Selecting tomorrow’s doctors—not a level playing field

PERSONAL VIEW Lucy Stephenson, Terence Stephenson

Figures from the UK Universities and Colleges Admissions Service (UCAS) show that, from 2002 to 2008, medical students were between 4.5 and 7.2 times (depending on the year) as likely to come from the wealthier socioeconomic groups 1 to 3 as from groups 4 to 7. Selection to a medical course should not depend on the applicants’ financial status. However, with “grade inflation” at A level, choosing between applicants often involves other criteria that may depend on ability to pay. The selection process for many medical courses may favour applicants who undertake activities outside those paid for by the state education system, and some such activities are a mandatory requirement.

The hidden, upfront cost of a medical school application may include the following (2008-9 prices). Many medical schools require applicants to sit the UK Clinical Aptitude Test (UKCAT) or the Biomedical Admissions Test (BMAT) in addition to A level examinations. These cost £60 (£70, €96) and £32.10 respectively. Bursaries are available for poorer students to cover the cost of UKCAT. This year 2000 bursaries were distributed among 23 000 students who took the test for medicine and dentistry. BMAT is held on one specific day, whereas for UKCAT there is a window of several months. The cost of travel to the test centre is borne by the applicant. Most students who can afford to will buy books to prepare for these tests, and as the format of BMAT and UKCAT is different, this may require two sets of books—roughly £20. Most students who can afford to also travel to attend a “Medlink” or similar residential course (£200 to £300) to familiarise themselves with the medical career and the complex application process and to have interview coaching and guidance on completing their personal statement on the UCAS form. Some state schools arrange open days to universities in close proximity. Otherwise, the cost of attending, say, six open days as far afield as Exeter and Edinburgh is down to the applicant. Applicants are often expected to justify in the interview why they have chosen to study medicine specifically at that university. With only four UCAS choices for medical schools and intense competition for places, many sixth formers will attend six different open days to try to determine their best chance of success and what to say at interview.

If lucky enough to be offered an interview, the student must pay to attend. Few students are offered four interviews, but if they are then this is four return journeys across the UK. Most other degree courses in the UK do not require personal attendance at interview, and there is little evidence that a 20 minute interview at age 17 bears much relation to the ability to practise as a qualified doctor six years later. Depending on the students’ declarations, they may be asked to attend separately for one or more medical assessments. Adding up the travel costs of the UKCAT and BMAT tests, one “Medlink” course, six open days, and two interviews is £550 at a conservative £50 per round trip, using student rail or bus fares but excluding overnight accommodation, taxis, and meals. If the applicant is offered a place, the cost of vaccinations essential to commencing the course (such as hepatitis B) is £32.50 per injection, and three injections are necessary (£97.50 total). Some but not all schools cover the cost of this. Adding all these costs together comes to £1609.60.

Whether an applicant is offered a place can be influenced by many non-academic factors. Few young people can excel at Duke of Edinburgh awards, a solo instrument, or many solo sports without major financial assistance over many years towards personal tuition, equipment, and attending events. For example, weekly flute lessons at £25 a lesson from age 8 to 18 to obtain grade 8 standard, plus the cost of the flute and eight external examinations, costs more than £12 000. Work experience may involve travel and other costs.

In addition to the greater opportunity that professional parents have to arrange appropriate work experience (although the Medical Schools Council website states that applicants are not expected to have worked in a traditional healthcare setting), and the lesser aversion to debt among wealthier families (medical students finish the course with average debts of £35 000), the costs described here may further disadvantage young people from poorer backgrounds in the process of selection for medical school. This does not imply that medical schools are complacent about this, nor that places are fixed for individual students. However, the costs described are real. Lucy Stephenson is a medical student and Terence Stephenson is former medical school dean, president of the Royal College of Paediatrics and Child Health, t.stephenson@ich.ucl.ac.uk

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See VIEWS AND REVIEWS, p1000
Burke and Hare are the most famous of the murderers who provided cadavers for the teaching of medical students—and the subjects of a new British film. Harold Ellis reflects on their story

Burke and Hare
A film directed by John Landis
Released in the UK on 29 October 2010
Rating: ★★★★★

Would anyone dispute that anatomical knowledge is an essential component of medical practice? Galen’s writings on anatomy dominated Western medicine from the second to the 16th century and were based mainly on dissections of pigs and apes. Andreas Vesalius of Padua (1514-64) must take the credit for performing dissections on executed criminals and for publishing his landmark De Humanis Corpora Fabrica in 1543, which marked the beginning of “modern” anatomy.

