

Widening access by changing the criteria for selecting medical students[☆]

David Powis^{a,*}, John Hamilton^b, I.C. McManus^c

^aFaculty of Health, University of Newcastle, Callaghan, NSW 2308, Australia

^bUniversity of Durham, Queen's Campus Stockton, Thornaby, Stockton-on-Tees TS17 6BH, UK

^cUniversity College, London, UK

Abstract

Objective: To review the principles underlying medical student selection from the perspective of the imperatives of widening access policies.

Setting: A recent government initiative has increased the number of medical school places in Great Britain. A priority is to widen access to sections of the community hitherto inadequately represented in medical schools, including applicants from disadvantaged areas and lower socio-economic groups, in order that the social characteristics of the population of future doctors better reflects society as a whole.

Outcome: An analysis of evidence upon which medical student selection policies and practice have evolved in order to

- provide guidelines to shape programmes aimed at raising aspirations to a career in medicine in target groups under-represented in medical schools;
- establish a template for flexible and inclusive selection and admission policies;
- increase the representation of students from diverse backgrounds.

Conclusions: It is possible to define a set of principles to increase the diversity of the medical school class with respect to both academic and personal qualities thereby widening access to students from disadvantaged communities and those with broader backgrounds of experience.

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Keywords: Medical education; Undergraduate; Student selection; Widening access; Disadvantaged communities; Personal qualities; Educational measurement; Great Britain

[☆] Available evidence provides the basis for a flexible recruitment and selection strategy for medical students. Emphasis on applicants' personal qualities rather than their prior academic achievement favours access to medical training by those traditionally disadvantaged and thereby will increase the diversity of the medical student body.

*Corresponding author. Tel.: +61 2 4921 5625;
fax: +61 2 4921 7406.

E-mail address: david.powis@newcastle.edu.au (D. Powis).

1. Introduction

In the context of medical student selection there are a number of contemporary issues: (a) more applications to medical schools than there are places available, (b) relatively fewer applications from specific groups in the general population, (c) even

fewer acceptances of the same specific groups, and other groups, relative to the numbers applying, and (d) limited recognition by medical school admission policies that personal qualities and previous life experience may be as important as academic qualifications in defining the students most likely to become the best doctors.

Some universities have now devised strategies to address these issues. (a) To provide motivational material and activities relating to medicine as a degree course and as a vocational career in order to increase aspirations of potential applicants. In some cases this strategy has been targeted towards those schools and further education (FE) colleges with higher proportions of the groups currently under-represented in medical schools. (b) To establish a more flexible and inclusive selection and admissions policy.

2. Major issues in medical student selection

2.1. An excess of applications to UK medical schools

For several decades there has been an excess of applications over places available in medical schools. This was still the case even in the closing years of the 20th century when the number of applicants was falling (McManus, 2002).

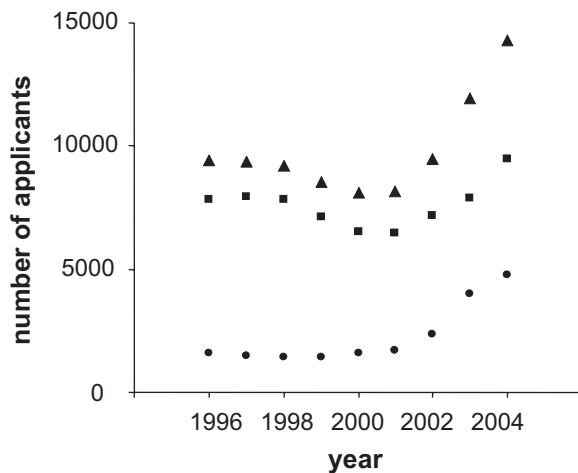


Fig. 1. Number of applicants to UK medical schools in the period 1996–2004 (see www.ucas.ac.uk) reported by age. ● : applicants aged 21 or older, i.e., predominantly individuals applying for graduate-entry medical courses; ■ : applicants aged 20 or younger, i.e., predominantly school-leaver applicants to standard medical courses; ▲ : total number of UK medical school applicants.

