

Current practice in pre-entry fitness assessments and the support of students with disabilities in UK medical schools.

Report prepared for the Medical Schools Council

November 2007

Dr. Alan Swann,
Imperial College Occupational Health Service
Imperial College
London
SW7 2AZ

Executive Summary

Introduction

UK medical schools and post-graduate deaneries were surveyed to examine procedures for assessing fitness of applicants and their experience in supporting disabled student and newly-qualified doctors.

All 31 UK medical schools took part in the survey on assessment procedures. 15 schools and 11 of the 21 UK deaneries responded to the survey on disability experience.

Results

Fitness assessment procedures

29 schools assessed fitness as part of their selection procedures. Most considered the primary purpose was to identify applicants who would need support although an offer could be withdrawn if it was considered the individual would be unfit to practise on qualification because of disability or illness. All schools use GMC-defined curriculum outcomes as their reference standard.

8 schools screened using a health questionnaire. 4 used the disability question on the UCAS form. 7 used both. At least 6 schools never involved an occupational physician in assessments.

Rejection rates were skewed. c.50% of schools had rejected no applicants, whilst three schools rejected 1-2 applicants on average each year. Rates were significantly higher where the decision to turn down a candidate could be taken by a single assessor without wider consultation. The overall rate was low. Only 45 instances of a candidate being formally rejected were reported in over 33,000 admissions. Five schools had also informally dissuaded some applicants from submitting or progressing an application because of concern over eventual fitness to practise. These were not included in the total.

Over 60% of rejections were because of psychiatric illness. In some instances applicants were rejected because of concern that they would be unable to cope with study demands, rather than eventual fitness to practise.

Schools provided applicants with relatively little information on fitness assessment procedures in their prospectuses compared with the information provided on other aspects of their selection processes. Many stated they welcomed applications from disabled persons but with the proviso that they could meet the *rigorous demands* of fitness to practise.

Disability experience and support

The median rate for any disability or chronic illness requiring support and known to schools was 3.4%. Dyslexia accounted for over 50% of cases. Psychiatric illness accounts for a further 20%. Serious fixed disability was rare, with only 27 cases of hearing or visual impairment and 4 of serious mobility impairment reported in responses covering c.15,000 students.

Many schools had little experience in providing support for disability, other than for dyslexia. Few retained information on support measures employed. Responses from schools which did have available experience indicated that sensory and mobility disability could be supported. Only 1 case was reported of a student with a fixed disability being unable to complete her course.

Impairment through chronic or recurrent illness was more common, more difficult to support and an occasional cause of drop-out. The overall drop-out rate where illness

was considered to be the *primary* cause was 0.22%. In at least 75% of cases the underlying problem was a psychiatric illness which developed only after school entry. Most of this drop-out occurred through academic failure or voluntary withdrawal. Only seven instances of formal dismissal were reported.

Prolonged or recurrent incapacity and/or disengagement from studies limited the range and effectiveness of support measures for illness.

The incidence of disclosed disability or illness requiring support amongst newly qualified doctors was lower than in medical students. The average incidence calculated for deaneries taking part in the survey was 1%. Only 3 instances of doctors failing to progress to full registration because of ill health or disability were reported from survey responses covering 10,000 F1 posts.

Conclusions

Serious disability is uncommon amongst in medical students but does not necessarily preclude fitness to practice. Chronic illness, particularly psychiatric illness is more common, and can result in academic failure or affect fitness to practice. However, from comparison with surveys of psychological morbidity amongst medical students it is only a small proportion of those who develop mental health problems who then fail as a consequence. Comparison with studies of drop-out from medical school also suggests disability or illness is a relatively minor cause of drop-out.

The wide variation found in outcome of fitness assessment suggest that schools vary in their application of the GMC standards. A fitness assessment process may itself discourage some disabled persons from applying to medical school. Others may be unreasonably rejected because of discriminatory practice or reluctance to let a disabled or health-impaired applicant attempt the course. Lack of experience in supporting seriously disabled or health-impaired students or sharing of information between or within schools limits opportunities for developing strategies.

As most illness that proves significant develops only after school entry and only cause failure or unfitness in a small proportion, assessing fitness to practice on health & disability grounds at school entry is of limited utility.

Recommendations

1. Screening of applicants should continue, but its primary purpose should be to assess support needs, and identify applicants who should defer entry to recover from illness, rather than to exclude those who may be unfit to practise.
2. Screening needs to enquire into recent illness, in addition to disability. The disability question on the UCAS form is an inadequate screening tool.
3. Screening should be carried out by a qualified occupational physician.
4. No applicant should be turned down on fitness grounds without a full assessment. Any decision to reject an applicant should be reviewed by a fitness to practise panel.
5. An applicant should be rejected only where there is substantial evidence that they will be unable to attain a necessary competency or will pose a risk to patient safety.
6. A large prospective cohort study of disabled students is necessary to assist development support strategies.
7. Schools should publicise success stories of disabled students and doctors to encourage more applications from disabled people.

1 Introduction

Medical schools are expected by the General Medical Council (GMC) to select for entry only those applicants who will be fit to practise at the end of their course¹. The Disability Discrimination Act² also imposes on medical schools the duty not to unfairly discriminate against applicants or students with a disability or health impairment.

The disabled are under-represented in medical schools³ and there is concern over discrimination against disabled doctors⁴. Occupational physicians in the HE sector believe there is little uniformity in either the process of assessing fitness of applicants to medical school or in decisions made⁵.

There is very little evidenced-based research available on the impact of disability or chronic illness on a doctor's fitness to practise⁶ on which to base decisions.

However, medical schools and post-graduate deaneries will each have some experience of disabled students and doctors. Information on how they have been supported, and the outcome could be collated to develop an evidence base to improve the quality of fitness assessments and develop more effective support strategies.

2 Method

A descriptive survey of all UK medical schools and post graduate deaneries was carried out between May 2005 and March 2006. It collected information on:

1. The prevalence of disability and health impairment in applicants to medical schools.
2. How schools assessed fitness of applicants and the outcome of such assessments.
3. The prevalence of disability and health impairment in medical students and newly qualified doctors.
4. The experience of schools and deaneries in providing support to these groups.

The survey on fitness assessment was undertaken by semi-structured interview of Admissions Deans and Occupational Physicians. Questions covered fitness criteria, screening tools and procedures and numbers of applicants rejected or whose entry in school was deferred on fitness grounds.

Disability experience was assessed by postal questionnaire sent to admissions and post-graduate deans. Most involved other staff in compiling their responses. This survey collected information on numbers of students with disability or illness requiring support and known to the school or deanery, type of impairment and details of support measures. Schools were asked also to give estimates of numbers dropping out or being dismissed primarily because of disability or illness.

Established schools provided data for the preceding five years. The six new schools provided data from the time of their first intake (2 or 3 years).

3 Results: Screening procedures and outcomes

30 admissions deans and 20 occupational physicians were interviewed. Responses covered all 31 UK schools.

29 schools assessed fitness of some or all applicants prior to acceptance into school. At 26 of these, fitness to practise was an explicit criterion for entry. 2 Schools had no procedure.

At c. 1/3rd of schools the prime purpose was to identify applicants with disabilities who would require support in their studies so their needs could be planned for. However, applicants could be assessed as unfit and turned down or, if assessed prior to applying or offer of a place, dissuaded from pursuing their application. 19 schools encouraged anyone with a disability to contact the school before applying to discuss fitness to practise and support needs.