A problem throughout the centuries was the provision of bodies for dissection and teaching. In 1506 James IV of Scotland gave the Guild of Surgeons in London permission to dissect the bodies of some executed criminals, soon followed in 1540 by similar permission granted by Henry VIII to the newly formed Company of the Barber Surgeons in London. The medical schools in Oxford and Cambridge had similar limited access to human remains.

The growth of private medical schools in the late 17th century, with no legal access to cadavers, now presented difficulties. Agents would recruit condemned prisoners in Newgate prison to barter their bodies after execution for ready money. Riots often broke out as surgeons attempted to redeem their dead property. The solution was grave robbery. Recently interred corpses—especially paupers, in cheap, shoddy coffins in shallow graves—were the targets of “resurrectionists.” Because a corpse in law has no property value, no legal offence was being committed. It was a highly lucrative trade: a body in London at the end of the 18th century could fetch 20 guineas. Fees were more expensive: John Hunter paid £500 in 1783 for O’Brien, the Irish giant. You can see his skeleton to this day at the Royal College of Surgeons in London.

It stands to reason that with prices this high, criminals would resort to murder to obtain subjects for anatomists. The most famous were William Burke and William Hare, Irishmen living in Edinburgh who eked out a living as casual labourers and shoe menders. Hare’s wife kept a cheap lodging house.

No evidence exists that either men ever indulged in grave robbery. However, when an old man who had fallen behind with his rent died in their lodgings in 1828, they conceived the plan to sell his body. The purchaser was the famous anatomy teacher Robert Knox. The prize was £7 and 10 shillings. When another lodger fell ill he was dosed unconscious with whisky then smothered to death with a pillow, which left no marks. This form of murder became known as “burking.” Fifteen more victims followed: 12 women, one old man, and two disabled youths, all vagrants, and all were offered drink and hospitality before being buried and sold to Dr Knox.

But the two murderers became careless. Their final victim was an old woman from Donegal, Mary Docherty, looking for her son in Edinburgh. She was invited home to a Hallowe’en party, plied with strong drink, suffocated, and tucked away under some straw on Burke’s bed, where she was found the next day by guests. There was a hue and cry, but when the authorities arrived the body had gone—to Dr Knox’s dissection table.

Burke and Hare were arrested, but in the absence of corpses a case was difficult to prove. In return for a complete pardon Hare turned king’s evidence. Burke was tried, convicted, and hanged in front of a large and noisy crowd on 28 January 1829. Appropriately, his body was publicly dissected.

Although Burke and Hare were the most famous murderers specialising in providing anatomical material, they were certainly not alone in this crime. For example, the London burkers John Bishop and Thomas Williams, both “resurrection men,” were hanged in December 1831. They had confessed to the murder of three poor vagrants and selling their bodies for dissection.

The furore surrounding the Burke and Hare case led to the setting up of a parliamentary committee under the chairmanship of Henry Warburton, MP for Bridport, to consider the whole matter of provision of bodies for dissection. After much discussion and many amendments, this led to the Anatomy Act of 1832. The unclaimed bodies of those dying in Poor Law institutions or as vagrants were permitted to be used in licensed anatomy premises for the purpose of dissection. Grave robbing and murder were no longer needed to provide bodies for the teaching of medical students in this country.

The story of Burke and Hare has provided material for many books, plays, and films. This latest cinema production is a splendidly enjoyable romp through early 19th century Edinburgh in all its pomp and squalor. Its scenes of crowded anatomy classes are hilarious. The fact that the film only vaguely corresponds to the truth (for example, Hare did not do it all to provide funds for his pretty girlfriend to put on an all female production of Macbeth) doesn’t detract from splendid filming and great acting by a galaxy of British stars. Hare himself, or rather his skeleton, in the museum of the Royal College of Surgeons of Edinburgh, makes a bijou appearance in the last scene. Our medical students, in particular, are in for a well deserved treat.

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Lip synching about my deprivation

The poverty, abuse, and alcoholism in this film are watchable only because of the way in which the story is told. Tom Nolan was moved by this biography of the writer of Rita, Sue and Bob Too!