The reasons for the fall in the number of applicants (see Fig. 1) have not been established with certainty but could include an increased awareness of the stresses of a medical career, due to continuing reports of unreasonably long working hours for junior hospital doctors (e.g. BMA report, 2001), doctors' dissatisfaction with their working conditions and lifestyle (e.g. Goldacre, Evans, & Lambert, 2003; GPs plan early retirement, 2001), and frequent press coverage of complaints against doctors and the National Health Service (Goldacre et al., 2003). In addition, many individuals may not have applied to medical schools because they were discouraged by the prevailing high academic threshold barrier to entry or because they were studying subjects at A-level not favoured by medical schools.

In 2001 the declining applications trend reversed. In part, the now increasing number of applications was due to an increasing number of mature-aged individuals applying for entry to the newly established graduate-entry medical courses. But over the same time, between 2001 and 2004, there has been a numerically equal increase in the number of school-leaver applicants to medical schools (Fig. 1). In this period, four new medical schools opened in the UK. In 2004 the ratio of applicants to places in UK medical schools was 2.1:1 (see www.ucas.ac.uk).

In the context of student selection, the existence of an excess of applicants over the number of places available raises two questions that admission committees frequently do not distinguish: 'how do we select the *right number* of students?' and 'how do we select the *right students*?' The two questions are philosophically independent and obtaining the answers to them requires a logistically different approach.

Notwithstanding the fact that prospective medical students frequently apply to four medical schools, but can ultimately enter only one of them, it is relatively easy to select the *right number* of students: any criterion can be used to rank the applicants, then it becomes a simple administrative procedure to descend the ranked list until the number matches the places available. Traditionally, the ranking criterion in the UK has been academic scores in a matriculation examination such as A-levels or Scottish Highers.

It is philosophically and procedurally more difficult to select the *right students*, in large part because there is no general agreement as to what are the personal characteristics of the 'right' students. The task is made more complex when trying to

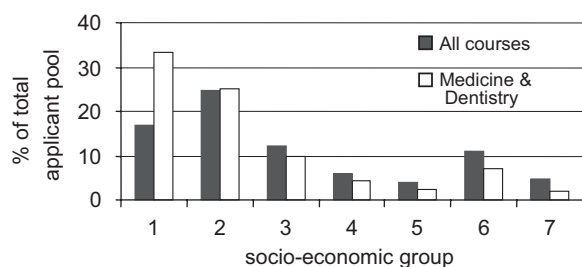


Fig. 2. Profile of home (UK) applications to university courses in general, and to medicine and dentistry courses in particular in 2004 ($N = 413,334$ university applicants; 16,128 medicine and dentistry applicants; see www.ucas.ac.uk). Note that there were relatively fewer applications received for medicine and dentistry courses from individuals identifying with socio-economic (occupation) groups 3–7, and relatively far more from those identifying with group 1 than for university courses as a whole.

quantify the mix of personal characteristics in the exemplar ‘right student’. Here one needs to consider individual characteristics such as abilities, attitudes and behaviours that are desirable, or undesirable, and then, even if they can all be measured reliably, the problem remains of how to compare one student’s profile with another so that the right student is admitted to training.

Given that there are two questions it behoves admission committees to agree at the outset on which is the more important to answer so that it might design the appropriate procedure for the purpose (see below and also reference [McManus, 1998](#)).

2.2. Relatively fewer applications from specific groups

Relative to the general application profile to UK universities fewer applicants from lower socio-economic (parental occupation¹) groups apply to enter medicine or dentistry (Fig. 2).

This situation is paralleled in Australia where it was found that only 8% of the 1999 University of Newcastle medical course applications originated from home address postcodes associated with the bottom quartile socio-economic group ([Wiggers, Bristow, Corkrey, Sanson-Fisher, & Powis, unpublished](#)).

¹Occupation group classifications used by UCAS: 1: higher managerial and professional occupations; 2: lower managerial and professional occupations; 3: intermediate occupations; 4: small employers and own account workers; 5: lower supervisory and technical occupations; 6: semi-routine occupations; 7: routine occupations.