All schools based their fitness standard on GMC guidance. Although many in their literature referred to *Good Medical Practice*, most used the curricular outcomes specified in *Tomorrow's Doctors* as their reference standard. All appeared to consider three key issues:

1. capability to acquire specified clinical and practical skills
2. capability to communicate effectively with patients
3. whether illness or disability might compromise patient safety

Most schools also considered fitness to study and could require an applicant unwell or not yet recovered from recent serious illness sufficiently to cope with full-time study demands to defer entry until recovered.

Only two schools attempted to define their standard in more detail. One defined and publicised standards for visual acuity and hearing. Another had a unpublicised policy of only accepting applicants with a history of 'important' psychological ill-health if fully recovered and well for two years.

Almost all schools stated in published information that they welcomed applications from disabled students. Some provided information on the types of disability or illness they expected applicants to disclose on screening, but only very few provided information on how this may affect an assessment of fitness. Several schools quoted from CHMS guidance⁷ that applicants had to "*fulfil the rigorous demands of fitness to practise*"

The timing, conduct and content of the assessment procedures varied between schools. The main components are summarised in Figure 1.

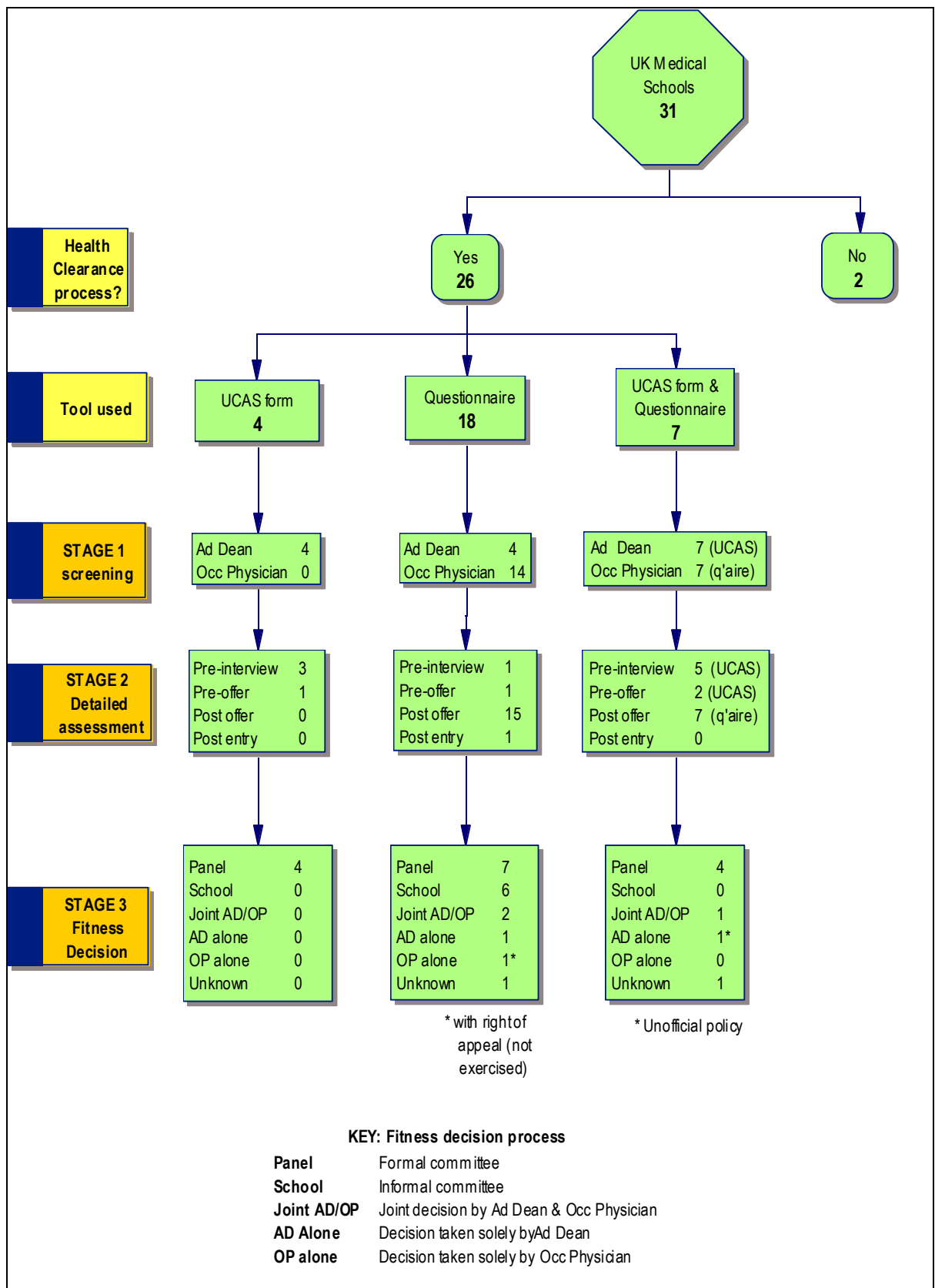


Figure 1: Summary of selection processes

At all but one school, fitness assessments were always conducted separately from the main selection process. The exception was a school which included questions on health and probity in a questionnaire used to shortlist candidates meeting academic criteria for interview.

Two screening tools were in common use: the question on disability on the UCAS application form or a health questionnaire similar in content to those used for pre-employment screening of health care workers. Some schools used a two-stage process, assessing any applicants declaring a disability on their UCAS form and then screening all applicants offered a place by health questionnaire.

At all schools using UCAS forms, the admissions dean was responsible for screening and arranging a detailed assessment if considered necessary. Where a questionnaire was used, screening & detailed assessment were more commonly carried out by a school's occupational physician. At three schools the detailed assessment was under the control of an admissions or disabilities committee.

At least six schools never involved an occupational physician in assessments.

At a majority of schools, a decision to turn down an applicant on disability or health grounds would be taken by a fitness to practise panel. At most others the decision required consultation between the assessor and other school staff. Only one school allowed the decision to be taken by the person in sole charge of the assessment although at a second school this occurred unofficially. At a third school, at the time of survey, the decision to turn down an applicant could be taken by the school's occupational physician. Applicants had the right of appeal to a fitness to practise committee, but none had exercised this right.

4 The outcomes of screening

Established schools were asked to provide data on screening outcomes from the previous five years. The six new UK schools provided 2-3 years data. Few schools kept records so most deans and physicians were reliant on memory in their responses.

There were three possible outcomes: applicants could be passed as fit, an entry decision deferred, or the applicant rejected on fitness grounds.

Only limited data were available on numbers screened so outcomes are expressed per students admitted.

Overall, concern over fitness to practise amongst applicants was unusual. In a estimated population of c.33,000 new students only 72 had had an entry decision deferred to establish recovery from recent illness. 45 were turned down for acceptance on health or disability grounds.

Seven (32%) of the 22 established schools who screened applicants and four (66%) of the 6 new schools had not deferred a student on health grounds over the time period covered by their responses. Only twelve (55%) established and one new school had rejected an applicant.

Results were highly skewed for both deferral (figure 2) and rejection (figure 3). The median deferral and exclusion rates for all schools were 0.08% and 0% respectively.

