

# Drastic times need drastic measures: COVID-19 and widening access to medicine

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## Abstract

In response to COVID-19, schools, colleges and universities across the world have closed or shifted to online/remote or blended teaching, learning and assessment. These changed ways of working pose challenges to students and will likely exacerbate existing educational attainment gaps between different societal groups. Our focus is the potential impact of COVID-19 on widening access to medicine. We provide an account of the process, in the form of comparative cases, of applying for medical school for two applicants from differing backgrounds. Three challenges were identified: family circumstances and support (financial security and parental educational support); staying connected (access to educational material, technology and Wifi); getting the grades and meeting other entry criteria (predicting grades and work experience). We propose that medical schools adopt drastic measures to protect widening access including increasing the use of aptitude tests, contextualised admissions, online multiple mini interviews (MMIs), creative outreach and promotion of alternative means of gaining relevant experience.

**Keywords:** Widening access, widening participation, disadvantage, COVID-19

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## Drastic times need drastic measures: COVID-19 and widening access to medicine

COVID-19 was declared a pandemic by World Health Organisation (WHO) on 11 March 2020 and as it swept around the globe, it caused widespread disruption to life; education systems have not been spared. Schools, colleges and universities across the world closed completely or shifted to online/remote or blended teaching, learning and assessment in an effort to reduce face-to-face contact. These changed ways of working have and continue to pose challenges to students' social development and learning, and to families who may have been trying to balance financial pressures and/or home working with supporting their children. These issues and circumstances will likely hit those who are disadvantaged hardest and further exacerbate existing educational attainment gaps between different societal groups.

Our focus is the potential impact of COVID-19 on widening access to medicine, an impact which we believe is likely to be pervasive for many years beyond this pandemic. Since the 1970s, the UK medical student body has become increasingly diverse in terms of gender, ethnicity and age. That progress has not been reflected by a similar change in the socioeconomic background of medical students. Medical students remain predominantly individuals from affluent backgrounds, often educated in schools which outperform

the average<sup>1,2</sup> and these school disparities are reflected in medical school applications.<sup>3,4</sup> Increasing the number of students from lower socioeconomic backgrounds entering medical education is a long standing UK policy and practice issue.<sup>2,5</sup>

Socioeconomic background (SEC) refers to an individual's or family's economic and social position in relation to others, based on income, education and occupation. Potential applicants from lower SEC groups already experience disadvantages, for example in education quality and attainment (see above); fewer economic and familial resources;<sup>6</sup> poor careers guidance;<sup>7</sup> and lack of knowledge about medical admissions requirements and processes.<sup>8</sup> These are all disadvantages which will be exacerbated by COVID-19 restrictions. Furthermore, school closures in response to COVID-19 are likely to have severely curtailed student access to outreach and 'access to medicine' programmes and resources.<sup>3</sup>

Educational systems and admissions processes to medicine differ across the world. Inevitably the first and major hurdle is 'getting the grades'. In the UK this is usually coupled with an aptitude test and, if an applicant reaches the required standard on these measures, an interview.<sup>9</sup> This process is complicated enough but is made more so in the UK by the timing of applications and the use of predicted grades.

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Applicant A	Applicant B
<ul style="list-style-type: none"> <li>• Fee-paying independent school</li> <li>• Lives in an affluent urban area</li> <li>• Two younger siblings</li> <li>• Parents both independently schooled and university educated</li> <li>• Father is a Professor at one of the local universities, mother is a Consultant Anaesthetist. Father is working from home, mother is working as usual.</li> <li>• Lots of hobbies, plays a sport at national level</li> </ul>	<ul style="list-style-type: none"> <li>• State secondary school</li> <li>• Lives in a remote area, second most deprived quintile (SIMD)</li> <li>• Three younger siblings</li> <li>• Parents did not go to university, semi-skilled jobs. Father furloughed during COVID-19 but no salary top-up from his employer. Mother works in the local shop and has had some opportunities for overtime during COVID-19.</li> <li>• No healthcare connections</li> <li>• Works part-time to save up money for leaving home, no sporting opportunities through the school</li> </ul>

**Table 1** Applicant profiles (September 2020): both applicants are commencing their final year of high school education in August 2020 and hope to apply for entry to medical school in 2021.

Most people enter medical school immediately after secondary school. They apply by October of the year prior to entry and are typically given a conditional offer based on ‘predicted grades’. These predicted grades are estimated at school level based on a pupil’s prior performance and teachers’ knowledge of the pupil. Assuming satisfactory interview performance and achievement of the required grades, this conditional offer will be converted into an unconditional offer.