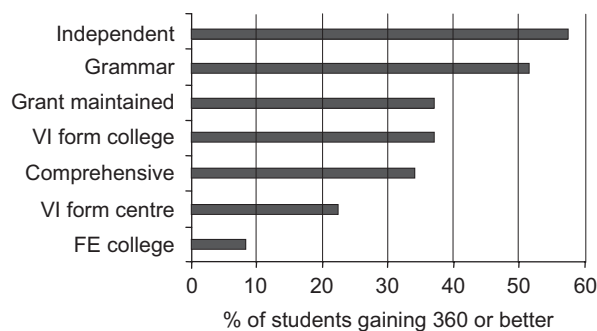


Fig. 3. Percentage of university applicants from each secondary education sector who gained a tariff score of 360 or better in 2004; a score that gave applicants a better than evens chance of being accepted into medical school in that year.

It is probable that lower aspirations, lack of encouragement and financial constraints all contribute to this outcome; however, relative academic achievement may also be a significant issue, in part reflecting the type of school the applicant attends. Fig. 3 shows for the type of educational institutions attended the relative percentage of all applicants to UK universities (to study any subject, not just medicine) who achieved more than 360 UCAS tariff points (data from www.ucas.ac.uk), which in 2004 was the point at which applicants had a greater than evens chance of gaining a medical school place.²

The reasons for the lower state school performance are manifold, but probably include generally poorer educational facilities and less intensive academic support and encouragement. In addition, peer group pressure may promote a climate of under-achievement. It is also probably the case that parents of high-achieving children are more likely either to pay for them to receive private education or additional tuition.

There are still substantial hurdles to overcome even for motivated applicants. Fig. 4 shows that when those from lower socio-economic groups do apply to medical schools they are less likely to be accepted. In part this is almost certainly due to the fact that mean academic achievement falls as the socio-economic classification changes from 1 to 7 (Fig. 5). Fig. 5 shows that approximately 50% of

²Tariff scores are calculated by UCAS to indicate academic equivalence between different educational qualifications. For example, an A grade at AS-level, a B-grade Scottish Higher and a D grade at A-level are all given 60 points. A tariff score of 360 could comprise three B grades at A level plus a grade A in a different subject at AS-level, or it could be composed of three A grades at A-level. See www.ucas.ac.uk.

university applicants from socio-economic group 1 obtained a tariff score of 360 in 2004, but only 25% of those university applicants from group 7 achieved this tariff score. This might be because they attend schools at which the likelihood that they will achieve the required academic threshold is less.

As well as those from a lower socio-economic background it is now also common for the intakes of UK and Australian medical schools to comprise a lower proportion of male students. It has been

asserted that males are slower to develop academic maturity and tend to get lower academic grades at GCSE and at A-level. However, data from UCAS indicate that this may not be the major factor. In 1996 the average male applicant had 19.81 points at A-level, compared with 19.72 points for the average female applicant. In 2001 the average male scored 20.63 points compared with the average female who scored 21.08 points. Also in 2001 an ‘A’-grade was achieved by 19.0% of the female and by 18.2% of the male candidature and 60.9% of the females obtained an A, B or C compared with 57.3% of the males. In 2004 UCAS had switched to the tariff system whereby an A-level was worth 120 points rather than 10. Female applicants in 2004 had an average tariff score of 259.5, compared with the male average of 248.9. Converting these back to A-level points, for comparative purposes, the female applicants in 2004 would have had a score of 21.62 compared with the male applicants’ score of 20.74, a difference of only 0.88 in favour of females. In 2004 a tariff score of 360 or above was achieved by 26.5% of female candidates and by 24% of the males. [NB: These, of course, are not the A-level results overall, but the A-level results of those who had applied to university.] A conclusion that might reasonably be drawn from these data is that male and female university applicants perform similarly well at A-level.

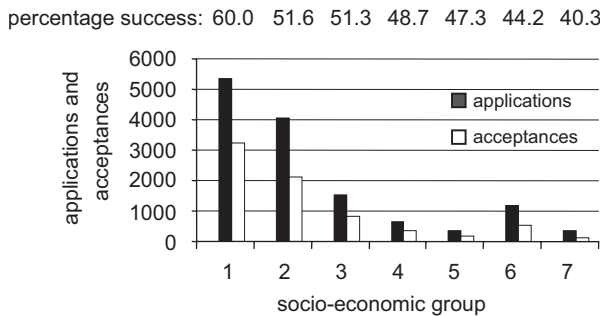


Fig. 4. Applications and acceptances to medicine and dentistry courses by socio-economic (occupation) group. (UCAS statistics for Universities in England and Wales in 2004; 16,128 applicants, 8179 accepted; 50.7%). Note that, relative to the average acceptance rate candidates from socio-economic group 1 are more likely to be accepted and those from groups 4–7 are less likely to be accepted.

