## 7. Applicants' perceptions and proposals for change.

"...some of the fog of ignorance and mystique that so often cloaks medical school admissions should be dispersed, to the benefit of medical school admissions officers, those giving advice to prospective students, and - most important of all - the applicants".

Anderson, Hughes and Wakeford (1980)

## Summary.

Medical school applicants in the St. Mary's study were asked to comment freely on the process of selection. The majority of comments concerned excessive emphasis on academic achievement, the role of interviews, the problem of rank-ordering choices on the UCCA form, and possible biases in selection. As a result of such criticisms, and of the results of the survey, the major proposals for change are that even though it would make selection more difficult for schools, candidates should not rank their choices in order of preference, that as many applicants as possible should be interviewed to enable them to feel that their claim has been fully represented, that UCCA applications for medicine should be subject to an early closing date, that applicants should be encouraged to apply after taking A-levels, that graduates and mature students should be encouraged, not least by providing mandatory awards, and that every effort should be made to take into account educational opportunity in assessing A-level grades.

"... the medical profession seems to be biased towards the very academic, probably male student, who has a long family history in medicine and a public school education. They seem in my experience less interested in your character and whether you have the right temperament to make a good doctor and have the ability to get on with and communicate with a wide range of people, especially in a difficult situation"

Applicant to St. Mary's Hospital Medical School, 1980.

Applicants in the St. Mary's study were invited to enter "any comments or criticisms of the medical school selection process" on a blank sheet of the questionnaire, Q1, which was sent to all applicants with an address in the UK on receipt of their UCCA application form at St. Mary's.

Comments were made about the selection process by 623 of the 1151 applicants who completed Q1. A further 64 wrote that they felt unable to comment usefully or commented on the survey itself, rather than on the selection procedure. 45 of the 623 replied that the selection process appeared to be as fair as possible in the circumstances of intense competition for entry. This chapter concerns the points raised by the remaining 578 applicants. Several respondents deliberately signed their comments and one even provided a telephone number "for further discussion".

Here are considered applicants' criticisms of the admission system, and suggestions made for change, in the light of these criticisms and of the findings of the survey.

## Results

There were four major areas of concern (Table 7-1):

1. Excessive emphasis on academic achievement

2. Interviews

3. Pressure to make an order of preference between medical schools

4. Possible bias in selection

1. Excessive emphasis on academic achievement. 205 applicants considered that academic achievement was too dominant a factor in selection although a few admitted that they saw no practical alternative. Reservations were expressed on two major grounds: first, non-academic factors were thought to be at least as important as academic ability in determining suitability for a career in medicine; second, it seemed difficult to assess academic ability on a common standard. While no applicant denied that academic ability was necessary many other important characteristics were put forward (Table 7-2). One applicant commented, "It is so easy not to realise that there are real people outside our educational cocoon". Concern surrounded academic over-emphasis in general, the role of 'O' level achievement and the all-importance of specific 'A' level grades.

Several applicants were concerned that too much reliance may be put on 'O' level results in predicting academic ability at 'A' level and thereafter. Although the UCCA application form no longer requires specific prediction of 'A' level grades, applicants suspected correctly that if they had not already taken 'A' level their academic ability would

be judged as much on 'O' level achievement as on any comments in the confidential report about progress in the first year of the 'A' level course. Their concern seems justified in that although those with excellent results at 'O' level generally do well at 'A' level there are striking exceptions: high achievement at 'O' level by no means necessarily ensures good 'A' level results, nor does poor 'O' level achievement necessarily preclude an excellent performance at 'A' level. The nature of the work and capacity tested by the two examinations is different, the emphasis put on 'O' level varies considerably between schools and pupils mature at different rates.

Applicants justifiably felt that they might be denied an interview or conditional offer because of indifferent 'O' level results although in due course they might out-perform many of those who received offers. They correctly perceived that it is not always easy to break back into the system; failure to obtain a conditional offer at first application is likely to cost a year unless an individual is very fortunate at the "clearing" stage in August.