The Arbor
A film directed by Clio Barnard
Released in the UK on 22 October 2010
www.artangel.org.uk/projects/2010/the_arbor
Rating: ★★★★★

The Arbor is the true story of Andrea Dunbar, a talented playwright from a council estate in Bradford, who died at the age of 29, leaving behind three young children. The film recounts the unlikely success of Dunbar, who wrote her first play, also called The Arbor, in 1977 at the age of 15. Dunbar grew up on Brafferton Arbor (the road known locally as The Arbor), the inspiration for her first play, a semiautobiographical tale of her life on the Buttershaw estate. The play was performed at the Royal Court theatre in London after being discovered by the theatre’s artistic director, Max Stafford-Clark.

This was followed two years later by the second of Dunbar’s three plays, Rita, Sue and Bob Too!, later made into a cult film. Both plays were characterised by their unflinching depiction of 1980s working class Britain as well as their humour. Despite her success and relative fame Dunbar remained a resident of the Buttershaw estate, where she had three children by three different partners and started drinking heavily. She collapsed and died one day in her local pub, thought to be the result of an intracranial bleed.

For medical professionals this film has added resonance, particularly for anyone who has ever been involved in a child protection case, worked in a deprived area, or has treated a patient with a drug or alcohol problem—that is, almost every medical professional. More can be learnt about understanding the complex psychological and social factors that lead to substance misuse and neglect from this 90 minute documentary than from many a medical school curriculum or textbook.

The Arbor is also a commentary on changes in society over the past 30 years. In 2000 Stafford-Clark commissioned a play that was based on interviews with Buttershaw residents. The final lines of A State Affair, from an interview with Lorraine Dunbar, sum up how the estate that had been the inspiration for Rita, Sue and Bob Too! had changed. “[Today] Rita and Sue would be smackheads, on crack as well, and working the red light district, sleeping with everybody and anybody for money. Bob would probably be injecting heroin.”

Dunbar’s life and untimely death is only half the story of this film: it continues with the story of her eldest daughter, Lorraine, born to a Pakistani father, whose tale of drugs, racist and sexual abuse, prostitution, and domestic violence is truly harrowing. Such a bleak story might easily lose the audience’s interest. What makes The Arbor so gripping is the unique way in which it is told: the voices that you hear are those of the Dunbar family and associates, but the people you see on screen are actors, lip synching their words. Interspersed are clips from documentaries about Dunbar and news stories and scenes from her first play, performed on the Buttershaw estate in front of local people.

One of the many triumphs of The Arbor is that it challenges preconceptions and prejudices about drugs, as we see Lorraine slipping into a life of addiction after the death of her mother. The film forces the viewer to react with other than disgust and outrage at Lorraine when the tragic and appalling facts about the death of her 2 year old son are revealed towards the end of the film. The events of her life leading up to this, from being beaten when pregnant by her boyfriend until she miscarried to hearing of her mother’s regret at having given birth to her, would scar anyone. She tells her story with eloquence and frankness and without self pity.

The actors’ lip synching creates a surreal effect: every action seems to take on greater significance. The casting of photogenic, perhaps middle class, actors to play Lorraine and other family members is in stark contrast to the documentary footage of the Dunbar family from the 1980s. When Lorraine begins to describe the 1980s. When Lorraine begins to describe her life to the viewer, the audience is torn from any celebrity magazine.

The challenge is set in the dramatic opening scene when Lorraine and her sister stand by side in their childhood bedroom recalling very different versions of how they were trapped in the room as a fire burned uncontrollably. Lorraine blames her mother for locking them in the room; her younger sister makes it out to be a terrible accident. The film doesn’t attempt to present a single version of events or paper over the cracks in the discrepancies between the accounts of the Dunbar family. The audience is left to decide what to believe.

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The advantages of solitude

Pascal once said that all the misfortunes of the world arose from our ignorance of how to stay quietly in a room; and certainly these days people seem more than ever in need of ceaseless stimulation, more or less as balloons need air to keep them inflated.

But this complaint is not a new one; it was made by Johann Georg Zimmermann in the middle of the 18th century, for example. His book on the advantages of solitude went through many editions; indeed it has never been out of print long for a quarter of a millennium.

Zimmermann (1728–95) was a Swiss doctor who became physician to George III, but only at Hanover. He was invited to St Petersburg by Catherine the Great but, perhaps wisely, refused to go. He was doctor to Frederick the Great during his last illness and wrote several books by Johann Georg Zimmermann (1728-95) was a Swiss doctor who became physician to George III, but only at Hanover. He was invited to St Petersburg by Catherine the Great but, perhaps wisely, refused to go. He was doctor to Frederick the Great during his last illness and wrote several books about the monarch afterwards, largely misrepresented Frederick and glorifying himself. He wrote a book on national pride and also a treatise on epidemic dysentery, which was translated into English and is regarded as the first book on that subject in our language.