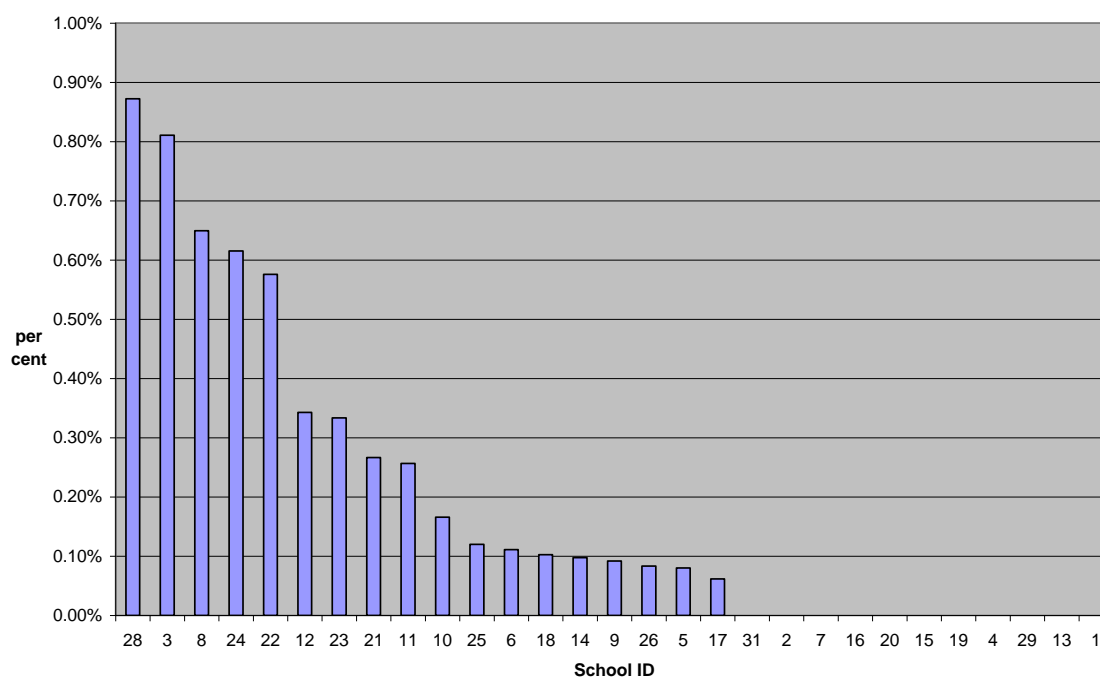


Figure 2: Deferral rates per students admitted (29 schools)

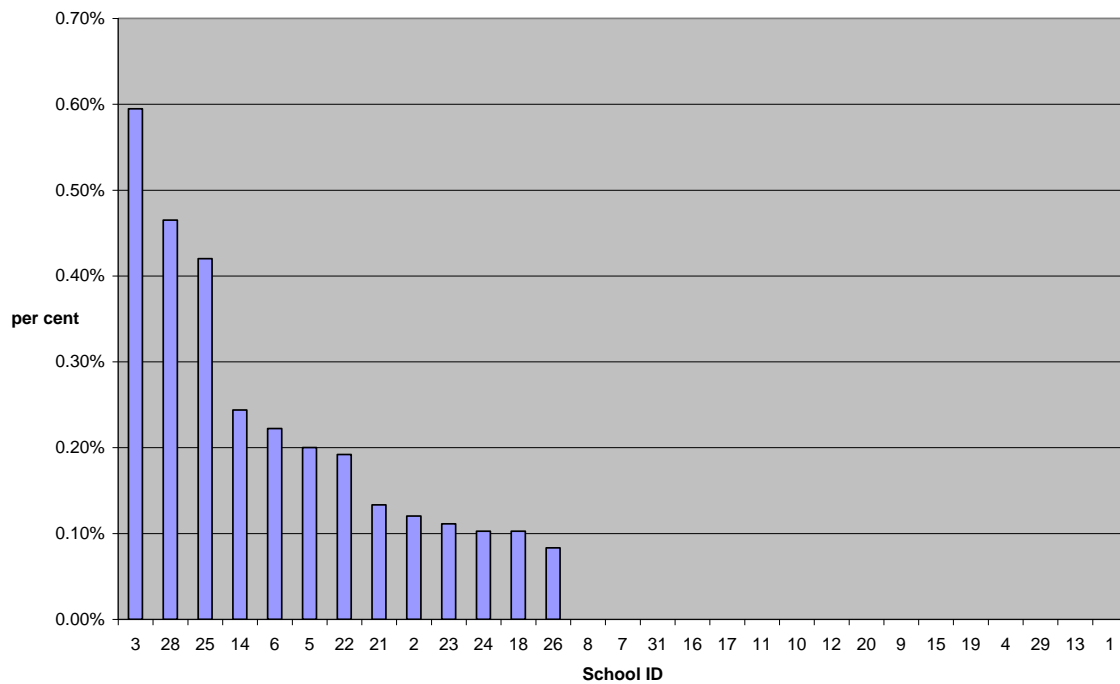


Figure 3: Rejection rates per students admitted (29 schools)

The rates did not include individuals dissuaded from applying to medical school following assessment prior to formal application— only one school appeared to keep records for this. Five admissions deans reported that potential applicants to their school had been dissuaded. Three were probably reporting single instances. One dean, whose school also had the highest rate of formal rejection, estimated that in the previous six years he had advised c. 20 aspiring applicants that their condition was likely to make them unfit for acceptance. Most had either a major sensory disability, or were currently unwell with an eating disorder.

In applicants formally screened, the most common reason cited for deferral was recent ill health (Table 1). Only one applicant was deferred because of a disability: the school considered there was insufficient time to put support measures in place for the intended year of entry.

TYPE OF IMPAIRMENT	NO. OF TIMES CITED	TOTAL BY CATEGORY
Physical disability	0	0
Sensory disability		1
Hearing impairment	1	
Cognitive disability	0	0
Physical Illness		13
Chronic fatigue syndrome	1	
Immune-deficiency	1	
Blood-borne infection	1	
Epilepsy	1	
Cancer	2	
Other- chronic renal failure	1	
Convalescent (underlying illness not stated)	6	
Mental health problems		15
Not further defined	6	
Psychosis	1	
Depression	1	
Eating disorder	7	

Table 1: Underlying impairment cited in cases of deferred entry

The underlying condition in those turned down on fitness grounds were more varied (table 2). Illness, rather than a fixed disability was still the more common underlying impairment.

In most instances, the survey was unable to collect information on the precise impact of the impairment on functional capabilities.

Two schools that had rejected applicants because of impaired mobility stated that they would have been willing to accept them but had been advised by the GMC that a necessary adjustment to training— not requiring competence in performance of cardio-pulmonary resuscitation— would be unacceptable. This was prior to the GMC clarifying its stance on this issue⁸

TYPE OF IMPAIRMENT	NUMBER OF CASES
Physical disabilities	
Impaired mobility (wheelchair user)	4
Sensory disabilities	
Visual impairment	4
Hearing impairment	2
Cognitive disabilities	
Asperger's syndrome	1
Physical Illness	
Chronic fatigue syndrome	1
Immune-deficiency	1
Epilepsy	1
Systemic lupus erythematosus	1
Skin disease (extensive atopic eczema)	1
Mental health problems	
Psychosis	4
Depressive illness	4
Personality disorder	1
Eating disorder	3
Drug addiction	1
Anxiety neurosis	1
Not specified	13
Other	
Cause not given	2
Total	45

Table 2: Underlying condition amongst applicants rejected on fitness grounds

4.1 Analysis of screening outcome data

To attempt to examine the effect of different screening processes on outcome the four established schools with the highest deferral rates and three with the highest rejection rates were compared against those schools with zero rates for each outcome. There was much overlap between comparison groups: two of the three schools in the high exclusion group were also in the high deferral group. Six of the seven schools that had not turned down any applicant on fitness grounds had also never deferred a fitness decision in five years.

