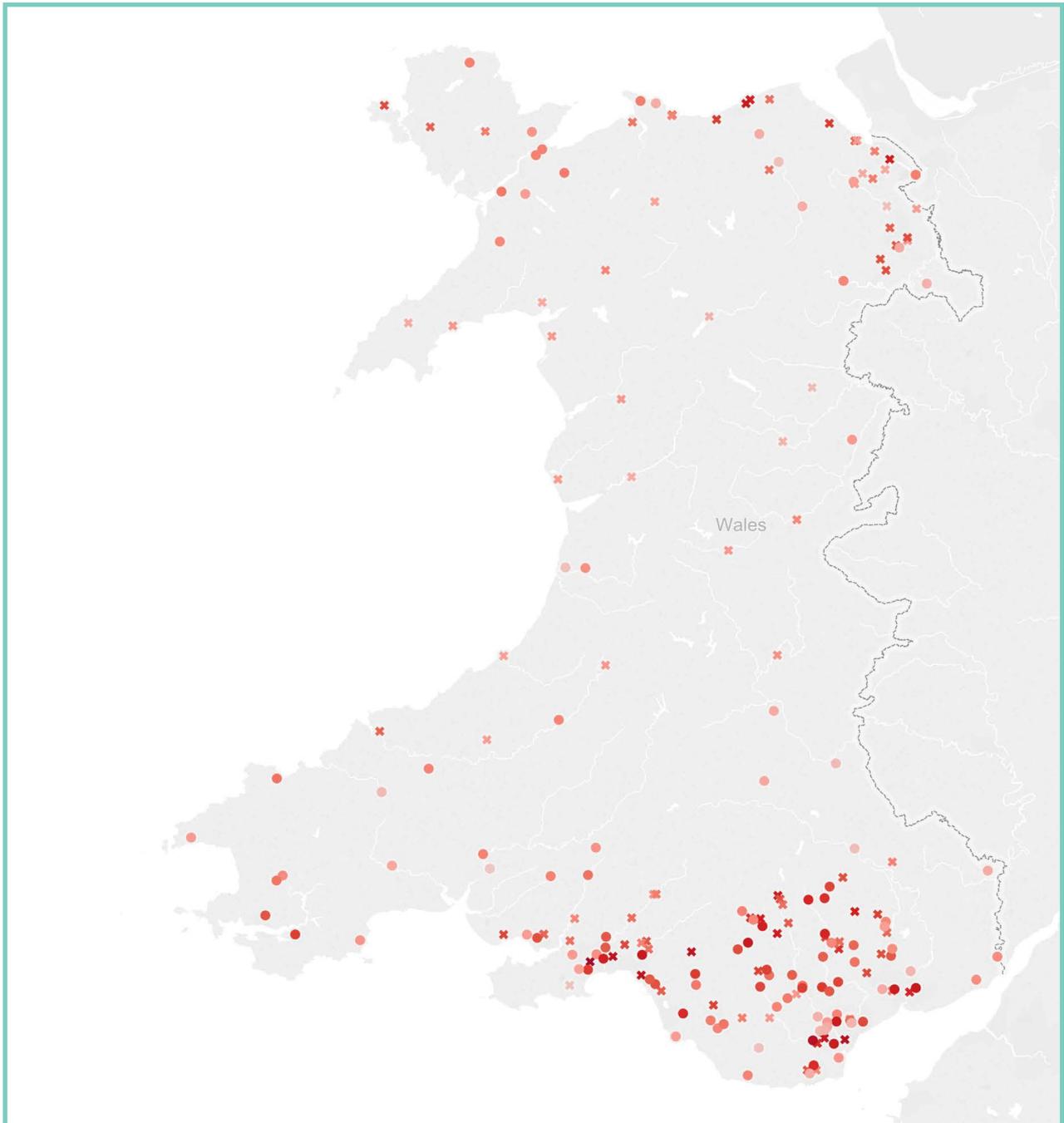


Figure 7 free school meal entitlement in Wales

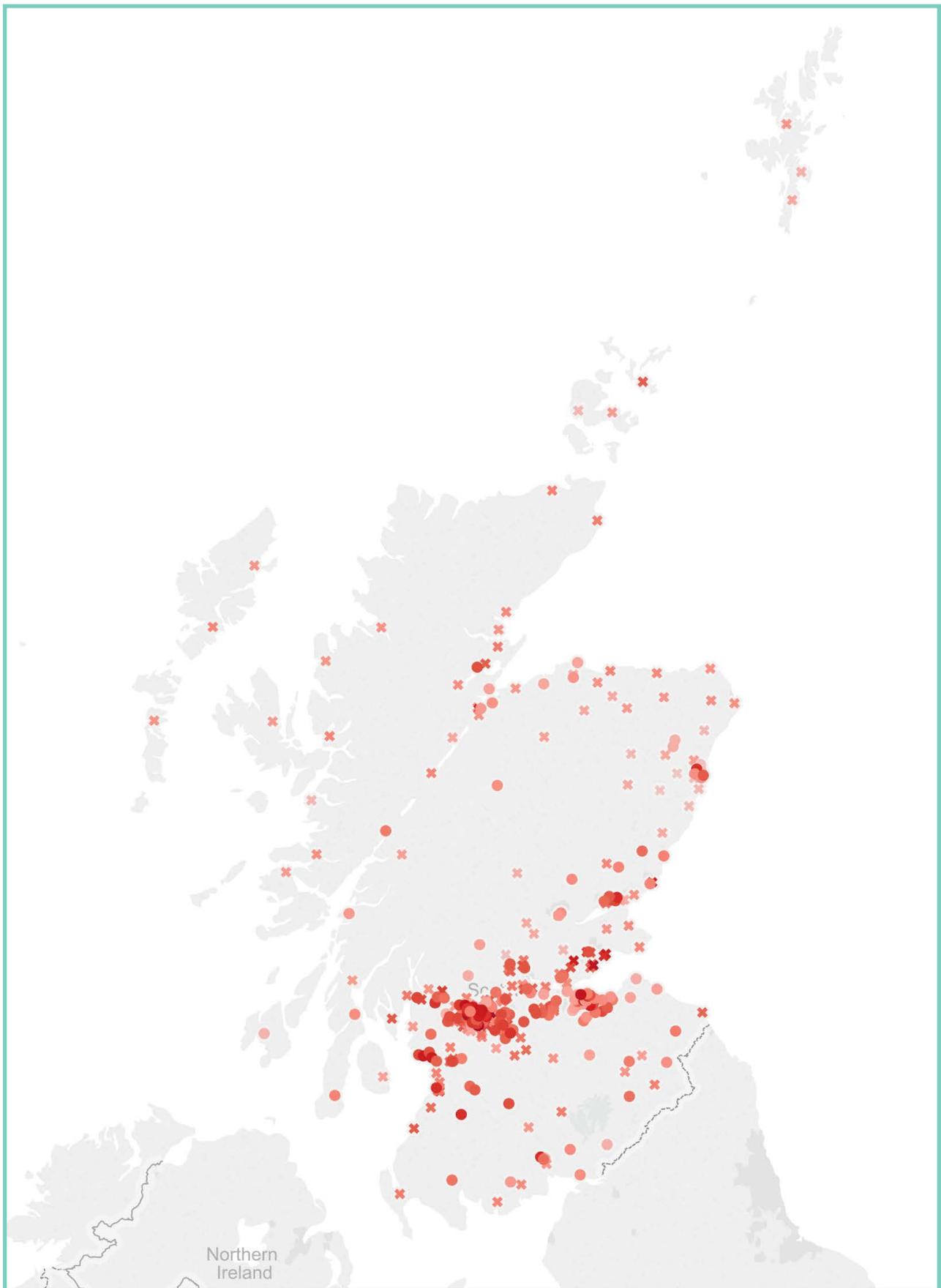


Figure 8 free school meal entitlement in Scotland

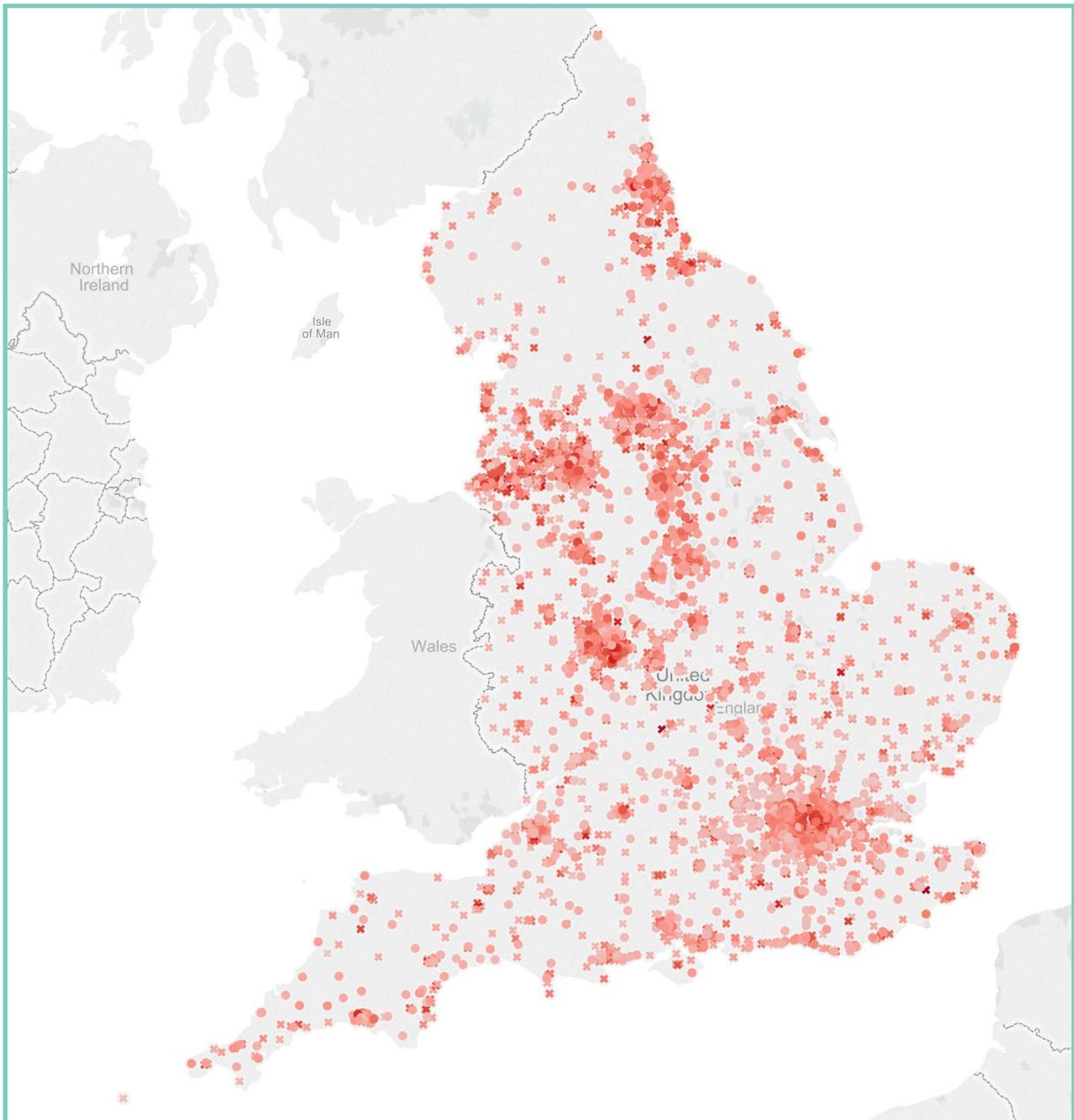


Figure 9 free school meal entitlement in England

The maps are available to medical schools. Please contact admin@medschools.ac.uk to access the information.

3. Consultation

A key part of the feasibility study was to consult with national policy makers and other key organisations or individuals regarding a national outreach scheme. This has involved those who have experience of medical school outreach (first-year medical students) and those who could be directly affected (such as teachers and advisers). This is alongside those who are running national or local outreach schemes currently or those who have policy and strategic responsibility for widening access within the UK.

3.1 Consultees

Those involved in the consultation have been:

- First-year medical school students – what made the difference? This has involved both ‘widening participation’ and ‘non-widening participation’ students.
- School teachers and advisors – what would benefit their students?
- Medical schools abutting ‘cold’ spots – what are the issues in these areas?
- Medical schools within REACH (the national collaboration of universities in Scotland)
- Medical schools through the MSC Selection Alliance and the Reference Group.
- The Higher Education Funding Council for England
- Scottish Funding Council
- The Higher Education Funding Council for Wales
- The Office for Fair Access
- The Sutton Trust
- National partnerships
 - Realising Opportunities
 - Russell Group Advisory for Widening Participation
- Local partnerships
 - Higher Education Progression Partnership in Sheffield City Region (this is also part of the National Network for Collaborative Opportunities)

3.2 National Context

The UK wide picture for developing a national outreach scheme for medicine is very supportive.