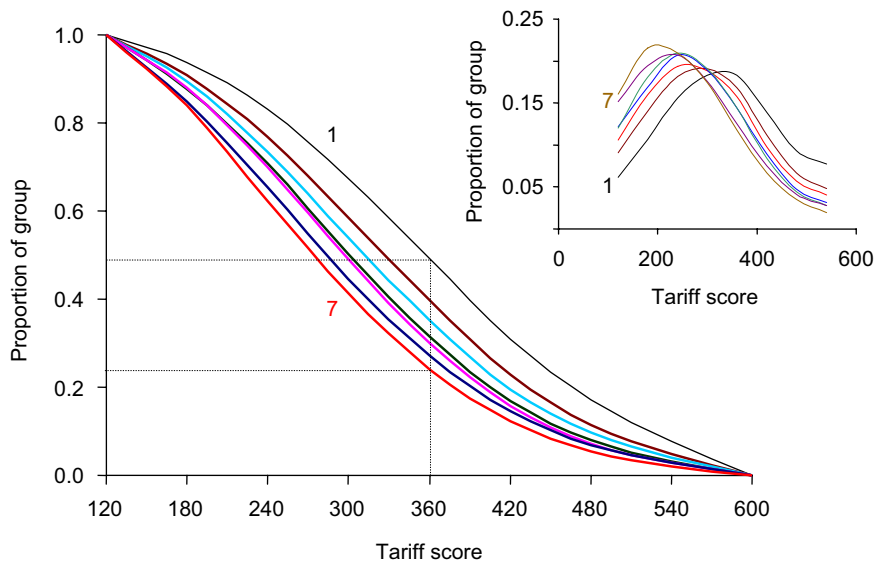


Fig. 5. Proportion of university applicants from the seven socio-economic groupings achieving a particular tariff score in 2004. The inset shows the tariff score distributions obtained by those in each group; the main figure shows a transformation of these data. The main figure shows that approximately 50% of the university applicants who were identified with socio-economic group 1 obtained a tariff score of 360 or more, whereas only 25% of those who identified with socio-economic group 7 achieved at this level.

Perhaps a more significant factor for the current under-representation of males in medical schools is the availability of newer university courses, such as computer science and information technology. Based on UCAS data for 2004, mathematics and information science courses in England and Wales attracted almost 21,000 male applicants but only 5300 females. By contrast, medicine and health science subjects, including biological sciences, attracted applications from 39,000 females but only 16,000 males.

2.3. *Inadequate recognition of personal qualities and experience*

Entry to medical schools in the UK is, in general, currently denied to those with a tariff score of less than 360. Academic achievement is invariably weighted higher than personal attributes or other skills, and when the latter are considered, this generally only occurs once the academic threshold has been met, or is expected to be met. The implications of the latter phrase are important in this context: a candidate who is not expected to excel academically in their matriculation examination will generally be eliminated from further consideration and thereby will be denied the opportunity to display any other desirable personal characteristics they possess.

3. Responses to redress restrictive access to medical schools

As outlined above, a number of barriers currently restrict access to UK medical schools. In order to address these, some universities have devised two general strategies:

- Providing motivational material and activities relating to medicine as a degree course and as a vocational career, increasing aspirations of potential applicants, and identifying sources of financial assistance to those needy students who gain admission. For best effect this strategy is targeted towards those schools and FE colleges with higher proportions of groups currently under-represented in medical schools.
- Establishing a more flexible and inclusive selection and admission policy emphasising personal qualities and experience as well as academic ability.