In light of the aforementioned shifts in educational delivery and the challenges faced by applicants generally, we provide an account of the process of applying for medical school for two applicants; one from a ‘traditional’ background and one from a ‘widening access’ background (see Table 1). We do so in the form of comparative cases,<sup>10</sup> basing applicant profiles on data from widening access to medicine studies carried out in Scotland in recent years<sup>11</sup> and their specific circumstances from recent reports. We then use these cases as the basis for a series of recommendations to promote widening access to medicine during and after COVID-19.

### Challenge 1 – Family circumstances and support

COVID-19 has not impacted applicant A’s family’s income and there is little job risk in the longer term. The applicants’ parents set up a trust fund many years ago for their children’s university education. They are confident that between these savings and both of them continuing to work until all their children are through university, they can cover most of the costs.

Applicant B’s family are under some current financial strain and there is much anxiety about the long-term future of the father’s job. There is no possibility of them supporting the applicant financially if she goes to university, and so she will take out a student loan and need to find part-time work. Currently applicant B is using her income from part time work to help the family finances.

### Challenge 2 – Staying connected

Everyone in applicant A’s family has their own laptop and smartphone. They have broadband and no pressure on their

monthly data usage, all of which is paid for by their parents. The school shifted quickly and efficiently to online learning during the first wave of the pandemic, and he logged in each day and was supported in study during usual school hours. Class sizes were small and he received a high level of one-to-one support virtually. He was receiving private tutoring for chemistry and this continued virtually. His parents helped where needed. Upon starting back at school after the summer, applicant A is up to date with the curriculum.

Applicant B’s school put the basics online. However, she experienced challenges in accessing their online learning platform. The internet connection was unreliable and there was only one family laptop. She struggling to get hold of teachers; the school has long term staffing issues and the class sizes were large. Neither of applicant B’s parents were confident supporting home schooling. Upon starting back at school after the summer applicant B is around three months behind on the curriculum having faced significant challenges in accessing education and support during lockdown.<sup>12</sup>

### Challenge 3 – Getting the grades and meeting other entry criteria

Applicant A attends one of the top ten schools for academic performance in Scotland and his parents have paid a small fortune in private tuition over the years to help him perform well in weaker subjects. Applicant A obtained AAAAB in all his subjects during the preliminary exams (prelims) and has performed well in all his course work throughout the year. His grades are consistently in the top 25% within his year group. This year he was awarded an AAAAA based on predicted (‘calculated’) grades. He gained work experience via a formal shadowing scheme at his mother’s hospital. Ultimately, this means he has already satisfied the academic entry criteria for medicine.

Applicant B’s school typically performs very poorly in relation to national standards. Private tuition is not an option because of cost and tutor availability in her locality. Applicant B is arguably the top performing pupil in her year group. However, her teachers tend to be quite cautious in their grade estimations and predicted she would obtain AABB in

her prelims. Applicant B took the calculated risk of working lots of extra hours in her part time job in a small day care centre for people with dementia in the weeks before the prelims, with the plan to quit her job in March to focus on studying for the main exams. This meant she did not do as well as expected in the prelims and based on these results, her teachers lowered their calculated grades to BBBB and she was awarded BBBB at the end of the academic year. These grade assignments mean that currently she only meets the academic entry criteria to a limited number of 'gateway' to medicine programmes. Her school does not offer advanced higher subjects so she will struggle to improve her academic tariff.

The above comparison highlights the challenges facing widening access applicants to medicine which are likely to have been exacerbated by COVID-19. The gap in educational attainment between different social groups in the UK is well established.<sup>13</sup> The shift to home/online schooling during lockdown has widened this gap. Any further school closures linked to a 'second wave' will exacerbate this even more. We have presented the reasons for this in the case studies: children from independent schools received twice as many online lessons than those at state schools and many pupils in disadvantaged areas did not have appropriate technology, wifi access or study space to engage in online learning.<sup>14</sup> We add that family anxieties about parental employment and income (e.g. parents being on furlough) may mean children from disadvantaged backgrounds will be seeking to work, or work more, to contribute towards the family income.

Moreover, missing examinations and having one's performance predicted is a major issue on both academic and widening access grounds. Predicted grades are highly inaccurate and socio economically biased.<sup>15</sup> A recent retrospective analysis comparing actual and predicted A-level grades taken by medical school applicants between 2010 and 2018 found that less than 50% of predicted grades were accurate, with most grades over predicted;<sup>16</sup> yet using predicted grades as the basis for offers is what happened in 2020. Initially predicted grades were to be moderated by the Scottish Qualification Authority<sup>17</sup> and in England by Ofqual, to ensure that individual grades reflected the average past attainment of the school. This approach was reversed, and teachers' predicted/calculated grades awarded after widespread criticism over the disproportionate effect that moderation would have had on pupils from low attaining schools, particularly on a pupil who is an 'outlier' (i.e. who would have attained significantly better grades than the average for their school).<sup>18</sup> The irony is that evidence shows that pupils from lower achieving secondary schools do better than their counterparts from better secondary schools once in medical school.<sup>19,20</sup>