The Office for Fair Access (OFFA) and the Higher Education Funding for England (HEFCE) recently published ‘The National Strategy for Access and Student Success’.⁶ This highlighted the value and effectiveness of collaborative approaches in the delivery of outreach activity to school and colleges stating that ‘cross-sector and inter-sector partnership can maximise resources, ensure impartiality, widen the distribution of activity and aid equitable distribution of higher education outreach and progression opportunities. It also suggests that collaboration can enable pooling of smaller sub-groups of disadvantaged people to make outreach more efficient, thus improving provision and targeting’. It goes on to say that national collaborative programmes are more visible and are more able to demonstrate impact.

Within England, the Office for Fair Access (OFFA) is the independent public body that regulates fair access to higher education. It ensures that universities and colleges that charge higher tuition fees have adequate measures in place to attract disadvantaged

⁶ Department of Business, Innovation and Skills (2014). National Strategy for Access and Student Success. April 2014. www.gov.uk/government/uploads/system/uploads/attachment_data/file/299689/bis-14-516-national-strategy-for-access-and-student-success.pdf

students, and to support them during their studies and as they prepare to move on to work or further study. Through MSC's work with OFFA, it included in its access agreement guidance⁷ encouragement for the medical schools to engage: 'We urge all institutions with medical schools to consider this guidance when designing their access agreements'. This has significant influence when institutions determine how to spend their access expenditure (which can be substantial). OFFA continues to be supportive and will encourage the use of institutional resources to support greater outreach by the medical schools. This will help in financing any proposed options.