3.1. *Information, motivation and resources for potential applicants*

The following strategies, which has been informed by HEFCE Council Briefing Paper, Issue 36, May 2001, and by references ([Angel & Johnson, 2000](#); [from Elitism to Inclusion, 1998](#)) might be appropriate:

- Written information about medicine, medical careers and medical school admission requirements, and the rationale behind these, to be circulated widely within the medical school's immediate catchment area. Academics, doctors, students or recent graduates could visit schools and act as role models and motivators.
- Briefing for school career counsellors via information evenings at the University and printed material.
- Motivational summer schools for post-GCSE students from local state schools.
- Liaison with local hospitals and doctors to develop structured work experience for 15–16-year-old school students, based on existing successful models such as that offered at the University Hospital of North Durham ([Pearce, 2004](#)) and the Morecombe Bay initiative.
- Practical assistance to students in seeking financial support.

3.2. *Admission policy modification*

Although most UK medical schools acknowledge that a medical practitioner requires a wide range of personal qualities and skills, objective evaluation of such attributes in candidates does not generally occur, or only occurs once a high academic threshold has been met. Thus, there are two issues in the context of medical school admission:

- Does the academic hurdle need to be as high as it is?
- What other qualities should be sought in applicants, and how should they be sought?

4. Academic threshold

[McManus and Richards \(1984\)](#) reported that A-level grades were the most important factor determining medical student selection; [McManus \(1982\)](#) noted that most medical schools had moved gradually towards a higher grade threshold,

and in 1980 most entrants were required to present ABB. Data from 2000³ indicate that most UK medical schools required AAB at A-level while some also required five 'A' grades at GCSE level and A-level Chemistry. In 2004 a tariff score of 360 was required for a candidate to have a greater than even chance of securing a place in medical school.

4.1. Why do these high academic thresholds exist?

McManus (1982) analysed the basis for the high academic threshold and reported that during a previous period of escalation in required A-level grades specified for medical school entry, there was a concomitant increase in demand for places, in part because A-level biology was no longer a compulsory requirement. This was reflected in a shift in emphasis from interview and personal assessment to selection based on A-level achievement, the balance of supply and demand establishing the new threshold. It should also be recognised, however, that the phenomenon of 'grade inflation' is now widely accepted, meaning that modern grades have less value than their past equivalents (in 1985, 37% of candidates scored in the A–C band, whereas the figure that applied in 2001 was 60%).

Medical schools also acknowledge that they are influenced by the fact that the media and applicants judge their 'relative excellence' and 'standing' on the academic level of their student intake. However, in many cases they continue to argue that high academic grades are necessary for an individual to be able to cope with the demands of the medical school curriculum. Certainly prior academic achievement predicts achievement at University in general and medical school in particular (McManus et al., 2005), even to the point of achievement in medical school final examinations, and beyond. However, academic achievement accounts for only a small part of the variance (<23%; Ferguson, James, & Madeley, 2002), and examination of the data given in *supplementary Figs. 1–3* in McManus et al. (2005) indicate that many with top A-level grades fail at medical school or have to resit their final examinations while those

with considerably lesser A-level grades experience no such failure. Clearly A-level grades are not the only requirement for success as a medical student.

The link between prior academic achievement and success as a doctor is not strong, in part perhaps due to the lack of reliability of medical school achievement measures: McManus, Smithers, Partridge, Keeling, and Fleming (2003) have shown that academic achievement predicts certain aspects of successful progression in the profession, such as number of research papers published, time taken to gain Membership of a College or to gain consultant status, but there is no study that considers excellence of doctor/patient interaction and clinical care as an outcome variable.

In a study from Newcastle, Australia, it was shown that there was a very weak correlation between scores in the Higher School Certificate examination (in the band BBC to AAA achievement; A-level equivalent) and scores in objective tests of logical reasoning and problem solving, cognitive skills that 'academically able' individuals should have in high measure (Fig. 6).

Another Australian study has compared the performance in initial medical practice of graduates from a number of medical schools that selected students solely on the basis of prior academic achievement and one that selected on personal qualities with a lower academic threshold. The latter interns (PRHOs) were rated 'as good' or 'better' than the former in all 15 aspects of professional activity evaluated (Barnsley et al., 1994).