The only statistically significant difference found was in the final decision mechanism. The three schools with the highest rejection rates were the only schools where the decision to reject an applicant was taken by the individual in charge of the assessment. ($p < 0.0005$ Fisher's exact test).

5 Disability and impairment

5.1 Response rate

Medical Schools: 15 medical schools (48%) responded to the survey on disability amongst medical students. Their replies covered a population of c.15,000 students. 74 case reports on specific impairments were received.

In addition, during the first survey, 28 schools provided estimates of the numbers dropping out of courses because of fixed disability or illness.

Post-Graduate Deaneries: 11 out of the 21 UK deaneries provided data on disability amongst newly-qualified doctors in pre-registration training. 4 responses covered only a portion of the deanery's region. Overall the responses represented experience of c.10,000 doctors in their F1 year. 37 case reports were received.

5.2 Prevalence of impairment amongst students on course

522 students were known by their school to have a disability or chronic health problem. Rates for individual schools ranged from 6.9- 0.8% (Figure 4). The median rate was 3.4%.

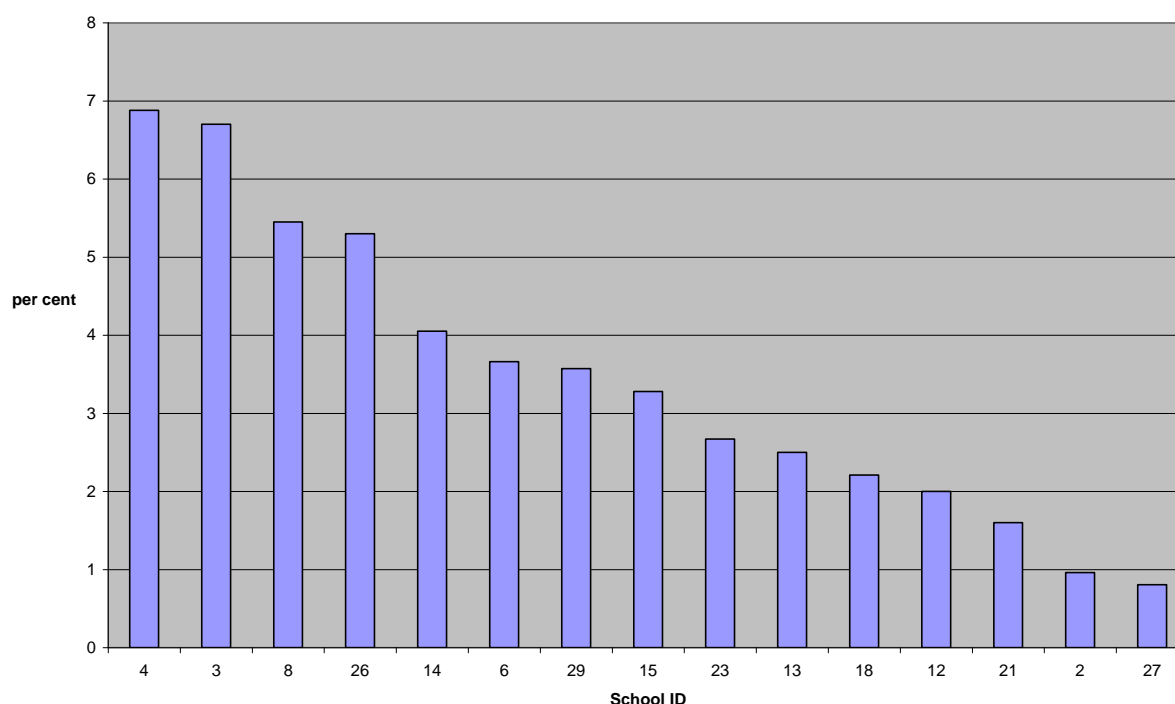


Figure 4 Prevalence of impairment known to school (15 schools)

5.3 Causes of impairment amongst students

Over 55% of cases were categorised as cognitive disability, the vast majority of these (279 cases) being students with dyslexia. Mental & physical ill health accounted for a further 34% of cases. (Figure 5)

Only 11% of cases were categorised as sensory or physical disability with hearing impairment being the most common fixed disability reported.

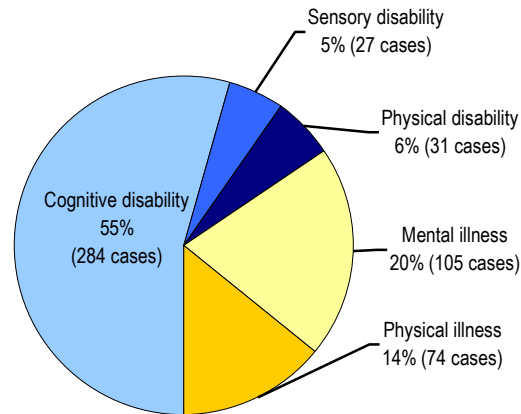


Figure 5 Relative frequency of disability by category: medical students

After dyslexia, depressive illness (45 cases) and eating disorder (38 cases) were the two single most common causes of impairment affecting studies. Epilepsy and chronic fatigue syndrome were the most common physical illnesses. 22 cases of hearing impairment and 4 cases of students using a wheelchair for mobility were reported (Table 3)

TYPE OF PROBLEM	NO. OF CASES	MORE SPECIFIC DIAGNOSIS- WHERE GIVEN (NUMBER OF CASES)	CASE REPORTS RECEIVED
Physical disability			
Impaired mobility	15	knee injury- (1); wheelchair user -(4); fractures- (10)	7
Upper limb amputation	1		
Spasticity	1		
Speech impediment	6	stammer (2)	2
Other	8	congenital hand deformity- (1)	1
Sensory disability	0		
Visual	5	restricted peripheral vision- (1);	2
Hearing impairment	22	unilateral loss- (3) severe bilateral loss (1)	5
Other	0		
Cognitive disability	0		
Dyslexia	279		12
Asperger's syndrome	2		1
Other	3	dyspraxia- (1); post-head injury- (1); attention deficit disorder-(1)	2
Physical Illness	0		
Chronic fatigue syndrome	8		3
Progressive illness	6	rheumatoid arthritis- (1); ankylosing spondylitis- (1)	1
Recurrent episodic illness	10	multiple sclerosis-(1); ulcerative colitis- (2)	2
Epilepsy	17		5
Cancer	8		3
Immune-deficiency	2		1
Blood-borne infection	8		3
Skin disease	10		
Other	5	back pain (1); congenital back problem- (1); RSI- (3)	5
Mental health problems	0		
Psychosis	12		
Depressive illness	45		9
Personality disorder	6		
Eating disorder	38		7
Other	4	self-harm- (1)	2
More than one disability	0		
'Complex problems'	1	hearing & speech impairment with emotional problems	1
Total	522		74

Table 3 Reported disability or health impairment requiring support during undergraduate training

5.4 Prevalence of impairment in newly-qualified doctors

Deaneries reported a total of 99 doctors known to have an impairment during their pre-registration year, a prevalence of 1%.