To emphasise the problem, Figure 7-1 shows the average A-level grade of applicants as a function of their average O-level grade. Individuals with average grades of between A and B at O-level gained a wide range of grades at A-level. Conversely an average A-level grade of B/C was sometimes associated with an average O-level grade as low as C/D. That few applicants offered a mean O-level grade below a grade of C, probably reflects the policy of school sixth forms. The correlation between O- and A-level achievements in Figure 7-1 is 0.59, which, however, implies that only 35% of the variance in A-levels is predicted in terms of variance in O-levels, and hence <u>individual</u> A-level results cannot reliably be predicted from <u>individual</u> O-level grades. The coefficient of

alienation, (1 -sqrt(1-r*r)), which is a measure of the proportional reduction in the standard error of a prediction as a result of knowing a second variable, is 0.195; this coefficient corresponds more closely with psychological judgements of relationship than does the conventional correlation coefficient (Jennings et al, 1982). It should also be noted in passing that A-level achievement in UCCA applicants is predicted slightly more reliably by head-masters (r=0.65) than on O-level achievement alone (r=0.52) (Murphy, 1981).

The rigid use of specific 'A' level grades as the final arbiter of acceptance was heavily criticised by applicants on the grounds that differences between grades were often so small as to have no real meaning, that the standards of examinations set by the different school examining bodies was not uniform, that different subjects were not strictly comparable, that age and educational opportunity were not properly taken into account and that 'A' level performance of those who did not receive conditional offers was adversely affected by such a serious blow to their self-confidence and motivation.

It is indeed true that the difference between a B and a D grade may represent very few marks and that a few marks can easily be determined by the luck of the questions or the health of the day, by, as Scrooge put it, "a slight disorder of the stomach ... an undigested piece of beef, a blot of mustard, a crumb of cheese, a fragment of an underdone potatoe". It is also true that the nature and very probably the standard of the 'A' level examinations set by different boards vary; it is not uncommon to find that applicants simultaneously achieve in the same subject a B in the examination set by one board and a D in another. A few applicants proposed the remedy of a common national 'A' level examination or a specific examination for entry to medicine.

Educational opportunity varies substantially: the quality of teaching, the constructiveness of the environment both at school and at home, and the pressure put upon pupils to achieve differ sufficiently for achievement at 'A' level and academic potential sometimes to be very different things. So difficult may it be to judge academic potential and motivation at age 18 that some applicants suggested that medical students should not be admitted under the age of 21, partly to allow more time for assessment of academic potential, partly to give opportunity for more practical experience and partly to ensure greater maturity.

2. Interviews. Not too much general importance can perhaps be attached to the fact that 206 applicants to a school which includes interviews as part of its selection process expressed views about interviews, most of them asking for at least as much weight to be given to interview as to academic qualifications. Applicants to schools which do not normally interview might reasonably express a contrary view.

The applicants saw interviews as providing a wider profile than was possible on an UCCA form, enabling applicants to become better informed about particular schools and courses, and particularly giving the opportunity to put their own case. Feeling on the latter point was strong: one person commented "how embittered an applicant can feel when 5 rejections come through the post without any contact with the schools"; another who had twice been rejected by all his five choices without interview wrote "I am not saying that I should have been accepted but I am saying that I should have been given the chance to be assessed at interview before rejection or acceptance".

It is easy to overstate the discriminant value of an interview but difficult to deny that applicants see it as important to have an opportunity to communicate "why you are applying and what sort of person you are", to show "aptitude for debating a point" and to "explain special circumstances". One applicant felt that interviews might well help to avoid the worst misfits:

> "I live with two medical students who possess the same qualifications (as I do) and have absolutely no interest in the course. Neither of them was called to interview and had no idea what the course involved. Is this due to a biased referee's report, parental influence or was the offer simply based on academic qualifications?"

Several applicants tempered their approval of interviews with a wish to make them more discriminating, while a few considered them unreliable because unconducive to truthful speaking, too stressful, too formal (or too informal), too short and raising false hopes. Some proposed an interview with two or three different panels to obtain fairer assessment by a wider spectrum of opinion, others suggested a longer period of assessment with practical tests of initiative and ability "to test more thoroughly the candidates' practical ability to handle practical problems". An approach to selection by questionnaire with or without interview was also suggested.

Interviewed or not, several applicants asked that they should be given reasons why they had been unsuccessful in obtaining an offer. The reason often was only that others were even better qualified.

3. Pressure to state an order of preference between medical schools. Applicants are advised by their teachers that medical schools prefer applicants to list their choices in order of preference and that their best chance of serious consideration is at their first choice; it is

widely suspected but difficult to prove or disprove that some medical schools give scant consideration to applicants who did not place them first (or second to Oxbridge). 171 applicants were concerned at the pressure they felt on them to state an order of preference, partly because they felt unable to make a sufficiently informed decision and partly because they suspected that their chance of acceptance might depend on strategy in deploying their preferences. In its own survey UCCA also found evidence that applicants are dissatisfied with the need to place selections in order of preference (Fulton and Lamley, 1983).