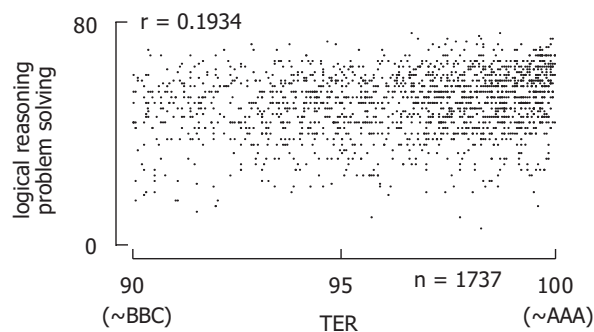


Fig. 6. Relationship between tertiary entrance rank (TER; Australia) and scores obtained by the same applicants in a written test of logical reasoning and problem solving. The data were obtained in 1997, at which time a TER of 90 corresponded approximately to an A-level achievement of BBC. Sample size: 1737.

³Curriculum 2000: a survey of UK medical schools requirements and selection policies. Published by the authority of the Council of Heads of Medical Schools, by University of Wales College of Medicine.

5. What academic standard is really needed?

The literature provides little guidance for prescribing the minimum academic standard or prior level of achievement for intending medical students, apart from the ‘more is better’ implication of the McManus study (McManus et al., 2005).

Beyond medical school there are several reports that suggest that academic achievement *per se* is a poor predictor of ultimate effectiveness as an intern (literature reviewed by Reede, 1999), or later as a medical practitioner (Gunzburger, Frazier, Yang, Rainey, & Wronski, 1987; Murden, Galloway, Reid, & Colwill, 1978; Price et al., 1971; Sade, Stroud, Levine, & Fleming, 1985; Wingard & Williamson, 1973).

It has been argued that the policy of relying on academic marks alone for student selection produces doctors with a specific profile of personal characteristics. Parlow and Rothman (1974), for example, showed that the increasing academic achievement levels in students entering medicine were associated with a declining trend in many non-cognitive dimensions, particularly flexibility, innovation and tolerance of ambiguity. The need of many academic high achievers for a high measure of structure in the learning environment (Parlow & Rothman, 1974) is clearly inconsistent with innovative and problem-based approaches to study.

There is a serious consequence of allowing academic achievement to be the main criterion for student selection, one that concerns the perceptions of the applicants themselves. Equating entry to medicine with academic performance has led to the perception in many potential applicants that obtaining high marks is itself the reason for ‘doing medicine’. These students are looking at medicine not as a vocation, with a realistic perception of what is implied by such a career, but as a reward for obtaining a high score at matriculation. Indeed, in a recent study of the motivations for being a doctor 16-year olds who were thinking of applying to medical school, those with higher examination grades were more likely to include ‘Respect’ as a motivation (McManus, Livingstone, & Katona, 2006).

5.1. Academic threshold—conclusion

It is timely for medical schools to determine objectively what academic threshold is reasonable in

terms of curriculum requirements. The available data (albeit from Australia, though the situation there is similar to that in the UK) indicate that BBC at A-level gives an adequate basis for medical school studies (Powis & Rolfe, 1998). It is surely unreasonable to exclude from further consideration for medical school entry candidates who have not performed at exceptionally high level at GCSE, as the data indicate that GCSE and A-level achievement are not highly correlated (Richardson, Winder, Briggs, & Tydeman, 1998).

In the context of ‘Widening Access’ policies the challenge of setting an appropriate academic threshold takes on an added dimension: as the academic threshold is raised then the number of those from lower socio-economic groups, from non-independent schools and the number of males in the eligible pool fall *pari passu*. One London medical school has addressed this issue specifically by establishing an entry stream that has a much lower academic hurdle to cross than the standard entry stream. The students entering are fed into a 3-year programme to cover the first 2 years of the standard medical course (www.kcl.ac.uk/depsta/medicine/access/index.html).