This was less than 1/3rd of that reported by medical schools. The most marked difference was for cognitive disability: the 'known' prevalence in newly-qualified doctors was less than 1/20th of that amongst medical students. The prevalence of physical illness was similar to that reported by medical schools. For other categories prevalence was c. 50% of that reported for schools (Figure 6)

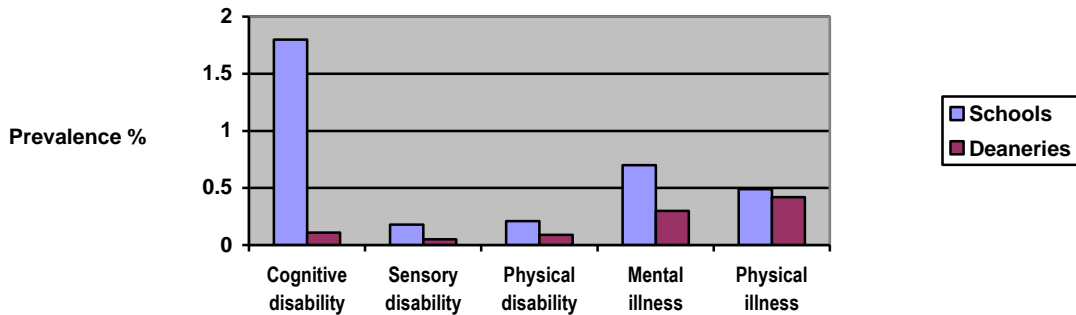


Figure 6 Prevalence of reported impairment by category

Only 3 instances were reported of doctors not attaining full registration. Two were unable to complete F1 training because of depressive illness affecting general fitness for work. In the third case a progressive neurological disease caused substantial memory impairment

One dean reported a single case of a doctor noted to have difficulties in team working during their pre-registration year, though not of a magnitude to justify not allowing him to proceed to full registration, being subsequently suspended from an SHO post because of fitness to practice concerns. The doctor was considered to have a personality disorder. The outcome of an NCAS assessment was unknown at the time of report.

5.5 Causes of impairment in newly qualified doctors

Mental and physical illnesses were the predominant types of disability requiring support. (Figure 7)

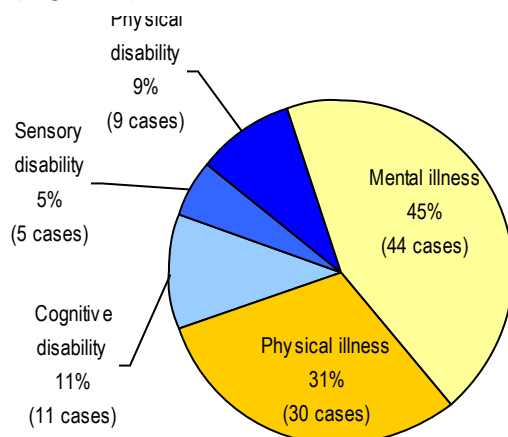


Figure 7 Relative frequency of impairment by category: newly qualified doctors

The single most common disability deans were aware of was depressive illness, followed by eating disorder (Table 4). Chronic fatigue syndrome was the most common physical illness requiring support.

2 newly qualified doctors were reliant on a wheelchair for mobility. Only 4 cases of hearing impairment were reported. Two were described as moderate. There was no information on the severity of the other two cases.

TYPE OF PROBLEM	NO. OF CASES	MORE SPECIFIC DIAGNOSIS- WHERE GIVEN (NUMBER OF CASES)	CASE REPORTS RECEIVED	UNABLE TO COMPLETE
Physical disability				
Impaired mobility	6	wheelchair-user- (2); Erlos-Danlos-(1); fractured leg-(1)	3	
Upper limb amputation	1			
Other	2	brachial plexus injury-(1); myopathy- (1)	1	
Sensory disability				
Hearing impairment	4	moderate impairment- (2)	2	
Visual	1			
Cognitive disability				
Dyslexia	8		1	
Asperger's syndrome	1		1	
Other	2	memory impairment- (1); post-head injury- (1)	2	1
Physical Illness				
Chronic fatigue syndrome	7		3	
Progressive Illness	3	cystic fibrosis -(2); Chronic renal failure -(1)	3	
Recurrent episodic illness	2	rheumatic disease-(2)		
Epilepsy	4		1	
Cancer	4		1	
Immune-deficiency	3	HIV- (1); 'Immune disease'- (1); not spec- (1)	2	
Blood-borne infection	5	HepB-(2); HepC- (1); not spec- (2)	3	
Skin disease	1	Latex allergy- (1)	1	
other	1			
Mental health problems				
Psychosis	3	bi-polar illness -(1); not specified -(2)	1	
Depressive illness	20		7	2
Personality disorder	4		1	*
Eating disorder	9		2	
Other	4	phobia-(2); OCD- (1); alcohol dependency-(1)	1	
Not specified	4		1	
Total	99		37	3

* 1 completed but was later suspended

Table 4 Reported impairment in doctors requiring support during pre-registration training

5.6 Support measures

Disability versus illness The support needs of students and doctors impaired through fixed disability differed in character from those impaired as a result of illness. Disabled individuals usually required assistance in only one or two practical aspects of training. Their disability did not affect capacity or motivation for learning.

With illness, impairment was more general. The key difficulties reported were periods of total incapacity causing prolonged or recurrent absence, or of fatigue and malaise limiting the amount of study or work that the individual could cope with. Serious mental ill health caused problems with motivation and engagement with learning. Affected students often had irregular attendance and some responded poorly to attempts to provide support.

Accordingly, both schools and deaneries were more able to provide the support necessary for disabled students and doctors to progress through training without undue problem or delay. Only a single case was reported of a disabled student being unable to complete training. Deaneries were able to provide for the needs of all newly-qualified doctors with a physical or sensory disability to enable them to begin work successfully and gain full registration

General measures: All schools had disability advisors and personal tutor support. Several had appointed a specific faculty member to follow disabled students throughout the course. This helped ensure continuity as the student moved from school to hospital-based training.

Occupational physicians were the key advisor at most schools on support measures for students with long term illness and for advising on adjustments for disabled students during clinical training. One school reported an established link with the NHS teaching trust's disability advisor.

Two deaneries had set up a group of specialist educational supervisors to support disabled newly qualified doctors.

Physical impairment: Physical impairments were accommodated by ensuring teaching & work environments were accessible, and placements organised to minimise travel both to and within venues. Where an impairment affected acquisition of a clinical skill, additional coaching was provided. One newly qualified doctor with a brachial plexus injury was allocated an assistant to help him perform some clinical tasks. Duties of a wheelchair-using doctor were adjusted so that he was not required to act as a first responder for crash calls. No other adjustments to duties were considered necessary.

Sensory impairment: For hearing impairment, the most common support measures were provision of hearing loops in teaching rooms and providing teachers and colleagues with information on how to communicate with someone who had a hearing impairment. For clinical training some students were equipped with an amplified stethoscope and provided with specific coaching in its use. Mentoring from a similarly impaired student or doctor was used by at least one school and post-graduate deanery.