Also within England, the Higher Education Funding Council for England (HEFCE) has introduced the National Networks for Collaborative Opportunities (NNCOs). The NNCOs provide a single point of contact for all state-funded schools and colleges within their locality and support the provision of outreach activity to those schools and colleges. Higher education institutions and other partners deliver the outreach. The funding is due to cease in July 2016 (although it may continue) but there are opportunities both prior to July 2016 for the MSC to trial some interventions and beyond July 2016 as it is anticipated that many NNCOs will remain in operation funded by the universities.

The Scottish Funding Council is supportive of the consideration of a national outreach scheme. It already part-funds Reach. Reach runs over three years from S4 to S6 supporting students with an interest in and ability to study a professional degree in Dentistry, Law, Medicine or Veterinary Medicine and Surgery. Each university works with schools targeted by socio-economic and educational criteria within a part of Scotland. Reach works with individual students providing an understanding of career pathways, experiences of university learning and teaching, support with every aspect of the application process and advice from staff and students on becoming a dentist, law professional, doctor or vet. Any national outreach scheme would need to work with and support Reach, which is already well established. From the analysis of the outreach data it is evident that the targeting strategy is highly effective in identifying schools serving disadvantaged areas and supporting engagement by the universities (and medical schools).

HEFCW is interested in this work and further discussions were held in February. Within Wales the Welsh Assembly has established the Seren Network. Seren is a network of five regional hubs that are designed to support Wales' brightest sixth formers achieve their academic potential and access places at 'leading' universities. There is opportunity for engagement with Seren as it runs programmes to academically stretch and challenge students, link students with universities, provide application and admissions support for students and provide information and advice to teachers and advisers.

Also within Wales, there is extensive outreach to schools and colleges by Trusts and healthcare providers.

