tion in allergen exposure (efficacy) and impact on symptomatic illness (clinical effectiveness). It is not surprising that interventions which lack efficacy are clinically ineffective. However, this does not exclude a potential benefit to patients from measures which actually achieve substantial reductions in personal allergen exposure. Such measures include impermeable (plastic) or semipermeable (microporous) mattress and bedding covers, which dramatically reduce allergen levels on the bedding surface[8–10] and thus protect at least against nocturnal allergen exposure. Recently marketed microporous fabrics are much more acceptable to patients than vapour impermeable plastic covers, but they have yet to be fully evaluated for clinical effectiveness. Should they be recommended to patients, based on the evidence currently available?

The meta-analysis by Gøtzsche et al identified only five trials, involving 123 adults and 86 children, in which there was proved reduction in mite allergen exposure in the intervention group.[6] Only four of these trials reported changes in morning peak expiratory flow rate, the principal outcome selected for meta-analysis. The results would be consistent either with no clinical benefit or an increase in average peak flow of up to about 45 l/min—a small but potentially useful improvement. This meta-analytic approach may be conservative in that other outcome measures, such as improvements in symptoms or bronchial responsiveness, are not analysed for this small subgroup of trials. Woodcock and colleagues considered six studies to have used an efficacious intervention.[5] They point to some evidence of clinical benefit in all of these trials, although the outcome measures differed in each. This narrative evaluation may overestimate effectiveness because the findings reported from a wide range of trial outcomes will tend to be those which were statistically significant, particularly in favour of the intervention. Thus, neither review offers conclusive evidence to guide patient choices.

Most methods of mite eradication or allergen avoidance tested in published trials cannot be recommended to patients simply because they do not materially reduce mite allergen exposure. There are too few data from trials where allergen exposure was substantially reduced to draw any firm conclusion about the potential clinical benefits of newer, more efficacious methods. This position of uncertainty can be resolved only by large trials, preferably double blind and placebo controlled, in which interventions known to reduce allergen exposure are tested in large representative samples of mite sensitised asthmatic patients. At least one such trial has started recently, using encasement of mattress and bedding by semipermeable covers. When its findings are reported we may be able to provide more definite advice to patients and their doctors.

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Is medical school selection discriminatory?

New data should be used as a catalyst for change

Papers p 1111
Education and debate p 1149

Disadvantage—To deprive of the resources and privileges enjoyed by the majority of people
Discriminate—To treat differently because of prejudice
Adapted from *Chambers 20th Century Dictionary*

Being white, female, an academic high achiever, and singleminded can have its drawbacks, but when it comes to selection for United Kingdom medical schools, no one's better placed. At least that's the message from the analysis by McManus of the anonymised data on selection released this week (p 1111).[1] The key findings show, surprisingly, that women are more likely to gain entry to medical schools, but candidates from ethnic minorities remain disadvantaged. Concerns about the selection procedure have long inspired calls for a code of practice.[2]

Differences exist between ethnic minority groups. Caribbeans are less disadvantaged than Africans. Indians are less disadvantaged than Bangladeshis or Pakistanis. While wide confidence intervals hint that some of these differences may not be real, it is undeniable—and suspicions are confirmed—that overall ethnic minorities are disadvantaged. Sceptics will

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argue that this analysis by McManus doesn't take into account data on predicted A level grades (which were not made available to him but which selectors rely on heavily), but previous work suggests that even when academic achievement is taken into account ethnic minority candidates are less likely to be accepted, probably on the basis of their surname.[3] This adds to mounting evidence of disadvantage at all stages in the careers of ethnic minority doctors.[4–6]

McManus also finds more subtle disadvantages. Applicants not wholly committed to medicine on their application forms, those choosing a gap year, and those from colleges of further and higher education and sixth form colleges may be less likely to gain admission to some medical schools. Older applicants and those from lower socioeconomic groups are also disadvantaged. One myth that is not substantiated, however, is that applicants from independent (private) schools are advantaged in terms of selection.

McManus points out that the new evidence raises the possibility of legal action against medical schools under section 17 of the 1976 Race Relations Act. But whether it proves racial discrimination is open to debate. Disadvantage does not necessarily equal discrimination. Legally, direct and indirect discrimination are separate concepts, with direct discrimination hinging solely on an individual's race, while indirect discrimination arises from some hurdle in the selection procedure that is more difficult for ethnic minority candidates to clear. These data appear to raise issues of indirect discrimination, which may be difficult to prove in court (p 1117).

In the United Kingdom ethnic minorities as a whole are overrepresented in the medical profession. This is explained by the high proportion of applicants of Asian origin to medical schools as well as being a legacy of the days when overseas doctors were more welcome in the National Health Service. Even though they are disadvantaged in terms of selection, enough Asian students apply to ensure that they make up a larger proportion of the medical work force than they do of the population of the United Kingdom. Around 6% of the United Kingdom population are Asian, but they constitute 28% of medical school applicants and 21.7% of those receiving offers of a medical school place. AfroCaribbeans, meanwhile, constitute 2% of the UK population and 3.79% of medical school applicants but receive only 1.72% of offers. By contrast, 64.9% of applicants are white but they receive 74% of offers (IC McManus, personal communication).

Disadvantage, however, can be turned to advantage, as in the case of women applicants—although positive effects on career progression are yet to be seen. By contrast, medical schools in general appear unable to redress the inequalities faced by ethnic minority candidates, despite repeated focus on this issue in recent years.[7 8]

McManus confirms that some medical schools manage not to disadvantage women and ethnic minorities.[3] Perhaps the answer is to learn from their admissions procedures. Alternatively, more aggressive policies may be needed; there is, for example, evidence that raising awareness of ethnic minority issues can increase recruitment.[9] Moreover, experience from the University of Arkansas has shown that lowering entry requirements for African-American applicants need not reduce standards: those same students have gone on to score above average marks in medical exams.[10]

The Council of Heads of Medical Schools is to be commended for making these data available; other selection bodies such as the police and the legal profession are much less open about their procedures, and what the deans have done should serve as a model to other professions. The council has also worked with the Commission for Racial Equality to produce an eight point list of "guiding principles" for selecting of students which will be adopted by all UK medical schools. The schools promise to review the criteria for medical student selection, both academic and non-academic; ensure that all medical schools publish and monitor equal opportunities action plans; and monitor and publish the annual figures on applications. Other proposals include further research looking into why certain applicants are disadvantaged, bringing forward the deadline for medical school applications, and reducing the number of choices available on the university application form. The Commission for Racial Equality has threatened to conduct formal investigations into medical schools that fall short.

Without more evidence we cannot be sure of the best selection procedure. But the most satisfactory system would be free from bias and transparent. Best practice may require a structured combination of psychometric tests and interview, with the interview being used as another avenue for information gathering rather than the selection event (see p 1149).[11] Admissions tutors should scrutinise current selection procedures and also look beyond the medical world—to examples of good practice in the commercial world—to develop a more equitable system.

What is clear is that these data should continue to be made available in future years. Deans of medical schools should use them as a catalyst for change instead of viewing criticism based on them as an assault on the credibility of their institutions.

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