

Institution: UCL
Unit of Assessment: 25
Title of case study: Target Medicine - inspiring and supporting applications to medical schools from non-selective state school students
<p>1. Summary of the impact</p> <p>For many academically able young people, low social class remains a persistent barrier to medical education and, subsequently, to careers in medicine: those from social class I are 100 times more likely than those from classes IV or V to win a place at medical school. Since 2004, research conducted at UCL has underpinned the development of a free Widening Participation (WP) programme for young people from non-selective state schools. That programme incorporates a wide range of activities, including a summer school; outreach programme; mentoring scheme and work experience placements to provide structured support and guidance for applications by non-selective state school students to medical school. Since 2007 more than 700 pupils have taken part in the programme. 18% of the first cohort obtained places at medical school and in 2013, 9% of that group qualified as doctors from UCL Medical School.</p>
<p>2. Underpinning research</p> <p>UCL research has shown that there are considerable inequalities in medical school admission caused by social class (SC) [1]. Standardized admissions ratios showed a 30-fold variance between SC I and SC V, such that those from lower SC groups are seriously underrepresented. When social class and ethnicity were combined, the standardized admissions ratios showed a 600-fold variation, with black men from SC IV and V being particularly significantly under-represented. Indeed, this research showed that no black men from SC V entered medical school between 1996 and 2000. Medical schools' failure to recruit talented young people from these backgrounds has a negative impact not only on the students themselves, but also on the schools and medical schools, which subsequently lack appropriate and representative role models. In turn, this reduces the quality of the service able to be ultimately offered by medical schools and healthcare providers in their professional engagement with the UK's very diverse communities. As such, it has further impacts on patient care and the NHS, and perpetuates a stereotype of the medical profession as elitist, dominated by narrow social groups and unrepresentative of the diversity of the population.</p> <p>In 2004, researchers at UCL sought to address some of these problems through a study of young people's understanding of and attitude towards medical schools. Focus groups at six North London schools were used to assess attitudes among 68 academically able students aged 14-16 from selective and non-selective schools, and found that those from 'non-traditional' (low-income and/or ethnic minority/refugee) backgrounds had little idea about either the process of applying to medical school or what was taught there. Despite being sufficiently academically able to apply for a medical degree most did not know how to go about doing so, and therefore fell at the first hurdles of the application process [1, 2]. The research highlighted gaps in existing Widening Participation (WP) ventures' understanding of the perceived barriers to access to medicine, notably in terms of background income and the cost of study, and recommended modifications to support the more effective targeting of the most relatively economically and socially deprived areas. These recommendations included increased community input to WP projects and their incorporation of credible role models as mentors [1, 2, 6]. In July 2005, the team responded to these recommendations itself by establishing the 'Dick Whittington' project, a one-week summer school to encourage forty 16 year-old students from schools in relatively deprived areas to consider a career in medicine or a health-related career. This project provided the foundations not only for many of the impacts described below, but also for a great deal of the research conducted by the UCL team since 2005.</p> <p>That subsequent research is unified by its shared use of an action research methodology, wherein researchers have worked with participants both to identify barriers to accessing medical school and to deliver a programme of mentoring, outreach and information designed to improve WP activities in this area. Our initial focus groups identified the need for a pre-medicine Summer School in the first place; action research in the form of interviews, observations and questionnaires delivered</p>

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during the establishment and running of our early Dick Whittington schools (2005-2006) subsequently identified a need for more continuous and sustained mentorship to support pupils in developing interview skills, gaining relevant work experience and writing high quality personal statements. Follow-up interviews with parents (2006) and informal discussions with teachers suggested the further need for more outreach provision and on-going peer support [3, 6]. One important finding of these evaluative processes was that, whilst participants found the information the Summer School supplied about medical careers and the process of applying to medical school helpful, it was not by itself sufficient catalyst for students from non-traditional backgrounds to make a successful application. Although potential applicants often had families who were supportive of their medical ambitions, they found it difficult to access appropriate work experience or help with writing personal statements and developing and practicing the interview skills after the Summer School had ended, making on-going mentoring imperative [4, 5].