There are some other significant key influencers and stakeholders within the UK – these are the Sutton Trust and Realising Opportunities. Both have, in essence, similar aims, which is to support access to selective courses and universities. This aligns with the need for medical schools to attract talented people from a widening participation background into medicine. There are opportunities for partnership with both organisations.

⁷ Office for Fair Access (2015). How to produce an access agreement for 2016-17. publication 2015/01. Available at www.offa.org.uk/wp-content/uploads/2015/02/How-to-produce-an-access-agreement-for-2016-17-PDF.pdf

Realising Opportunities (RO) is a collaboration of 15 research-intensive universities, working together to promote fair access and social mobility of students from groups under represented in higher education. RO identifies able students and provides them with the skills and information to help them make informed decisions about their future and to raise their aspirations to progress to a selective university. Students are supported throughout the programme by their local RO university and a dedicated e-mentor who is a current student at one of the RO universities. Successful completion of the RO programme gives students the opportunity to have their achievements recognised through UCAS, resulting in additional consideration and the potential for alternative offers from the RO universities. RO has significant demand from its students for more information regarding medicine and its application process. There is opportunity for MSC to engage with RO in terms of information and presentations on medicine – this would be an identified cohort of talented widening participation students who are being supported through an intensive programme.

The Sutton Trust is an influential organisation supporting social mobility (particularly access to selective institutions and courses). It commissions research studies but also runs a series of national outreach programmes. Its summer school has had over 15,000 attend with over 85% go on to selective institutions. The Sutton Trust is keen to engage with medical schools and discussions have centred on the possibility of engagement with their school teachers' summer school. It is working to support teachers to have the up-to-date knowledge and skills to provide accurate information about access to leading universities, as well as helping them to provide academic challenge to their highest ability students. The Teacher Summer Schools are aimed at teachers in schools and colleges which have relatively few students accessing highly selective universities and which serve areas of socio-economic need. This provides the medical school access to teachers who need most support in terms of supporting their students' aspiration and access to medicine.

3.3 Views from outreach participants

Our two key audiences for a national outreach programme are teachers and advisors and the students themselves. It is recognised that parents are a key influencer, but in discussions with students they identified teachers and school/college staff as the main influencers and figures to whom they turned for support. We therefore focused on teachers rather than parents.

Teachers are the key influencers and the first call for advice and guidance for medical school applications, yet their knowledge of admissions, the role of a doctor and requirements can be patchy and not up to date. From our work we found that teachers:

- Find it difficult to filter the information and opportunities for sixth form students interested in medicine. The majority of teachers forward on all the information they receive with no advice or guidance on their merits or usefulness.
- Find it challenging to keep up to date with medical admissions practices and requirements as there is currently no one source of accurate information.
- In early secondary school do not know of the importance of GCSEs (both in terms of grades and subjects) to medical admissions and, therefore, cannot advise their students appropriately.

- In some schools and colleges do not prepare their students early enough for their application to medicine, for example, in seeking work experience.
- Find it challenging to support their students to access relevant and appropriate work experience opportunities.

Teachers would welcome a single source of up-to-date and accurate advice and guidance, a more coherent offer from medical schools and individualised support for particular individuals.

We interviewed first-year medical students who were identified as from a widening participation background or not. It should be recognised that these views may differ from those students who did not apply (even though with support they had the potential or interest) or who failed the application process. However, these students were deemed of interest as they had successfully navigated the application and admissions system. Interestingly we found:

- The decision to study medicine was taken from GCSE onwards.
- They did not realise the importance of GCSEs until after they had taken them and how important the grades are within medical schools' admissions. More work needs to be done to increase awareness of this, which could act as an additional motivator.
- More work needs to be done to allay the perception that medicine is only for 'complete nerds' and 'you need to know everything'.
- For those from a widening participation background clinical work experience had 'changed their mind' and made them focus more on medicine.
- There was no experience of medical-related outreach before 16 years of age.
- Post-16 the support from the school/college is essential. However, there was little filtering from the schools/colleges, with them forwarding on all the different opportunities/events/activities available.

A full transcript is available on request.

3.4 Views from medical schools and universities

We consulted a sample of medical schools who abutted 'cold spots'. We also consulted via the MSC Selection Alliance and the Reference Group.

Medical schools welcomed the survey and mapping exercise to help inform their outreach activity. Medical schools reported that the exercise in collating the responses to the survey has improved their data collection and storage techniques. Medical schools want to use the information to investigate different types of activity on offer by other medical schools, the socio-economic characteristics and educational performance of schools and colleges within their local area, and the coverage of their activity in relation to neighbouring medical schools. Medical schools expressed a wish for this to be a survey that was completed and updated every two years.

It is clear that regardless of any proposals for a national outreach scheme, Medical schools will use these data to inform their programmes.

In discussions regarding what a national outreach scheme could be those consulted felt that there needs to be a blend of responses rather than one single solution. This would take into account both a local and national context.

Medical schools felt that:

- Work experience is an important element for young people to understand the profession. However, it was recognised that this is an element that is the responsibility of many organisations.
- It is not necessary for the medical schools to visit all schools, but there should be resources and activities available to all. Medical students were felt to be important outreach ambassadors.
- More sophisticated targeting of schools (such as that in Scotland) would be a welcome development alongside streamlining resources so some schools did not dominate.
- There is a need to focus on schools where very few /no young people go on to study medicine.
- Work should begin pre-16 and links should be made with Science and GCSE choices.
- More co-ordination within medical schools is needed so that all admissions staff are aware of everything that is being done within the secondary school or college.
- The issue is often finding the best person to contact in schools and medical schools felt would be useful if it was possible to create a contact list of people in schools who medical schools can contact regarding outreach activities.
- It was suggested that instead of relying solely on schools, it would be useful to consider other groups such as Guides and Scouts to target.
- There is a need to continue looking after widening participation students once they are in medical school.⁸
- There is room for a shared effort and sharing material between medical schools.