6. Which prerequisite subjects are appropriate?

When reviewing the appropriateness of academic grade thresholds it is also reasonable for subject prerequisites to be reassessed (see Powis, 1994). Studies in this area yield mixed findings. Some have indicated that applicants with strong science backgrounds (McManus & Richards, 1986; Montague & Odds, 1990; Tomlinson, Clack, Pettingale, Anderson, & Ryan, 1997) have a better chance of success in medical school, while others offer no support for this conclusion (Herman & Veloski, 1981; Neame, Powis, & Bristow, 1992; Spurgin, 1975; Wallace, Sanderson, Mercer, & Gilmore, 1988). The content and emphasis of the curriculum might be the key for explaining the difference. It should be noted, however, that some studies have highlighted the importance of ability in English (Hayes & Farnill, 1993; Neame et al., 1992). Perhaps subject spread rather than depth of study may be more important in medical school success (McGaghie, 1990a, b; Montague & Odds, 1990). Clinical decision-making requires not only an understanding of the natural sciences but also skills in information management and effective communication (see also Lipton, Huxham, & Hamilton, 1984; Richards, 1983). The

latter may be better served by a broader educational background.

7. What other selection criteria are important?

Most admission procedures do not assess objectively or adequately skills or attributes other than academic achievement. Even interviews, when used, often concentrate on assessing ‘academic potential’ at the expense of other desirable personal qualities. This may be one reason for the recurring press reports of doctors who exhibit deficiencies in communication skills, humane care or professional integrity.

It seems reasonable to suggest that the selection of future doctors should be based on multiple criteria, academic achievement being but one of these. Although it is frequently argued that there are many branches of medicine, and that the skills required for each are quite different, most would agree that there is a spectrum of qualities that all intending doctors must possess. The generic qualities that can be distilled from the lists which have appeared in the literature include

- Cognitive skills
- Logical reasoning
- Problem solving
- Critical thinking
- Verbal and written communication skills
- Interpersonal skills, including empathy
- Ethical sensitivity and behaviour; integrity
- Flexibility and tolerance
- Conscientiousness and reliability
- Team work and management skills
- Ability to cope appropriately with stress

However, it must be appreciated that as one selects on more and more characteristics, so the effect of each selection characteristic becomes less and less (see [McManus & Vincent, 1993](#) for a mathematical model), until eventually, “if one selects on everything then one selects on nothing” ([McManus, 1997](#)). Selection should therefore be restricted to a maximum of about three or perhaps four ‘canonical characteristics’.

8. Assessment of personal qualities

Non-academic qualities and skills desirable in both medical students and future doctors must be measured by methods and instruments that are

reliable and valid, fair and equitable, and which are free of cultural, racial and gender bias ([Powis, 1998](#)). For those skills and attributes listed above, written psychometric tests ([Powis, 1994](#); [University plans ‘anti-elitist’ entry test to aid state pupils, 2001](#)) complemented by a structured interview ([Glick, 2000](#); [Morris, 1999](#); [Powis, 1994](#); [Powis, Neame, Bristow, & Murphy, 1988](#); [Powis, Waring, Bristow, & O’Connell, 1992](#); [Tutton, 1997](#)) can be used. Research-based literature (for review see [Morris, 1999](#)) indicates that interviews are reliable and valid only if they are objective, structured and conducted by trained interviewers. Few interview systems meet these criteria, and many medical schools fail even to offer adequate time for the assessment of each candidate. In this context, ‘structured’ means identical interview topic content for all candidates, with standardised trigger and suggested probing questions, and a detailed scoring protocol. ‘Trained’ means adequately briefed in interview techniques generally and very familiar with the intent and content of the admissions interview specifically. In addition, there should be an opportunity for interviewers to standardise their approach and to titrate their scoring against a calibrated yardstick. Bias is best removed by using more than one interviewer on a panel and requiring panellists to reach consensus on a rating, by eliminating investigation of certain areas, and by giving the interviewers no information about the candidate, except for their name ([Morris, 1999](#); [Powis, 1994](#); [Shaw et al., 1995](#); [Van Susteren, Suter, Romrell, Lanier, & Hatch, 1999](#)). Finally, the interview is best used as a data-gathering tool; its purpose should not be subverted by incorporating the requirement for a selection decision at the end. Selection decisions are best made impersonally by an administrator using an algorithm into which all necessary data collected for each candidate are fed ([Powis, 1998](#)). The multiple-mini interview developed at McMaster medical school appears to meet the specifications above and offers potential in this context ([Eva, Rosenfeld, Reiter, & Norman, 2004](#)).