There is also conflicting opinion about how pupils from low attaining schools will have fared using the government's standardisation algorithms. For example, there is concern that school teachers may be unconsciously biased towards disadvantaged groups and this may have led to lower grade

predictions.<sup>21</sup> Conversely there was also a suggestion that teachers from lower attaining schools awarded grades which are more optimistic than have been attained previously;<sup>22</sup> there is no way of knowing what the reality is. What we can say is that medical schools have made their offers for 2020, and many have gone over their target numbers due to the chaos ensuing from use of predicted grades. This has implications for the quality of medical education for the 2020 cohort, with the same number of faculty teaching more students, crowded campus teaching facilities and major issues with clinical placements. There is also a knock-on effect for future cohorts as many aspiring doctors have had to defer entry for a year while they appeal their grades.

We believe that without decisive action, widening access to medicine will fall by the wayside in the aftermath of COVID-19, and any progress to date in terms of diversifying the medical profession will be set back. We make several suggestions as to what might make a difference. These will seem dramatic to medical schools, whose changes in admissions processes to date are characterised by not making much difference in terms of who is selected.<sup>21</sup>

Greater use of contextualised admissions (CA) is warranted. CA is intended to assess an applicant's potential to succeed in higher education, taking into consideration the context and circumstances in which their attainment to date has been achieved.<sup>24</sup> The Medical Schools Council provides guidance for medical schools in terms of use of CA,<sup>25</sup> and many medical schools use CA already. The use of this approach, also called holistic admissions, should be embraced when trying to select from a pool of applicants with disrupted schooling.

Aptitude test scores may be given more weighting than in previous years. Research indicates that the most widely used aptitude test in the UK, UCAT, predicts performance better than admissions interview scores or school examination performance.<sup>20,26</sup> Performance on UCAT is also somewhat less influenced by socioeconomic factors than school examinations:<sup>27</sup> in fact McManus and colleagues proposed that UKCAT is 'valuable where medical schools are making selection decisions based on incomplete measures of educational attainment'.<sup>20</sup> Although no aptitude or admissions test is free of bias, this stage of the admissions process may become particularly useful with borderline cases.<sup>28</sup>

Once potential applicants for interview are identified using CA and any other tools (e.g. an admissions test), then the next stage of admissions is the interview. Recent studies have shown that the most popular type of admissions interview, the MMI can be shifted onto a virtual platform.<sup>29,30</sup> Online MMIs have the advantage of saving applicants' interview travel costs (an expense which may be more difficult for some families who are being furloughed or whose jobs are at risk because of COVID-19), but do require access to appropriate equipment and reliable wifi, which may be challenging for those applicants from disadvantaged backgrounds. Furthermore virtual interviews may be vulnerable to unconscious bias in relation to the 'uncurated exposure' to home environments.<sup>31</sup>

Medical schools need to be considerate of these factors if using virtual interview methods and students need to be given appropriate guidance on how to navigate technical issues, find an appropriate environment and use a virtual screen to minimise the potential for unconscious bias. However, we suspect that medical schools will resume face-to-face interviews if/when they can as these do have gains for candidates in terms of exposure to campus, peers and medical school culture.

Creative outreach approaches are also needed such as those being carried out by the Medical Schools Council in their summer schools.<sup>32</sup> For example, mentoring can be delivered via whatsapp and zoom as exemplified by Royal College of General Practitioners' 'Observe GP';<sup>33</sup> practical sessions (e.g. how to prepare for UCAT) are already offered online. Podcasts from current students and online learning can offer applicants additional insight into medicine and medical school.

The applicants in our case studies had already obtained work experience prior to COVID-19. Applicants hoping to gain work experience in 2021 for application to study medicine in 2022

will likely struggle to do so. The Medical Schools Council recently published useful guidance on gaining relevant experience to study medicine in the time of COVID-19.<sup>34</sup> As with all 'intelligence' about getting into medicine, the critical factor will be the reach of this and other documents. School teachers are recognised as a key pathway through which pupils access information and initiatives about medical schools and medicine<sup>35</sup> but research from Scotland and other countries show that teachers from state schools lack information and do not encourage aspiration to medicine in pupils from less traditional backgrounds.<sup>4,7,36,37</sup>

## Conclusion

COVID-19 has the potential to impact adversely on widening access to medicine in the next few years. To guard against this, UK medical schools must consider dramatic changes in how they encourage applications to medicine and manage the admissions process. Our suggestions above are based on long standing conversations in the field; and drastic times need drastic measures. COVID-19 might just be a catalyst for real change in medical admissions processes. **1**

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