There was significant debate and no firm conclusion regarding whether the programme should encompass healthcare alongside medicine. The advantages to including healthcare were felt to be:

- Students would be more informed regarding the range of professions within the health sector.
- There would be options available to students who did not meet the academic (or personal attributes) to become a doctor.
- There would be opportunities for engagement with a wider audience, which could support widening access to medicine.

⁸ For more information see the Medical Schools Council commissioned report *A Journey to Medicine: Student Success Guidance*. Available at www.medschools.ac.uk/Publications/Pages/A-Journey-to-Medicine-Student-Success-Guidance.aspx

However, it was also felt that including healthcare could:

- In the initial stages make the programme unwieldy due to the size and diversity of healthcare.
- Result in a lack of focus, particularly at post-16 where the support required for widening access to medicine is intense.
- Move medical schools away from their area of expertise.

In conclusion it was felt important for students to be informed of a wide range of healthcare professions. However, it was also recognised that there is much work to be done within medicine and in the first phases we should focus on access to medicine with signposting to other provision. Further discussions should be held with other bodies, such as Health Education England, heads of widening participation within institutions and wider healthcare bodies regarding a broader programme of engagement.

We consulted with the heads of widening participation within the universities. This was done via two meetings with the Russell Group Widening Participation Advisory. While it is noted that this does not cover all universities with a medical school, it provides a good proxy to the wider institutional discussions regarding widening participation and access and the relationship with medical schools. The group was generally supportive of a national outreach scheme. However, there was concern expressed within the group that raising aspirations and awareness of medicine would only create more disappointment due to increased applications. The group is aware of the intense interest in medicine partly from its regular teachers/advisers conference and from its own work. It suggested that it might be worthwhile working together with its NNCO.

4. Findings and options

In considering the development of a national outreach scheme for medicine we needed to ensure that our primary purpose was clear. We recognised that those applying were individuals and could be from any school and college. However, the first phase of our development was to consider how we engage with schools and colleges across the UK. The feasibility study adopted the primary purpose of our outreach work to 'ensure that there are no schools in the country that do not have access to support for their students who wish to study medicine'.

A lot of discussion has centred about the timing of the intervention. The choice of GCSEs and students' performance within these examinations were felt by all those we consulted to be a key factor in a student's ability to study medicine (particularly for those from low socio-economic groups). In developing these proposals we have, therefore, only considered options that could take place from end of Year 9 (age 13) onwards in order to ensure students and schools/colleges make informed choices.

Below is a series of five options for consideration. Within the development of each option we have considered very broadly the resource implications. We believe that it is realistic to consider:

- The possibility of first year pilot funding from Health Education England (although this would support England only).

- There needs to be ongoing sustainability.
- Ongoing costs (beyond a possible first year) would be the responsibility of all medical schools.
- All, or at least part, of the funding required would be sought from institutional allocations within the Access Agreements. This builds on our discussions with OFFA, which is supportive of the work medical schools are doing and the inclusion of this work within universities' widening participation strategies and allocation of resources.

An approximate cost for each option has been included. These are approximate costs only and a fully costed proposal would be developed once options have been considered.

In determining the options we considered whether to include healthcare more broadly. All the options can include healthcare information. If this were to be taken forward, discussions would need to be held with other providers. It is recommended that we first consider medicine and ensure that there is the option for further expansion into other areas of healthcare.

Within the development of the options we have also considered partnership, where appropriate and beneficial to the medical schools with other organisations. The key organisations that we have identified as potential collaborators are:

- The NNCOs (in England)
- The Seren Network (in Wales)
- The Scottish Funding Council (in Scotland)
- Sutton Trust
- Realising Opportunities
- Russell Group

Each option is explained, identifies the advantages and disadvantages of each scheme and concludes with a recommendation.

Option 1 – Allow individual medical schools to develop their programmes

The mapping has enabled medical schools to evaluate their activity within their local context, be able (where appropriate) to develop their targeting and understand where the over-provision or gaps may be. It is clear that Medical Schools will use this information to inform their outreach programmes.

This option will mean that medical schools will undertake a survey every two years providing a comprehensive overview of the outreach undertaken this will be presented back to the them alongside socio-economic and educational performance data of schools and colleges across the UK. It is expected that medical schools will use these data to inform their outreach programmes and develop them as appropriate.

The cost for the development of new activity or the refocusing of existing programmes would depend on individual medical schools and it is, therefore, difficult to determine the resource required. To run the survey we anticipate a cost of £7k per year (which includes

staff time in administration and technical support for mapping the data alongside national statistics).