3. References to the research

- [1] Greenhalgh T, Seyan K, Boynton P (2004) 'Not a university type': focus group study of social class, ethnic and sex differences in school pupils' perceptions about medical school. *British Medical Journal* 328; 1541. <http://doi.org/cc92t3>
- [2] Greenhalgh T, Seyan K, Dorling D (2004) The standardised admission ratio for measuring widening participation in medical schools: analysis of UK medical school admissions by ethnicity, socioeconomic status, and sex. *British Medical Journal*. 328; 1545-6. <http://doi.org/d76cr8>
- [3] Greenhalgh T, Russell J, Boynton P, Lefford F, Chopra N, Dunckley L (2006) 'We were treated like adults' development of a pre-medicine summer school for 16 year olds from deprived socioeconomic backgrounds: action research study. *British Medical Journal*. 332; 762-7. <http://doi.org/bd345g>
- [4] Dunkley L, Dacre J, Russell J, Greenhalgh T (2006) Widening access to medical school: Dick Whittington Summer School. *The Clinical Teacher*. 3 (2) 80-7. <http://doi.org/bt6q85>
- [5] Pathmajothy D (2006) Dick Whittington Summer School: A pupil's perspective. *The Clinical Teacher*. 3 (2) 88-9. <http://doi.org/b9bwmq>
- [6] Robb N, Dunkley L, Boynton P, Greenhalgh T (2007) Looking for a better future: identity construction in socio-economically deprived 16 year olds considering a career in medicine. *Social Science and Medicine*. 65 (4) 738-54. <http://doi.org/b37tmx>

4. Details of the impact

The findings of interviews and observations conducted during the Dick Whittington Summer Schools (2005-2007) were used both to refine the team's questions and approach to identifying the needs of young people, and to deliver **practical interventions leading to improvements in access to medical education**. In turn, this has contributed to **enhanced UK social mobility**. This was achieved in the first instance by collating and sharing information from the summer school, including about how to make medical school interviews more accessible with UCL's medical school admissions office. However, the most significant research impacts arose from the use of the findings outlined above in the research team's creation in 2008 of **Target Medicine (TM)** [a], a London-wide mentoring, outreach, and work placement scheme. The programme is very oversubscribed, with five applicants applying for every Summer School place. Since 2008, TM has welcomed 260 young people to six Summer Schools (doubling the number of participants in the earlier Dick Whittington programmes), mentored a total of 860 students from 171 schools, and contributed to outreach work at the 50 UCL Outreach target schools. Between 2005 and 2013 the proportion of UCL medical students from selective, fee-paying schools (whose students account for just 7% of the UK's school population) fell from 60% to 34%.

The TM Summer School is a week-long intensive course for 48 Year 11 students from non-selective state schools in N, NW, SW, SE, E, EC, W and WC postcodes or the boroughs of Brent, Barnet, Enfield or Waltham Forest who are thinking of studying medicine, have predicted grades of B and above in Maths, English and Science GCSEs, and whose parents or carers have not been to university. The programme, which is run entirely by UCL staff (headed by Dr Jayne Kavanagh), helps students envisage life as medical students and doctors, and provides information about and guidance on the process of applying for a place at medical school. The week culminates with

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participants' preparation of a multimedia clinical case history for presentation to peers, parents and teachers. Target Medicine's most immediately significant outcome is its success in encouraging and supporting participants' successful applications to universities. The value of the scheme to student participants is evident from their feedback on it; according to a participant in the 2008 programme: *"Target medicine helped me achieve more than I ever thought I could. I am really not what you would call a typical medical student. I was the first person in my family to ever even consider going to university, let alone become a doctor."* A 2009 participant, who went on to accept a place to study Medicine at UCL in 2011, wrote: *"I had the impression that someone with my background would find it difficult to enter such a competitive profession...the summer school has been immeasurably useful. It helped me realise why I wanted to become a Doctor and it convinced me I could."* [b].

The reach of the research impacts on local school students' awareness of – and interest in pursuing – medical education has been further enhanced by TM Outreach, which engages with 50 UCL target schools giving a total potential audience of 10,000 students; 24 of those schools are currently actively engaged, giving TM Outreach access to 5000 year 9 students each year. In 2013 alone, the Outreach team has conducted 29 visits to 28 schools, giving talks and workshops to an average of 60 pupils per visit. Both school and medical school participants are supported by our **development and provision of appropriate, up-to-date learning resources** including lesson plans, power-point presentations, handouts on interview techniques, personal statement writing and critical thinking, tips on admissions tests, quizzes, self-evaluation forms, action plan forms, team evaluation forms, and structured worksheets to facilitate personal statement writing [c].

In response to their research findings, the UCL team also incorporated into TM a comprehensive sixth form mentoring scheme, in which current medical students – many of whom are themselves from non-traditional backgrounds – are trained to mentor would-be applicants and guide them through the process of applying to medical school. Mentoring includes providing sustained assistance with finding such work experience, enhancing study skills, writing personal statements, developing interview techniques, and practicing admissions tests. Mentors offer further support through mock interview sessions with UCL Medical School interviewers; mock BMAT and UKCAT exams; and an early focus on the development of personal statements. Since 2008, the scheme has assisted almost 700 pupils, and now **guides ~200 Year 12 and Year 13 pupils from London-based state schools through the medical school application process each year**. 220 pupil school student participants in the 2010/11 mentoring scheme were surveyed between December 2012 and February 2013 to assess the impact of that programme on them. Teenagers are a notoriously difficult group to follow-up, but of the 38 respondents, 11 are now studying medicine.