Little information was available on supporting visual impairment.

Cognitive impairment: Students with dyslexia and dyspraxia were allowed extra time in written exams and provide students with copies of lecturers' notes. Some used handheld computers for taking notes or to hold searchable reference texts during clinical training. No school reported any student with dyslexia failing to cope. One doctor with dyslexia required an extension to pre-registration training to achieve competency.

Physical illness: For illnesses causing prolonged episodes of incapacity, support focussed on allowing the student time out from studies for treatment and convalescence. Because of the modular nature of courses this often necessitated taking a full year out . Some schools provided additional coaching on return, or allowed full or partial retake of a year.

Exams could be deferred or retaken if preparation or performance was affected by illness. All schools appeared to allow unwell students extra time in written exams although most would not allow this in summative assessments of clinical skills.

Deaneries were able to support doctors partly incapacitated by chronic illness through placements in supernumerary or part-time posts. Some medical schools also allowed a student to study part-time during prolonged treatment or recovery from illness but emphasised that this was an exceptional short-term arrangement.

Mental illness: The key support measures reported were ensuring that the student or doctor was receiving appropriate treatment, providing good supervisory support and, where needed, allowing the person time out for treatment and recovery. Where the person was in treatment but well enough to work placements could be organised to fit in with treatment schedules.

No specific information was received on additional support measures employed for students or doctors affected by a psychotic illness.

5.7 Drop-out from school because of impairment

Medical Students: 28 schools provided an estimate of the numbers of students leaving the course primarily on account of illness or disability. (Table 5)

TYPE OF IMPAIRMENT	NO OF CASES	KNOWN BEFORE ENTRY	FITNESS TO PRACTISE DISMISSAL	UNDERLYING DIAGNOSIS (DISMISSALS)
Physical disability				
Any physical disability	0			
Sensory disability				
Visual impairment	1	1		
Cognitive disability				
Any cognitive impairment	0			
Physical Illness				
Chronic fatigue syndrome	2			
Blood-borne infection	3			
Epilepsy	1			
Progressive illness (Rheumatoid arthritis)	1			
Episodic illness (Inflammatory bowel disease)	1			
Mental health problems				
Psychosis	4	1	3	psychosis (2) schizophrenia (1)
Depressive illness	3		1	bipolar illness (1)
Personality disorder	4	1	2	Munchausen's (1) not further spec (1)
Eating disorder	2	2		
Other (Alcohol- 1; anxiety-1; drug addiction- 1)	3		1	addiction (1)
Not specified	60	3		
Other	0			
Cause not given	12	1		
Totals	97	9	6	

Table 5: Reported drop-out from medical school because of impairment

97 instances were reported in total: an average drop out rate of 3.2 per 1000 students. The median value was 2.2 per 1000. Psychiatric illness was by far the most common underlying problem, accounting for nearly 80% of all cases. Only one case of a student dropping out because of fixed disability, as opposed to ill health, was reported.

In c. 90% of cases, the illness only developed or became apparent after the student had commenced their course.

Only 9 instances were identified where the illness was known to the school beforehand.

Most students left through voluntary withdrawal or after exam failure. Only 7 cases were reported of students being formally dismissed on fitness to practise grounds. All had mental health problems. A further four cases were reported of students with serious mental illness being persuaded to leave school.

6 Discussion

6.1 Limitations

The study established that most UK medical schools consider fitness to practise when selecting applicants for entry. Only small numbers of applicants appear to be rejected because of disability or ill health.

The rate calculated can only be considered an approximation. As it relied on recall from memory rather than documented records and did not count those dissuaded from formally submitting or being persuaded to withdraw an application some degree of under-reporting is likely. Some double counting may have occurred: an applicant could have been turned down by more than one school. However, even allowing for those sources of error, the true rate of rejection on fitness grounds is still likely to be small.

The drop-out rate on illness grounds is also likely to have been under-estimated. Admissions deans and occupational physicians would not necessarily have been involved with students dropping out of courses after entry and not all students dropping out because of illness may not have disclosed this. Subjectivity in reporting will have biased results. At two schools with a high health-related drop-out rate, respondents included cases which others could have classed as primary academic failure or misconduct rather than illness.

Although the responses to the disability survey reflected the balance and size of established and new UK schools and was higher than that achieved by other recent surveys⁴⁻⁹ it still only achieved a response rate of c.50%. The experience of schools and deaneries that did not respond may have been different from those that did.

Case reports from schools provided disappointingly little information on specific support measures for clinical training as opposed to school-based study.

6.2 Disability in medical training

From the data collected there appears to be very few seriously disabled medical students. Only 4 wheelchair-using students, 5 with visual impairment and 22 with hearing impairment were reported in a survey population of c.15,000. Some of the cases of sensory disability were mild: 3 of the detailed 5 reports on hearing impairment described unilateral loss and in the single report on visual impairment the student had normal central vision. Over 50% of all disability reported was dyslexia which, in those able to achieve academic entry criteria for medicine, is likely to be relatively mild. The only illnesses that commonly affected fitness were mental health problems.

Much of the difference in prevalence reported by schools could be accounted for by most disability being minor. Prevalence would then be more dependent on the school's awareness and conception of disability than the actual frequency. The lower prevalence of disability reported by post-graduate deans may be another indicator of this. Disabled doctors experience and fear discrimination¹⁰. Disabled students may feel that the balance between risk and benefit of disclosing a disability alters after qualification and some with a level of impairment small enough to be able to conceal it choose to do so.

However, the study suggests that, with appropriate support, it is possible to train successfully and work as a doctor despite significant physical or sensory disability. Schools supporting wheelchair-using students reported no insurmountable difficulties

and post-graduate deans were able to make the adjustments necessary for almost all newly qualified disabled doctors to complete training. A student with hearing impairment of an extent that she used lip-reading in conversation successfully completed both undergraduate and pre-registration training.

Other examples of successful completion of training despite serious disability have been recently reported¹¹

6.3 Mental ill health

The study found that long-term illness, particularly psychiatric illness, to be the most significant impairment in students. It was by far the highest disability-related cause of drop out and the only one for which students were required to leave the course because of concern over fitness to practise. Seven cases of health-related formal dismissal were reported. A joint GMC/CHMS survey of all UK schools had a similar finding: between 2000 & 2004, c.8 students were formally dismissed because of mental health problems¹².

However, comparison with studies^{13 14 15 16 17} on the prevalence of psychological morbidity in medical students suggest only a small proportion of students with mental health problems experience serious difficulties in coping with their course. Depending on the definition used, 13-50% of medical students experience problems at some time.

The prevalence of mental health problems known to schools found in this study—was 0.7%. Even allowing for substantial under-reporting, this huge difference suggests most students cope successfully without requiring specific support or without their troubles affecting fitness to practise.

The situation with drop out from the course is similar. Although cited as the underlying factor in over 90% of students leaving the course for a disability-related cause, recognised mental ill health accounts for only a relatively small proportion of drop-out from UK medical schools. The 'all-cause' drop-out rate in UK schools has been estimated to be between 8.2%¹⁸ and 12%¹⁹. A more recent study suggests that the rate may have increased²⁰. The drop out rate on mental health grounds in this study was less than 0.25%.