Prospectuses were considered to give too little and biased information; "alternative" prospectuses written by students themselves or by outsiders would have been welcomed. The results of the Medical Student Environment Questionnaire (Wakeford, unpublished) might well provide much of the desired information. Difficulties in making arrangements to visit medical schools were mentioned and the high cost to many applicants of visiting five (or more) schools was emphasised. Applicants turned to their teachers, to their family doctor and to student friends for advice which they felt was often insufficiently well-informed or was not impartial. They had no way of discovering whether competition for entry differed substantially between medical schools, nor were they sure which schools would expect to be put first. One applicant described deciding an order of preference as "the greatest nightmare".

In chapter 2 it has been shown that the number of applicants per place varied considerably between different schools in 1980/81, although there is no convincing evidence, with the exception of Oxbridge, that it is more difficult to get into one medical school than another. It is difficult to estimate the importance of ranking of preferences upon

chance of admission at other schools; at St. Mary's those accepted had given the school slightly higher priority than those rejected (chapter 3). If, as is likely, all schools pay some attention to the candidates's stated preference it clearly is theoretically possible for a good average candidate who gives the first one or two preferences to schools which have a very large number of applicants in relation to their number of places, to be rejected by those schools and then to miss out at his lower preferences at which, given higher preference, he might have been successful. The applicants in the St. Mary's study were strongly in favour of a system of equal preference.

4. Bias in selection. Fewer fears were expressed about possible biases than about academic dominance, interviews and preference of medical school, but misgivings were expressed in particular about the influence of background, the weight given to possibly ill-informed confidential reports and possible bias against those re-taking 'A' levels to achieve better grades.

Possibly incited by questions in Q1 about parental background, 73 respondents were concerned that doctors' relatives might receive preferential consideration. A few expressed the view that if doctors' relatives were favoured then their additional insight into the demands of the job might justify special consideration. The analysis of chapter 3 suggests that, overall, doctors' children have a small advantage not accounted for by educational or other associated factors, a much smaller advantage than this applicant suspected:

> "I have never much liked the pre-occupation of many schools with a candidate's class and his father's occupation. Perhaps this is because I myself am working class and my father works in a factory. I know that if I were a doctor's son then my chances of acceptance would be much higher. I do not have a

single relative who is connected with medicine. I will be pleased and happy with the knowledge that any achievements made by me in this field will be entirely due to my own ability."

Other applicants were concerned about possible bias in favour of high social class or private sector education. A difference in favour of high social class was found only at Oxbridge and only a small bias was found nationally in favour of private sector education although it might have a greater influence in contributing to high 'A' level grades.

A number of applicants, especially those who had changed school at the age of 16, one year before making their UCCA application, were worried that their teacher responsible for the confidential report had insufficient personal knowledge of them. Here one may note a comment by Simpson (1972); "There is a most odd tendency on the part of British selectors to accept the headmaster's report as 'extraordinarily accurate' ... This is part of a general delusion of selectors; that they are able to use imperfect materials such as other people's opinions ... [and] somehow ... these base metals are transmuted into the finest gold."

Some medical schools do not admit students who fail to achieve their 'A' level target at first attempt and these candidates therefore feel discriminated against. Although St. Mary's does not encourage re-application by those who failed to attain the maximum standard at first attempt, unless there was a special reason, there was no evidence to suggested that they suffered overall. Those who had applied previously (not all of whom were re-taking 'A' levels) comprised 21.3% of applicants and 22.6% of acceptances in the survey. A small number of overseas and mature students felt at a disadvantage: the analysis of chapter 3 confirms this disadvantage, some of which was explicable in terms of lower academic standards.

The study confirmed the suspicion of several applicants that relatively late applicants were at a disadvantage (chapters 2 and 3). They pointed out that late application is not always the fault of the applicant but may result from other circumstances, including delay on the part of the author of the confidential report. They proposed that if the chance of serious consideration diminishes towards the closing date medical schools should indicate that fact in their prospectuses. Some suggested that applications to read medicine should be subject to the same early closing date applied to Oxbridge applications.

Only two applicants voiced fears of discrimination against women (for which there was no evidence) and two others thought that if there was such discrimination it was justified on economic grounds. One or two interpreted the request on the UCCA form for details of the next of kin's occupation (normally the father's) as an indication of undervaluation of working mothers.