But it is for Solitude Considered, with Respect to Its Influence on the Mind and the Heart that he is now chiefly remembered, insofar as he is remembered at all. To the modern reader it seems highly repetitive, rarely saying anything in as few words as possible, and furthermore saying everything over and over again. You can tell that people, at least of the book reading class, had more time at their disposal in those days.

It is perhaps odd that a man who was physician to two monarchs and was invited to be physician to a third should so consistently deprecate the false and shallow pleasures (as he calls them) of the court in favour of the simplicities of a retired life in the country, there—and only there—to contemplate the meaning of existence. But if example had always followed precept, no further precept would have been necessary after, say, 400 bc, and the whole of subsequent literature would have been rendered redundant.

Zimmermann writes in the exalted language of Romanticism, in which no emotion is anything other than intense and no experience other than extreme. Young aristocrats shot themselves from a mixture of ennui and indebtedness, the second a consequence, of course, of the first; it is easy to mock until you read that Zimmermann lost both his wife and his daughter, probably to tuberculosis.

Dr Zimmermann was much affected by the inefficacy of his art: “A physician, if he possesses sensibility, must, in his employment to relieve the sufferings of others, frequently forget his own. But alas! When summoned and obliged to attend, whatever pain of body or of mind he may endure, on maladies which are perhaps beyond the reach of his art, how much oftener must his own sufferings be increased by those which he sees others feel!”

In the circumstances, says Dr Zimmermann, it comes as a relief to him to be ill himself and retire to the sick room and what we would now call the sick role. It allows him contemplation and repose, “provided that peeves friends do not intrude and politely disturb me with their fatiguing visits.” In Zimmermann, surely, must lie the explanation of the recent rise in sickness rates among junior doctors.

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**BETWEEN THE LINES**

**Theodore Dalrymple**

Zimmermann writes in the exalted language of Romanticism, in which no emotion is anything other than intense and no experience other than extreme.

**MEDICAL CLASSICS**

**Metamorphosen**

Composed by Richard Strauss in 1945

Faced with a frail, disabled, and sick older person in the emergency department, doctors can find it a challenge to convince students and junior trainees of the meanings of later life. One way to understand old age as the apogee of human experience is the concept of “life review.” As originally described by the recently deceased pioneer of geriatric medicine Robert Butler, this was a radical rethink that viewed the process as a normal developmental task of the later years, characterised by the return of memories and past conflicts. Life review can result in resolution, reconciliation, atonement, integration, and serenity. It can occur spontaneously or it can be structured, and an ideal exemplar is Metamorphosen by Richard Strauss, which he composed at age 81.

The title refers to the traditions and changes of an altered world and in particular of German society and music after National Socialism and war. It also reflects the complexity of Strauss’s position at this time as the leading composer who had stayed in Germany, albeit protecting his Jewish daughter in law and grandchildren. “Metamorphosen” was also the term Goethe used to describe his spiritual development in old age, a precious artistic premonition of life review.

One of the germs of Metamorphosen lay with the destruction of the Bavarian State Opera in 1943, emblematic not only of German music tradition (it hosted the premieres of Tristan und Isolde, Die Meistersinger von Nürnberg, Das Rheingold, and Die Walküre) but also of Strauss’s professional and family life. His father played first horn there for 49 years; and the composer had been its general music director, had his Capriccio premiered there in 1942, and, 73 years previously, saw his first Freischütz, the most crystalline example of the German romantic tradition, there.

Originally written for seven strings and developed for 23 solo strings, Metamorphosen is cast as an extended adagio with a contrasting middle section marked “Agitato.” Embedded are echoes and palimpsests of Strauss’s earlier work—Also Sprach Zarathustra, Ariadne auf Naxos, and Arabella—and cryptic references to Wagner, Brahms, and Beethoven. The principal theme’s resemblance to the Funeral March from the Eroica symphony develops more overtly in the lower strings at the return of the adagio. Strauss wrote “In Memoriam” at this point of the score, and the many layers of memory, remembrance, regret, and transformation fuse in wisdom, regret, and artistry.