As well as supporting school pupil participants, the mentoring scheme allows the medical students who act as mentors to develop team-working, leadership, and teaching skills that enhance the quality of the service they supply in their future careers as healthcare providers. A 2011-2012 mentor wrote: *"The skills which I have been able to develop over the past few years have been invaluable in my progression as a medical student. As well as taking part in many extra-curricular activities, my passion for widening participation has been focused in my current role as the student lead for the UCL-based wing of Target Medicine."* According to another: *"The two personally most notable things I gained on the Summer School are intangible: an increase in confidence; and a keen sense of equality. Both have influenced me significantly: in equipping me with the enthusiasm and skills to mentor and teach on Target Medicine and at anatomy tutorials in medical school"* [b]. These sorts of success, moreover, have a series of broader and **longer-term implications for the standards of UK healthcare provision and, therefore, for the health, welfare and quality of life of its citizens**. In particular, the programme provides a forum for medical students from WP backgrounds to contribute to their own communities and helps to broaden the social diversity of medical student cohorts; as such, it contributes to the development of a medical profession that better represents the population it serves.

A crucial new feature of TM, which specifically addresses deficiencies identified by the research, is the introduction in 2012 of access to high quality work experience in the NHS. Within one year, placement capacity has increased three fold to 128 available sites across North London (1 GP, 70 Whittington Foundation trust and 57 UCL Hospital) and 160 students have completed work

experience. The range both of the project's impacts and its beneficiaries has been further expanded by the team's development of strong and productive working relationships with these local primary and secondary healthcare services and with **leading to enhanced understanding of WP issues among medical professionals more widely**. Target Medicine's success is such that it features in the Medical Schools Council (MSC) and British Medical Association (BMA) joint publication *A guide to widening access to medical schools* (2010) [d]. Its inclusion in literature produced by the BMA, a professional association and trade union for doctors with a membership of 152,000, has significantly extended the reach of professional engagement with TM itself and the research underpinning it. That engagement has been enhanced still further through discussion of the project among the BMA's online community and student-facing websites including thestudentroom.co.uk, an online community with over 1 million members [e].

TM has also featured in BMJ Careers (2010) – the UK's leading medical recruitment and careers website – as a case study exemplifying both innovative WP practice and the provision of opportunities for medical professionals to contribute to that practice [f], and the programme's benefits have extended to these professionals who volunteer to support it. One doctor who contributed to the 2013 programme reviewed the experience as follows: *"Today [a group of other doctors and I] did something wonderful...We gave up our evening to talk to 16 year olds from underprivileged backgrounds...about why we had done medicine, why we did our speciality area, our most memorable patient or the patients who changed us or our careers. It was wonderful to see them so keen and interested and to be guided through those reflections and remember. It made me remember why I am so passionate about my job and how fantastic it is"* [b].

Finally, the research has also **promoted and contributed to policy discussion and debate** by highlighting the issue of poor access to the medical profession by those in lower social classes, through its influence on several important policy reports. These include the 2009 BMA report *Equality and Diversity in Medical Schools* [g], which in turn influenced the 2011 GMC *The state of medical education and practice* report [h]. The research team has, moreover, provided **expert advice directly to policy-makers**: The Cabinet Office produced its 2012 report *Fair Access to Professional Careers*. In December 2011 Kavanagh and Culpit shared their experiences of WP for low income and traditionally excluded communities in a presentation to Cabinet Office civil servants. They were invited to make this presentation to support Alan Milburn, in his role as Independent Reviewer on Social Mobility and Child Poverty, to improve access to medicine [i].

5. Sources to corroborate the impact

[a] For full details of Target Medicine see the project website: <http://www.ucl.ac.uk/target-medicine>
 Full records of all school visits and the number of attendees are available on request.

[b] Full copies of feedback provided by pupils, mentors and allied health professionals involved in Target Medicine are available on request. Further examples of student feedback can be accessed at <http://www.ucl.ac.uk/target-medicine/stories>

[c] Examples of the learning materials produced to support both school and medical student participants in the mentoring scheme are available on request.

[d] For inclusion of TM in the 2010 BMA guide to widening medical school access:
<http://bit.ly/1dHvq70> p.33

[e] For example of discussion of TM on thestudentroom.com: <http://bit.ly/1dl0PcO>

[f] For Target Medicine's use by the BMJ as a good practice case study see Salam A (2010), Widening Participation. <http://careers.bmj.com/careers/advice/view-article.html?id=20000808>

[g] For citation of [1, 2, 3] in the 2009 BMA report Equality and Diversity in Medical Schools:
<http://bit.ly/1gXzy54> pp. 109, 112

[h] For reference to the research in the 2011 GMC State of medical education and practice report:
<http://bit.ly/1aE1e9C> pp.48

[i] The provision of advice to the Cabinet Office is reported at <http://bit.ly/1g8XZLB>