Advantages	Disadvantages
<ul style="list-style-type: none"> • Allows medical schools to respond to their local context 	<ul style="list-style-type: none"> • Potential for a lack of coordination which could still result in gaps and over-provision
<ul style="list-style-type: none"> • Cost-effective relying on medical school existing budgets 	<ul style="list-style-type: none"> • Responses from medical schools will differ
	<ul style="list-style-type: none"> • A lack of a single cohesive response, with duplication of resources

Medical schools have diverse responses to widen access and this can result in some areas receiving intensive support and others less engagement. There is also greater pressure for resources on those medical schools that abut more remote or isolated areas. Allowing individualised responses neither allows for the sharing of resources nor the identification of opportunities for cost efficiencies and greater value for money. **It is recommended that this option is not taken forward as a stand-alone proposal but we consider it within a broader programme.**

Option 2 – Support medical schools to develop localised responses

The mapping has identified a number of areas, such as Teesside, Lancashire and Wales, in which there is limited outreach. Medical schools in the main tend to engage in their local area, however, increasingly there are a number of medical schools who are engaging further afield. This option invites medical schools neighbouring these areas, plus others that are interested to engage, to develop coordinated responses to areas of low engagement.

The cost for this would depend on the intervention proposed by each area. The costs would include coordination support, and the delivery costs. We have assumed that administration cost by the medical schools is absorbed. If medical schools were engaging five times in these areas the costs could be approximately £8k per area (depending on the type of event).

Advantages	Disadvantages
<ul style="list-style-type: none"> • Allows medical schools to respond to the local context 	<ul style="list-style-type: none"> • Over-reliance on those medical schools which are located near to areas of low engagement
<ul style="list-style-type: none"> • Develops a coordinated response across a number of partners 	<ul style="list-style-type: none"> • Does not address those areas where there is limited engagement – addresses only the more significant gaps

This option may provide the opportunity to develop a programme in some of the least engaged areas. For those that have particularly low levels of engagement it will provide a route in which a programme of outreach can be offered. However, it does not necessarily ensure that those schools which are not part of a programme but which are also not in an

area with significant gaps will get provision. This option also puts additional pressure (and the requirement for additional resource) primarily on those medical schools that abut rural or isolated areas, or significant urban conurbations.

This can include broader healthcare information and materials.

It is recommended that this option is not taken forward as a standalone proposal but rather we consider this response within a broader programme.

Option 3 Provision of online resources

From all those whom we consulted (teachers, first year medical students, medical schools and other partnership bodies), the common feedback was the provision of accessible online resources. Views were expressed that there should be two types of resource:

- **Resources for the medical schools to use in their outreach activities** – This would give medical schools an opportunity to share best practice and create a more efficient use of materials. This could also include, for example, virtual facilities (and guidance on how to use them), which is being used in Scotland to deliver programmes to more remote communities.
- **Guidance for secondary school students on becoming a doctor, including information on the application process** – This would house case studies and role models, and provide an opportunity to advertise events and activities.
- **Teacher and advisor resources** – We shall need to consider ways in which to engage schools and colleges to use these resources.

The online resources could link to other websites and partnerships (such as Realising Opportunities or the Russell Group) and provide definitive information to students interested in medicine.

This can include broader healthcare-related materials.

Assuming that the majority of the content is provided by medical schools, a website could cost from £30k for initial set-up. Ongoing maintenance and support is typically 10–20% of the website’s cost – approximately £3k to £6k a year.

Advantages	Disadvantages
<ul style="list-style-type: none"> • Allows medical schools to provide resources to all schools and students across the UK 	<ul style="list-style-type: none"> • Would require initial set-up costs and would need ongoing update and refresh
<ul style="list-style-type: none"> • Will provide a definitive source of information for schools and colleges 	<ul style="list-style-type: none"> • Relies on students and their schools/ colleges accessing the information and using it to full effect
<ul style="list-style-type: none"> • Once set up ongoing maintenance and resource required should be relatively low 	<ul style="list-style-type: none"> • Does not provide face-to-face bespoke support for individual students or schools/colleges
<ul style="list-style-type: none"> • Will provide a bank of resources and best practice and enable medical schools to share information 	
<ul style="list-style-type: none"> • Pooling of resources 	

This option provides a way in which we can ensure that students and schools/colleges receive up to date and accurate information about becoming a doctor and the application process. Greater consistency and a national approach will increase the impact of interventions. Currently students are visiting and attending various websites and events in order to ensure they have the right information. This website could also provide resources for other national outreach programmes, such as Realising Opportunities or the NNCOs. Alongside the outreach that medical schools offer, this could provide a route to providing both online information and face-to-face interventions.

It is recommended that this option be considered for approval and for the development of a fully costed proposal.

Option 4 – Regional conferences

This option considers establishing a series of regional medical school conferences run by medical schools.

Market research has shown that conferences aimed at school and college students are very popular. For example, each year Medlink has a conference attracting hundreds of students, typically paying a fee of over £300. Realising Opportunities runs a conference which is usually the most popular part of the programme, with high demand from students for medicine information sessions.

Similarly the market research has also shown that conferences aimed at teachers and advisers are very popular and in high demand. The Russell Group runs an annual teachers conference which is very well attended and, again has high demand for those sessions regarding medical school admissions. Also, across the UK regional or local teacher/adviser events have been shown to be highly popular.

Providing a series of regional conferences could provide for medical schools a highly cost effective way of engaging with students and/or teachers. These could include other partners, such as local NHS Trusts. Currently, the majority of medical schools will deliver similar events and activities but these are typically locally based, restricted in terms of number and do not involve other medical schools.

This could be extended to include information on healthcare.

The cost per regional conference (assuming 300 attendees) is £2.5k on average at a city centre location. For five regional conferences⁹ this would cost £12.5k. This does not include administration costs. Universities may be able to provide accommodation and catering at reduced costs.

⁹ This would cover Wales, Scotland, Northern Ireland, North England and the South of England.