The background elements—destruction, tyranny, mistakes, and compromise—are a metaphor for the regrets of later life, but the music is a testament to the power of life review and an affirmation of what we have gained from increased longevity.

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We welcome submissions for Medical Classics. These should be no more than 450 words long and should focus on a book, film, play, artwork, or piece of music that sheds light on the practice of medicine or the role of doctors in society. The work under review should be at least 10 years old. Please email ideas to Richard Hurley (rhurley@bmj.com).
The hangover

I need to search out my dinner suit for my 20 year medical school reunion. This is an ex-hire, ill fitting double breasted affair, bought 15 years ago and worn four times. It is made of nylon and prone to giving me static electricity shocks. Its saving grace, other than being cheap, is that it is unsustainable: a damp sponge makes it as good as new. But I am glad to be a man, without the need to find the right dress. There will probably be a formal sit-down dinner, with lukewarm canteen French reproduction dishes, lukewarm German white wine, and a band playing cover versions. A little staid and traditional, but perhaps it reflects our increased gravitas and status and of course our middle age. I, like most, have mixed feelings, including trepidation.

Who attends reunions and why? The stereotype reunion attender is the successful doctor, keen to parade his or her success and wealth. Others clearly just want to see who has become fat and how much hair people have left. But I suspect that reunions are mainly about curiosity. We keep up with the few medics we have most in common with, but other friends drifted off in the rip tides of life.

So, what to expect? Of course, with 200 classmates, an inner voice will whisper, “Who the bloody hell are they?” Perhaps there will be careful cocktail conversations about unbridled success, life’s problems glossed over for the night; no lies, only omissions. But I suspect that this veneer will last only briefly and that despite our gathering maturity our conversation will descend into the past. Wine will be drunk too rapidly and pints downed too quickly. People will ignore the careful seating plan, wandering off to find friends from our dissection table days. The women will briefly become girls again and start dancing to Duran Duran. The boys will spill onto the dance floor with a brief flush of testosterone. There will be bad dancing to The Jam, steps forgotten, bow ties thrown off, jackets abandoned, tights and expensive dresses torn. Those always prone to drinking will start drinking, and those always prone to disapproving will start disapproving. Some people will produce cigarettes, and many will shamelessly smoke for the first time in many years. History will repeat itself.

Later there will be some tears, as 20 years of adult life deliver much misery, and thoughts will pass to those few we have lost. Perhaps some of the boys will fight, but more likely they will slump like spawned salmon in their chairs. No one will remember or care what they have become and will only remember, albeit briefly, who they once were. Then one by one they will disappear home, to hotels, or even to the late night casinos. Next morning some will wake vowing never to attend another reunion, others may have found some contentment, others may question their definition of success, but all will have had their curiosity sated.

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Say no to nepotism

I’ve just lost a friend. I bumped into him recently, having not seen him for years. Actually, he said, he needed a favour. He had a teenage son who was keen to apply for medicine. The boy had already spent time with doctors from various specialties who were friends of the family. It wasn’t that he really needed more work experience, but his medical school application would look better for it. Could I help?

I explained that I was a full time academic and that watching me sit on committees or struggle with the finances of grants might not be very exciting for the boy. But get him to drop me an email, and I’ll see if I can advise.

The email came the next day, from the father, asking for details of any attachments I could offer. In my reply I explained at greater length why I couldn’t help directly. One of my research sidelines is widening participation. Medicine has the most skewed admission statistics by socioeconomic background of any university course. Whereas admission inequalities by sex and ethnicity have been substantially reduced over the past two decades, there has been no increase in the proportion of pupils admitted from “working class” backgrounds.

This is partly because of overt differences in the quality of their school education but also because of covert differences in what the sociologists call “opportunity structures”—that is, the enriched life experiences and informal contacts on which parents draw to enable their children to pad out their application statements.

For that reason, I explained, I decided some years ago to focus my efforts on setting up a pre-medical summer school for children in the lowest fifth of socioeconomic deprivation and on supporting these children in finding work experience and preparing for entrance examinations. I also decided not to allow the children of my middle class friends (or indeed my own children) to jump the queue for this support.

My erstwhile friend’s response was terse and cutting, and its subtext seemed to be this: if I could not deliver on the moral contract between two middle class friends to exchange favours for the benefit of our children, the friendship is as good as over. Might it be easier if our professional code of conduct formally discouraged us from acceding to requests for patronage?

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