These findings suggest that a history of mental ill health does not, in itself, preclude fitness for practise or, in most instances, fitness to study. However it is still an issue that requires continued attention. Medical schools and universities already devote considerable effort to it, providing support through pastoral care, counselling and provision of occupational health care. Although rarely mentioned as a support mechanism by respondents, most schools have progress committees to identify students in difficulty at an early stage so that enhanced pastoral and teaching support can be offered. Further research is required to develop strategies that may prevent the development of mental health problems in students before they run into difficulties and before disengagement from study limits the utility of support measures.

6.4 Barriers for disabled people

Despite the willingness demonstrated by most of the schools and deaneries to support disabled students the low prevalence found suggests that barriers still exist that hinder disabled people from entering medicine.

Disadvantage in primary & secondary education will be one barrier. The proportion of deaf children in mainstream schools gaining good GCSE grades is only one third that of other pupils²¹. Analysis of UCAS statistics²² show that prevalence of physical and sensory disability declared by applicants to courses requiring high tariff scores for selection was half the prevalence for all applicants to higher education.

Exclusion through pre-entry fitness screening will account for some of the low prevalence noted. Its direct effect will be small: only 10 instances were reported of an applicant being formally turned down because of a fixed disability but others will have been informally excluded.

Some disabled people may choose not to apply to medical school because, despite being capable of meeting other criteria for entry, they wrongly assume that they will not be accepted for training or able to work as a doctor. Self-exclusion from higher education because of low aspirational belief has been found in socially disadvantaged groups²³. The same mechanism may operate with disability. The rarity of disability within the profession means that there are few role models to encourage disabled children to aspire to a medical career.

6.5 Removing the barriers

The medical profession needs more disabled doctors. The profession should be representative of the population for which it cares. More exposure to disability can help counter the negative attitudes found amongst doctors^{3 4}. Disabled doctors may be more empathic towards patients with disabilities²⁴ and can provide the role model to encourage others into medicine²⁵. Accepting more disabled students onto courses will help schools develop the competency needed to provide support for all with the potential to complete training and challenge presumptions on capabilities that may lead to discrimination.

Some of the barriers for disabled people, such as early educational disadvantage, are beyond the influence of medical schools and the GMC. However both could take action to encourage more academically successful disabled people to apply to medical school. Although the GMC and most schools make positive statements about disability, the near-standard accompanying clause '*provided that they can meet the rigorous demands of fitness to practise*' could appear intimidating. Providing examples of successful disabled students or doctors in their literature could encourage more applications from others.

The Schwartz report on fair admissions processes²⁶ recommended that admissions processes should be transparent and provide maximum information for aspiring applicants. Schools have quickly responded to these recommendations. Many now provided detailed descriptions of their selection processes and criteria. Although general information on disability on school web-sites has improved²⁷ since Tynan's survey in 2003²⁸ only very few schools provide equivalent detail on their fitness assessment procedure.

Schools need also to consider whether they are being too cautious in their assessments of disabled applicants. The fact that all but one physically or sensory disabled students identified in this study successfully coped with training and required only relatively simple support measures suggests this may be the case.

6.6 The value of screening for fitness

Many of the study findings bring into question the value of pre-entry screening.

Most of the conditions that caused concern over fitness to practise arose or were identified only after school entry. Schools who had never excluded an applicant had no worse experience than schools which had rejected applicants. Disability-related drop-out rates were not significantly different between non-excluding and high-excluding schools.

Screening creates opportunity for discrimination, whether intentional or not. The study identified at least one clear discriminatory practice, resulting in six applicants not being considered for selection by one of their chosen schools. Unintentional

discrimination may also have occurred where, through lack of evidence to the contrary, a school may have incorrectly concluded that a functional impairment would make it impossible for an individual to acquire a clinical skill. The variation noted in exclusion rates suggest that schools are interpreting fitness to practise differently. Given the large population covered by the survey and that almost all students apply to four different schools, the variation is unlikely to be due to chance. It is also improbable that, year after year, new cohorts of disabled applicants would preferentially select the same schools to apply to.

The study collected little evidence that could be used to predict the impact of most illnesses or fixed disabilities on fitness to practise but much to suggest it could not easily be predicted. The low proportion of students with mental health problems dropping out suggest that a history of such difficulties has a low predictive value for fitness to study or practise.

The rarity of students and doctors in the early post-qualification years with significant physical or sensory disabilities mean that the true capabilities of individuals with such disabilities have never been established. If applicants with these disabilities continue to be excluded because of lack of evidence then their capabilities never will be established.

However, the study has found evidence that incapacity resulting from illness can cause difficulties in coping with the demands of study. There is evidence mental health difficulties are particularly acute in the first year.^{14 16} Some applicants with a recent history of mental health problems may therefore benefit from being advised to delay entry into school until recovery is consolidated.

In addition there remains the possibility that some otherwise suitable applicants may be unwell with a psychiatric illness which, because of effects on cognition, could pose a risk to patients that even with reasonable adjustment could not be averted and so make the person unfit for practise.

Accordingly there is some justification for pre-entry screening of applicants. If well-conducted, screening can identify some who may be vulnerable because of recent illness. They can be advised to delay entry until recovered, or provided with extra support. Applicants with disabilities that will require adjustments to overcome them can be identified and their needs planned for. The very few who will be unsafe to practise because of the effects of a pre-existing illness can be identified and counselled on alternative careers more appropriate to their capabilities.

6.7 Conduct of screening

The primary purpose of screening should be, as it already is at many schools, to identify those who may benefit from support. The disability question on the UCAS form is an inadequate tool for the purpose. Illness is the most common impairment-related cause of drop out from medical school yet only c. 100 out of over 19,000 applicants for medicine in 2004 declared a disabling illness on their UCAS form. Only 8 declared a mental health problem²⁹. It is also completed one year or more before entry and so cannot assess recent health. A study of students at one UK medical school found the question had no value in predicting which students may have difficulty coping with their course¹⁷.

A health questionnaire which makes focussed enquiry about the existence of relevant functional impairments will be a more sensitive tool. To avoid needless repetition schools could agree the core content of a screening questionnaire so that one school's questionnaire would also be accepted by another. HEOPs is currently developing a questionnaire suitable for this purpose.

Screening of applicants should be delayed until after selection for offer. This will avoid unnecessary screening of those who do not meet other criteria for selection while still allowing time for full assessment, if needed, before school entry.

Early contact by anyone concerned that a major disability may prevent them from studying medicine should continue to be encouraged so that, if it is judged impossible for the person to achieve the competences necessary to graduate, they can apply for other courses without waste of a year. However, to avoid discrimination, none should be advised that they are unfit without a full assessment of capabilities and exploration of feasible support measures. Any making very early contact, before it is possible to judge whether they would meet other entry criteria, can be informed of the competences they will need to achieve plus the range of support available and advised that, should they wish to apply in future, they should re-establish contact with the school for a full assessment nearer to the time of formal application.

Questionnaire screening and detailed assessment should be carried out by an occupational physician. Occupational physicians have the requisite skills to appraise the effects, in both the short and long term, of ill health and disability on functional capabilities. Both CHMS⁷ and the Department of Health³⁰ advocate the involvement of OH services in their guidance on assessing fitness.