Advantages	Disadvantages
<ul style="list-style-type: none"> Allows medical schools to provide resources to all schools and students across the UK on attendance 	<ul style="list-style-type: none"> Requires coordination across all medical schools and event management expertise
<ul style="list-style-type: none"> Provides an opportunity for direct interaction with students and teachers/ advisors 	<ul style="list-style-type: none"> Needs schools/colleges and students to attend and travel
<ul style="list-style-type: none"> Access to a national audience 	<ul style="list-style-type: none"> Requires additional resource
<ul style="list-style-type: none"> Pooling of resources 	

This option provides an opportunity to engage with schools/colleges and students directly. It enables medical schools to directly break down some of the barriers between them and schools and colleges enabling a greater understanding. Whilst resource is needed to run the conferences, this could be, in part, mitigated by medical schools not having to run their own individual conferences and activities.

Option 5 – Develop a blended programme

This option proposes a blended solution. A blended solution would involve:

- A survey every two years on outreach. This would allow a comparison from the 2014-15 baseline.
- Support to medical schools to develop their own local response.
- Online resources.
- Regional conferences.

This would support medical schools to develop their own individual outreach through providing data and enable medical schools to work collaboratively to engage with those schools and colleges located in the ‘cold’ spots, while also providing national coverage through a website and/or regional conferences.

Selecting for Excellence suggested that greater consistency and a national approach may increase the impact of interventions and found that ‘no one single intervention will solve medicine’s widening participation problem. Instead, a whole series of interventions is needed to encourage people from a lower socio-economic background to apply to medicine and to support them through the application process and beyond’.

Advantages	Disadvantages
<ul style="list-style-type: none"> Allows medical schools to provide resources to all schools/colleges and students across the UK 	<ul style="list-style-type: none"> Requires co-ordination across all Medical Schools
<ul style="list-style-type: none"> Enables individual responses from the medical schools (that is informed by data) alongside a national programme 	<ul style="list-style-type: none"> Requires additional resource and is the most costly of the options
<ul style="list-style-type: none"> Has face to face intervention alongside web-based resources 	
<ul style="list-style-type: none"> Pooling of resources 	

This option provides a bespoke and tailored response from individual medical schools alongside a national programme, which will provide a wider coverage. By having both web resources and regional conferences enables both virtual and direct engagement and provides a variety of options by which students and school/college students can engage.

We do not underestimate the challenges in partnership working, not least in terms of the significant levels of time and resources that each partner needs to commit. Collaboration, and the confidence to establish it and carry it through, requires long-term commitment. However, it does offer an opportunity to utilise resources more effectively and create a greater impact.

This can be extended to include healthcare.

The cost of this option would be £74.5k in the first year and £50.5k in the following years. Every two years an additional £7k would be sought for the survey. This equates to £2.23k or £1.53k per medical school, if the costs were to be shared. There may be the possibility of pilot funding for the first year.

It is recommended that this option is taken forward and that members receive a fully costed proposal. It provides a way to engage with a broader cohort of schools/colleges and students.

Technical information on the mapping variables

The database has been compiled by the Centre for Evaluation and Monitoring (CEM) at Durham University using school-level data provided by the appropriate government departments for England, Wales, Scotland and Northern Ireland. The data for England are publicly available and there are no restrictions on their use. However, the data for Wales, Scotland and Northern Ireland have been provided to CEM for use in research and evaluation. They can be used internally by medical schools to target and evaluate their outreach activity, but cannot be used for other purposes and must not be shared or published.

The data available differ for each country in the United Kingdom. We have tried to use equivalent measures where possible but comparisons between countries should be made with caution.

Matching was done using the postcode field: if the postcode in the medical school outreach datasheet (provided by the medical schools) matched with a postcode in CEM's database of schools, this returned the schools unique identifier¹⁰ to the outreach datasheet. A count of how many times each unique identifier appeared in this datasheet gave the total number of engagements for each school. Occasionally there may be incomplete or incorrect matches, for example if there are multiple schools in the same postcode (the full postcode is used here so this should be rare) or if the school is officially registered with a different postcode to that provided by the medical school.

POLAR3 quintile

The POLAR classification, developed by HEFCE classifies local areas or 'wards' into five quintiles, based on the proportion of 18 year olds who enter higher education aged 18 or 19 years old. Quintile 1 indicates the lowest levels of participation and quintile 5 indicates the highest levels.

It should be noted that the POLAR3 quintile of a school does not directly relate to the POLAR3 quintile of the home postcode for pupils attending that school – the measure should be treated with some caution, especially in densely populated areas where pupils are more likely to travel across multiple ward boundaries to attend school. Having said that, the measure is commonly used by higher education in targeting outreach activity both at school and pupil level.

Further information on the background and methodology for POLAR3 can be found on the HEFCE website: www.hefce.ac.uk/analysis/yp/POLAR

Free school meals

England: FSM

Data for schools in England are published annually by the Department for Education. The measure we have used is the percentage of pupils in each school eligible for and claiming free school meals. Our database includes a three-year average (derived from three separate years of data) and the percentage for the most recent year (2013/14). We have chosen to use the latter measure for this map, as the rate of academy conversion in England means that a high proportion of schools do not have a measure available for the previous three years.

The tooltip includes the percentage of students achieving at least 5 A*–C grades at GCSE including English and maths and the average A level points score per FT student for 2013/14.