One applicant was concerned about the possibility of racial discrimination. One other poorly reported study has suggested that there might be discrimination against racial minorities in medical schools (Veitch, 1984). In the St. Mary's study the only information concerning ethnic group came from the photographs that interviewees brought with them, which were attached to the UCCA form, and were assessed after the event by myself. Of 326 UK nationals who attended for interview, only 12 (3.7%) were broadly classified as 'non-white'. 72.6% of white and 41.7% of non-white interviewees were eventually accepted at a medical school (Chi-squared with Yates' correction = 4.02, 1 df, $p<0.05$); four of these five non-white acceptances were at St. Mary's, and the other at Oxbridge. The difference between White and non-white interviewees remained significant when differences in application pattern had been taken into

account (p=.014). Non-white applicants had significantly fewer O-levels, lower O-level mean grades and lower A-level mean grades than White applicants, and when these differences were taken into account the significant difference between ethnic groups disappeared. Nevertheless the mean A-level grade of non-whites was 3.12 (i.e. above C) which is only half a grade or so below that of Whites (mean = 3.74). It would seem therefore that the use of high entrance requirements may discriminate against some minority groups, whose lower standard may indicate social and educational deprivation rather than lesser ability.

Finally, tiresome though questionnaires may be, one respondent was kind enough to comment "It's been quite fun filling in this questionnaire; sort of relaxing and as though you are interested in me..."; then, presumably referring to the previous year, he continued "too bad that I did not get accepted by St. Mary's".

## Conclusions and proposals for change.

Academic and non academic criteria. There are currently so many talented people seeking admission to medical school that it seems inevitable that all things being equal, widely talented individuals who can also achieve high academic standard at 'A' level are the ones who gain admission. There is no evidence that in general those who are rejected would be more suitable or more deserving of an opportunity to become doctors than those accepted. It is, however, essential for the system to have sufficient flexibility to enable unusual but promising individuals to get in, especially those who have practical skills, or who are from minority racial groups, who are disabled, or who have suffered social or educational deprivation.

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Ideally 'O' level achievement should not be used to predict A-level performance or be taken as more than an indication of general education. The only remedy is to insist that applicants should take A-level before applying for entry to medical school. If it were possible for all entrants to find employment during a year off between school and university then such an arrangement would be strongly advocated, since it would at one and the same time remove speculation about 'A' level grades and ensure greater maturity.

While it would clearly be advantageous for the purpose of comparison of standards for all university entrants (not just those wishing to read medicine) to take the one 'A' level examination there are many reasons why the different examining boards continue to exist. On the other hand it may be even more difficult to compare levels of achievement in different A-level subjects than to compare grades in examinations in the same subject set by different boards. A separate examination for entry to medicine would overcome these difficulties but would itself be undesirable in setting medicine apart from other science subjects.

The only remedy is that selection should take into account as many attributes as possible, the academic target set being sufficient only to ensure no academic difficulty with the medical course rather than being used as a competitive discriminant. The former is the policy at St. Mary's and at several other schools.

The timing of application. It seems clear that the sequential system of receipt of applications over 3 months (with a dribble of late applications for several months) prejudices the chances of later applicants. It is therefore recommended that applications to read medicine in the UK should be submitted before 15th October, as are

Oxbridge applications. Furthermore it would be desirable if until that date the applications were stored at UCCA and then sent en masse to each medical school at the same time, perhaps in alphabetical order. The slightly later start to the selection 'season' should not unduly affect medical schools; and it would convert the present rather unseemly scramble for 'good' candidates into one in which all the competitors at least started at the same time.

Background The reasons for the children of medical parents having a marginal advantage over those from non-medical families have not been examined. It may simply represent the advantage of knowing more about the course and career, may indicate the advantage of personal contacts, or it may be the consequence of the long-established practice of giving interviews to the children of graduates and/or employees of a school as a courtesy, a courtesy extended at many other university faculties and colleges. On the other hand this courtesy is still extended at St. Mary's and in the year surveyed did not result in a preferential admission rate. It is, however, clear that overwhelmingly the major cause of a large number of doctors' children in medical schools is the fact that they comprise a large proportion of the applicants.

The advantage conferred by private sector education, apart from any effect on 'A' level achievement, may stem, as some applicants suggested, from better career guidance. The remedy lies in more available general information about the course and career of medicine and good career counselling at all schools.