When considering what support measures may be necessary for a disabled student and particularly the feasibility of providing these, schools may usefully invite a similarly disabled doctor to assist. He or she may be able to provide solutions that others without direct experience may not consider, or allay unnecessary anxieties.³¹

6.8 Deciding on fitness to practise

The Disability Discrimination Act is likely to apply whenever the issue of fitness to practise on disability or health grounds arises.

Accordingly, it will be lawful to refuse entry to a course of an otherwise qualified applicant only where there are material and substantial reasons to believe that the person will be unable to achieve curriculum outcomes or will endanger patients³².

Where, after a full assessment of a disabled applicant, it remains uncertain whether they have the capability to acquire necessary competences they should be given the opportunity to attempt the course. Some additional supervision during practice of clinical procedures could contain any putative risk to patients. If an applicant is willing to take this risk that he or she may not gain the competences necessary to qualify, then the school should also be willing to take the risk of the student failing. Schools already accept some risk of failure through imprecision in the other selection processes¹⁸.

A belief that an applicant may be unable to cope with the demands of study because of illness or disability should not be grounds for rejection. Any applicant who has met, or is considered capable of meeting, academic criteria for entry will have already demonstrated good capacity for coping with academic study. If there is concern that their capacity has been diminished through recent illness then deferment to allow time for recovery sufficient to cope with full time study will be a more appropriate response than exclusion.

Applicants with a history of psychiatric illness should only be excluded where a risk assessment has concluded that, in their specific case, the illness could pose a danger to patients. In cases where prognosis is not yet clear, a fitness decision should be deferred.

6.9 Avoiding discrimination

The one statistically significant finding of the study on screening processes was that where an assessor was able to take a decision that an applicant was unfit without reference to others the school had a higher exclusion rate. Whilst there may have been perfectly valid reasons for all decisions taken by these assessors this form of process creates potential for unintentional discrimination through exercise of strong personal judgement.

Recommendations to CHMS on the conduct of fitness to practise hearings for medical students stated that decisions should be taken by a panel, independent from the person that investigated the case³³. Most schools have adopted this procedure for taking decisions on fitness to practise of applicants. Other schools should follow: no decision to turn down an applicant should be made without a full assessment followed by scrutiny of the assessor's evaluation by others.

6.10 Recommendations for further research

The precise reasons why some applicants are turned down on fitness grounds remain poorly understood. More information on the needs of disabled students and doctors and how these can be met is still required to foster development of effective support strategies and encourage more disabled people to apply for and be accepted into schools.

I recommend:

1. A further survey of schools focussing on the factors underlying a decision to exclude or defer entry of applicants on fitness grounds: especially the difficulties schools envisaged in supporting such students and why they felt these could not be overcome.
2. A prospective longitudinal study to follow disabled students through their undergraduate studies and post-graduate training years to gather more evidence on the impact of specific disabilities and how these can be supported.

References

- 1 General Medical Council. *Tomorrow's Doctors*. London, UK 2003
- 2 Disability Discrimination Act 1995. London The Stationary Office Ltd. 2001
- 3 British Medical Association. *Career barriers in medicine: doctor's experience.*, London 2004
- 4 Mercer S, Dieppe P, Chambers R, MacDonald R. Equality for people with disabilities in medicine. *BMJ* 2003; **327**; 882-3.
- 5 HEOPs Working Party on Fitness to Study Medicine. May 2004 Unpublished
- 6 Poole CJM, Harrington JM, Aw, TC, Burge PS, White, AC. Guidance on Health Care Standards for clinical health care workers. *Occup. Med* 2002; **52**; 17-24
- 7 Council of Heads of Medical Schools. *Guiding principles for the admission of medical students*. London 2004
- 8 Rubin P. The General Medical Council and medical students with disabilities. *BMJ* 2003;327(suppl): s123
- 9 Morgan, L. *reported in* Enabling disabled doctors— scoping exercise. Commissioned on behalf of the Disabled Doctors Action Group. Staffordshire University October 2004
- 10 Paice E. *Doctors with disabilities: Clearing the way*. Report of a working party. Royal College of Physicians, London 2006. Unpublished.
- 11 MacDonald, R. (ed) *Training & working with disabilities*. BMJ Careers 2004
- 12 Personal communication. B Griffith GMC, London May 2006
- 13 Firth-Cozens J. Emotional distress in junior house officers. *BMJ* 1987; **295**; 533-6
- 14 Moffat K, McConnachie A, Ross S, Morrison, JM. First year medical student stress and coping in a problem-based learning medical curriculum. *Med Educ* 2004; **38**; 482- 491
- 15 Tyssen R, Vaglum P, Grenvold, NT, Ekeberg O. Factors in medical school that predict post-graduate health problems in need of treatment. A nationwide study. *Med Educ*. 2001; **35**; 110-120
- 16 Dahlin M, Joneborg N, Runeson B. Stress and depression amongst medical students: a cross-sectional study. *Med Educ*. 2005; **39**; 594-604
- 17 Yates J, James D. Predicting the "strugglers": a case-control study of students at Nottingham University Medical School *BMJ* 2006; **332**; 1009-1013
- 18 McManus I C. Drop out rate in medical schools seems reasonable. *BMJ* 1996; **313**; 173
- 19 Parkhouse J. Intake, output and drop out in United Kingdom medical schools. *BMJ* 1996; **312**; 885
- 20 Arulampalam W, Naylor RA, Smith J. Dropping out of medical school in the UK: explaining the changes over ten years. *Med Educ* 2007; **41**; 385-394
- 21 Powers S An analysis of deaf pupil's examination results in ordinary schools. *Deafness and Education* 2003 **22** (3) 30-36
- 22 Data on file
- 23 Thorpe A, Snell M, Hoskins S, Bryant J. False uniqueness: the self-perception of new entrants to higher education in the UK and its implications for access - a pilot study. *Higher Education Quarterly* 2007 **61** (1), 3–22.
- 24 De Lisa J, Thomas P Physicians with disabilities and the physician workforce: a need to reassess our policies. *Am J Phys Med Rehabil* 2005 **84**: 5-11.
- 25 Mercer, S. Career development for doctors with a disability *BMJ* 1998; **317** (7154); s2

-
- ²⁶ Admissions to Higher Education Steering Group (Chair: Steven Schwartz). Fair admissions to higher education: recommendations for good practice. London: Department for Education and Skills, 2004.
- ²⁷ Tynan A. The sequel to pushing the boat out. Newcastle upon Tyne: LTSN-01 2004 -- http://www.medev.ac.uk/resources/features/the-sequel-pushing_the_boat_out
- ²⁸ Tynan, A. Pushing the Boat Out. An introductory study of admissions to UK medical, dental and veterinary schools for applicants with disabilities. University of Newcastle: Learning and Teaching Support Network, 2003. (LTSN Special Report 1.) ISBN 0 7017 0154 4
- ²⁹ UCAS data on file
- ³⁰ Mental Health and Employment in the NHS Department of Health. London 2002
- ³¹ Stiff RE Life as a visually impaired doctor. *in* MacDonald R (Ed) Training & working with disabilities BMJ Careers 2004 p 1-2
- ³² Disability Rights Commission Code of Practice (revised) for providers of post-16 education and related services 2007 para 6.13- 6.20
www.drc.gov.uk/employers_and_service_provider/education/higher_education/drc_post_16_code_of_practice.aspx (last accessed 24 June 2007)
- ³³ Evershed's Solicitors. Fitness to practise in the medical profession, July 2001 London