Scotland: FSM

The FSM rate shown for Scotland is a three-year average from 2010/11 to 2012/13. There was limited data available as school-level data is not publicly available in Scotland. The data we use were provided to CEM by the Scottish government as part of a research

¹⁰ DfE number (also known as LAESTAB number) for England and Wales, SEED number for Scotland and DENI number for Northern Ireland.

project funded by the Sutton Trust in 2014. We have been unable to obtain more recent data for this academic year.

Unlike schools in England, Scottish schools are unable to convert to academies – therefore the three-year average does not present problems with missing data as it would in England.

The tooltip shows the best attainment measures available for Scotland: the percentage of pupils on roll at S4 attaining 5+ awards at level 5 (3 year average 2010/11 to 2012/13) and the percentage of pupils on roll at S5 attaining 3 or more A grades at Higher for 2012/13.

Wales: FSM

The FSM rate shown for Wales is also a three-year average, provided by the Welsh government. These data are not publicly available; they have been provided for use in research by the Welsh government and cannot be published or shared outside of this project.

The tooltip shows the average KS4 points score (including GCSE-equivalent qualifications) for 2013/2014 and the average A-level and equivalent points score per FT student for 2013/2014 (which does not include equivalent qualifications).

Northern Ireland: FSM

The map for Northern Ireland displays the percentage of pupils eligible for free school meals in 2013/14. Again it must be noted that for Northern Ireland these data are not publicly available; they have been provided for use in research by the Northern Irish government and cannot be published or shared outside of this project. It should also be noted that the methodology used to prepare the data by the Northern Irish government and England's Department for Education may differ and the figures are not necessarily directly comparable.

The tooltip includes information on attainment (the percentage of students achieving at least 5 A*-C grades at GCSE including English and maths and the average A level points score per FT student for 2013/14) provided by the Northern Ireland government that must only be used for research.

Progression to UK higher education institutions

England: Education destination of KS5 students

This map shows the percentage of students at KS5 in each school going on to higher education, with information presented for three categories. By definition, schools that only teach to KS4 (GCSE) are not included on this map. The colour of points on the map represents the percentage of students going on to the top third of UK higher education institutions, as defined by the mean UCAS A level tariff score of entrants in 2011/12. Schools and colleges coloured dark orange have the lowest rates of progression to the top third of UK higher education institutions, and those coloured dark blue have the highest rates (and are perhaps, therefore, in less need of intervention).

Schools are marked on the map with a circle if they are currently engaged with at least one medical school, and with a cross if they are not. The medical schools themselves are marked with an unfilled circle. (Medical schools have been given a 'dummy' value of 1%

as a work-around to ensure they appear on the map.)

Hovering over an individual point on the map will show a 'tooltip' containing information about that point. This includes the percentage of students going on to any HEI and to Russell Group institutions.

The map can be filtered by the percentage of students going to the top third of UK HEIs – this could be used, for example, to identify schools that may particularly benefit from outreach activity. Note that when the filter is applied, the colour scale will change so that dark blue continues to represent the highest rates within the range selected.

These measures use data published by the Department for Education in England. The raw data can be downloaded from: www.gov.uk/government/statistics/destinations-of-key-stage-4-and-key-stage-5-pupils-2012-to-2013

The universities included in the top third of UK HEIs are: Aston University, Cardiff University, Central School of Speech and Drama, City University, Courtauld Institute of Art, Glasgow School of Art, Goldsmiths College, Guildhall School of Music & Drama, Heythrop College, Imperial College of Science, Technology & Medicine, Kings College London, London School of Economics and Political Science, Loughborough University, Queen Mary and Westfield College, Queens University of Belfast, Royal Academy of Music, Royal College of Music, Royal Holloway and Bedford New College, Royal Scottish Academy of Music and Drama, Royal Veterinary College, School of Oriental and African Studies, School of Pharmacy, St Georges Hospital Medical School, University College London, University of Aberdeen, University of Bath, University of Birmingham, University of Bristol, University of Cambridge, University of Durham, University of East Anglia, University of Edinburgh, University of Exeter, University of Glasgow, University of Kent, University of Lancaster, University of Leeds, University of Leicester, University of Liverpool, University of Manchester, University of Newcastle-upon-Tyne, University of Nottingham, University of Oxford, University of Reading, University of Sheffield, University of Southampton, University of St Andrews, University of Strathclyde, University of Surrey, University of Sussex, University of Warwick, University of York.

The list of universities included in the Russell Group and further details about the methodology for the production of these statistics can be found in the Department for Education's Technical Note on Destination Measures: www.gov.uk/government/uploads/system/uploads/attachment_data/file/397988/Technical_Note_2015_FINAL.pdf

Scotland: progression to a UK HEI

There is only one measure of destination data available for Scotland: the percentage of students in 2012/13 going on to study at a UK HEI. These data were supplied by the Scottish government and can only be used for research purposes; they cannot be published or shared outside of this project.

The map has been designed as described above for England.

Postcode mapping

UK postcodes are alphanumeric references comprising an outward code of 2–4 characters and an inward code of three characters (for example, for CEM’s postcode DH1 3UZ, ‘DH1’ is the outward code and ‘3UZ’ is the inward code).

The mapping in this report uses the average latitude and longitude for the outward code and the first two characters of the inward code. This means that occasionally there will be more than one school located in the same area and represented by the same point on the map. Where this happens, the school name and any other non-numeric data will be replaced by a * on the tooltip and numeric data will be summed (e.g. for the number of engagements) or averaged (e.g. for FSM rates or academic measures) as appropriate.

School names

In Figure 1 (all outreach), school names are displayed as provided by medical schools. Figure 2 (contextual) uses school names as provided by the relevant government departments.