9. Referee reports

Referee reports have been found by [James and Ferguson](#) to have no positive predictive validity, even when structured ([Ferguson, James, O’Hehir, & Sanders, 2003](#)). The same authors have reported that negative comments made in respect of a candidate by a referee do have predictive value.

However, it has been asserted that very few negative comments ever appear in UCAS referees reports.

In an (unpublished) Australian study conducted by DA Powis, MR Bore and D Munro a structured referees' report form was completed for the applicants ($n = 610$) to a professional training course by three or four individuals (nominated by the applicants) who had supervised them. The report form sought responses on a series ($n = 13$ – 22) of 4-point polarised scales developed for each of three domains: communication skills (e.g., is sombre and reserved vs is friendly and approachable); interpersonal skills (e.g., sensitive vs insensitive) and professional competence (e.g., copes well under pressure vs manages stress poorly). Despite the fact that the three or four referees were rating the same individual, the inter-rater reliability was very poor (0.13–0.35); the data supported better the hypothesis that the raters were grading different candidates. A pronounced halo effect was also revealed by the data: a candidate was generally rated uniformly good in all areas or less good in all areas. Very few were rated poor.

10. Individual initiatives

It is difficult for any one medical school in the UK to introduce a procedure for recruitment and selection of medical students that is radically different from the procedure used by the majority of schools. However, this constraint should not be employed as an argument to prevent the move towards establishing a fair and inclusive selection procedure based on the two principles described above: to ensure that the academic abilities and personal qualities appropriate for a physician are given due weight; and to widen access to students from communities of greatest need.

11. Selection of students

A general procedure for selecting medical students that could fulfil 'Widening Access' guidelines is given below:

1. Applicants to sit a test that measures a range of cognitive skills and non-cognitive personal qualities. Some tests purpose designed for assessing potential medical students are already used by some medical schools: UMAT (Undergraduate Medicine and Health Sciences Admissions Test; Australia), GAMSAT (Graduate Australian

Medical Schools Admissions Test; Australia and UK). Another possible test (Personal Qualities Assessment, PQA; Bore, Munro, Kerridge, & Powis, 2005a, b; Lumsden, Bore, Millar, Jack, & Powis, 2005; Munro, Bore, & Powis, 2005; Powis, Bore, Munro, & Lumsden, 2005) has been piloted in recent years in a number of UK universities, both in pencil-and-paper and in electronic delivery format. All the tests mentioned have yet to prove themselves in terms of predictive validity. In this context, it is necessary to acknowledge that the outcome variables against which the tests are judged should be in the professional skills rather than the knowledge domain.

2. A new academic threshold for A-level achievement should be set as a general standard for eligibility. A balance would need to be struck between the academic imperatives of the medical school curriculum and the imposition of hurdles too high for the more educationally disadvantaged sections of the community. UCAS data indicate that at BBC the proportional representation of comprehensive school candidates in the medical school eligible candidate pool would equal their representation in the population as a whole.
3. With regard to subject prerequisites, evidence indicates that these are not as important as most university requirements would suggest; the General Medical Council (GMC) is clear that subject prerequisites are matters for individual universities.
4. Academically eligible applicants who are identified as potentially suitable on the basis of the written tests could then have their personal qualities further assessed by trained interviewers in a structured, objective interview. The purpose of the interview should be to gather data to inform the selection decision but should not be used as the selection event.
5. The interview scores could form the basis of a ranked list of candidates. The ranking should be independent of academic achievement (i.e. the relative academic achievement of candidates would not be factored into the algorithm to weight selection towards those who score most highly in this domain). Tied candidates could be sub-ranked on their test scores. (On the basis of published reports there seems to be no place in the selection procedure for referees' reports that appear to have little or no predictive validity.

This can save the admission committees much time.)

6. It should be realised that medical education is an empirical science, and that medical schools have a responsibility to assess the effectiveness of their procedures and to publish studies assessing outcomes in relation to actions, just as is done in any other area of medicine.

It should be the aim of all medical schools to maximise fairness for individual students and for the community as a whole, and to produce a graduate who exhibits high levels of the skills and personal qualities required by a medical practitioner. It is to be hoped that the selection strategy will favour selection of those who are committed to meeting the medical and social needs of the communities that they will serve. We would confidently expect such graduates to exhibit professional excellence, whatever their career goals.

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