Headmaster's Report. Candidates are concerned that headmaster's reports are unreliable, perhaps due to lack of individual knowledge; medical

schools worry that the headmaster's reports may exaggerate the quality of the applicants in order to help their chances of admission. Knowledge of such inaccuracies is difficult for the individual Admissions Tutor to acquire. One possible solution would be for headmasters to complete a short pro-forma on each applicant, indicating the quality of the candidate relative to other candidates for medicine, on a number of rating scales (mathematical, linguistic and scientific ability, cultural, sporting and community activity, commitment to medicine, empathy, etc.). If the results of such proformas were stored nationally in computer-readable form then after a few years it would be apparent which headmasters were making a good spread of judgements, and which were saying that all of their geese were swans. Medical schools could be informed of this information (as perhaps could headmasters). Clearly such a scheme would need to be administered by the UCCA, at the time of initial application.

Interviewing. From the survey it would seem that an important role of interviews is to emphasise the non-Academic abilities of applicants; there is no difference in academic standards of entrants to interviewing and non-interviewing schools. Nevertheless, whatever the arguments for and against interview as a useful means of selection (and St. Mary's does interview), many of the applicants have very clearly expressed their view in favour of the interview as a part of natural justice in representing their own case for selection. This in itself is sufficient reason for including an interview as part of the selection process. An effort should also be made to increase the discriminant value of interviews, although studies of this are difficult due to the peculiarly intractable problem of discriminating 'good' from 'bad' doctors at some far distant time in the future. Selection with or without interview would perhaps be

felt to be fairer if the limited quantity of information available on the UCCA form and in a 15 minute interview were augmented by asking all applicants to complete some form of questionnaire, either multiple-choice in type, as were Q1 and Q2 of the St. Mary's survey, or perhaps with open-ended or semi-structured questions, or essays; thus candidates could be asked to give a much broader picture of themselves. The logistics of such a system would, however, be formidable. In order to avoid abuse, the questionnaire could be accompanied by a signed certificate from the headmaster, or other figure of authority, stating that the questionnaire was completed by the applicant himself, and that to the best of the referee's knowledge, the answers were true. Naturally the applicant could also be questioned directly about its contents at interview itself.

Mature applicants. Many problems of assessing motivation and true intellectual ability would be resolved if a greater proportion of entrants were mature, either applying after a first degree course (in a manner akin to US graduate school), or after suitable work experience without formal higher education. By encouraging a substantial delay between leaving school and entering medical school, self-selection would be allowed to take the place of selection. A sine qua non of regarding medical school as a graduate school is that Local Education Authority grants should be available for the whole 5 or 6 years of a second (medical) degree course, and not just for three years as at present, and that is strongly recommended as a reform.

Order of preference. The only way of resolving the difficulty in making a rational order of preference, and dismissing fears of a distortion of

opportunity by the chance strategy of first preference, is to insist that applications to read medicine should be listed in alphabetical or UCCA numerical order. It would still be open to the candidates to ensure that the confidential report revealed any strong preference, or to state their preference at interview. This would be the simplest change to implement of those proposed and would on the evidence of the comments in the survey be met with wide approval by applicants; admission deans would probably not be so pleased because the change would remove one useful aid to short-listing.

Figure 7-1: Shows the mean A-level grade of applicants as a function of their mean O-level grade.

Table 7-1: Major comments made by applicants completing Q1

| | | |
|---|---|---|
| Total number of applicants commenting on selection procedure | | 623 |
| Comments on interviewing | | 206 |
| Concern on excessive academic emphasis | | 205 |
| Concern at pressure to state order of preference | | 171 |
| Concern at possible bias | | 102 |
| - in favour of doctors' relatives | 73 | |
| - in favour of social and school background | 29 | |
| Satisfaction within practical limitations | | 45 |
| Need for more information on course, career and individual medical schools | | 41 |
| Need for better opportunity for conducted visits to medical schools | | 35 |
| Need to see greater emphasis given to practical experience and practical ability | | 17 |
| Concern at excessive reliance on 'O' level results | | 11 |

Table 7-2: Characteristics proposed by applicants as relevant and important to intending doctors

Ability to listen

Ability to communicate widely

Awareness

Character

Commitment

Commonsense

Compassion

Concentration

Correct attitude

Dedication

Determination

Enthusiasm

Inquisitiveness

Keen observation

Motivation

Perseverance

Personality

Response to challenge

Self discipline

Stability