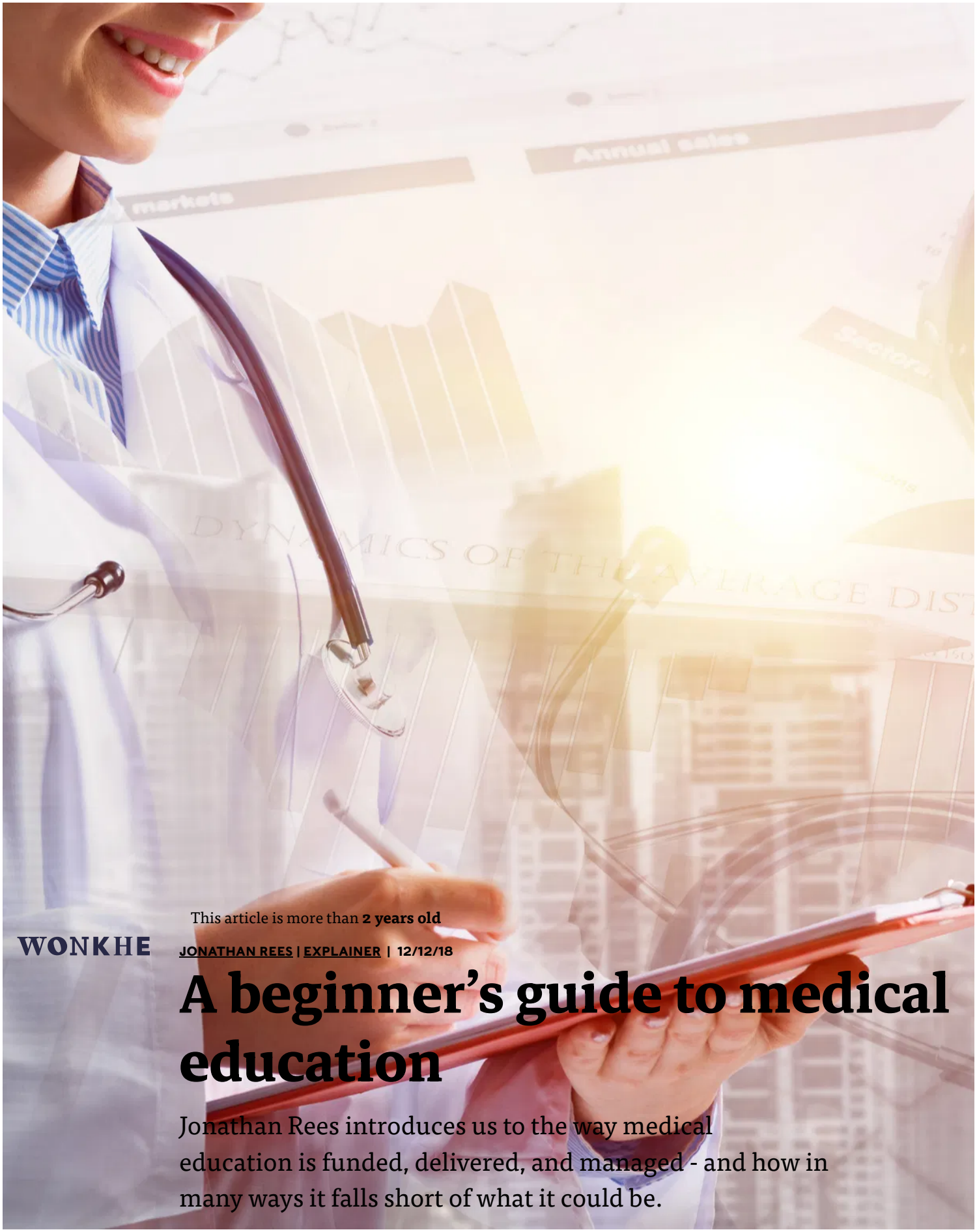

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JONATHAN REES | EXPLAINER | 12/12/18

A beginner's guide to medical education

Jonathan Rees introduces us to the way medical education is funded, delivered, and managed - and how in many ways it falls short of what it could be.

Image: Shutterstock

Jonathan Rees

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Imagine you are charged with organising a laboratory or craft-based degree in a new institution in another country. You might expect practical or hands-on experience to be a key component of the course.

But you soon learn that the organisational aspects are not what you expected. You do not own or have administrative control of the laboratories, nor what reagents or materials are available. Over 90% of the teaching is to be delivered by staff employed by another organisation (an organisation which, while much loved, has long-standing financial and staffing issues).

Although your students have chosen your fair city to study in, growth in student numbers mean the local facilities of this other organisation are not sufficient: your students must endure long daily commutes, or spend weeks out of town. Finally, when you ask for an up-to-date email list of all the staff who might be involved in teaching, you are left wanting.

Anybody who has tried to explain to non-medical university colleagues how undergraduate clinical medicine education works, will recognise the above caricature. Let me try and provide a more sympathetic view.

Medical training in the UK

In contrast to North America and some Commonwealth countries, medical training in the UK and most EU states, is largely an undergraduate degree. Student numbers both for UK and EU applicants and a small number of overseas students are controlled (annual intake targets for England are 7,000 and 500 respectively). Most students come directly from school and entry is highly competitive, with specialised entrance exams (UKCAT/BMAT) in addition to AAA (or better) at A-level. Students then study for five years before entering the NHS two-year foundation program, in which they are employed as junior doctors.

Although students receive their medical degree from the university at graduation, they are only provisionally registered with the medical regulator, the General Medical Council (GMC). After a successful foundation year, they are fully registered. After a second foundation year they enter further training programmes, still

working and training as junior doctors. Becoming a GP might take another three years or more and more most hospital-based specialisations, it takes eight to ten years to obtaining the required specialist registration.

The mix of courses

There is a 25% expansion (1500 places) of medical student numbers currently underway in England, with several new medical schools being created. Traditional medical schools will also bid for some of these 1500 new places.

A growing minority of students now enter medical school after doing a first degree. Most graduate-entry programmes are four years. A small number of students enter a six-year course, either because they have no science background (preliminary year), or because they have experienced from barriers to their education (gateway year). Successful students on all these courses graduate with an MBBS or MBChB.

Medicine is not an honours degree, and although a number of terms are used to denote excellence, usage is inconsistent between schools.

Some medical schools expect all their students to intercalate (six-year course), while others offer this to only some of their students. This is usually a BSc (Hons) or BMedSci(Hons) degree, but the field of study can encompass both sciences and humanities. A very small number of students might take time out of the medical course to undertake a masters or PhD.

How courses are taught

Traditionally, the standard five-year course was made up of two years basic science (preclinical) and three years on the wards undertaking clinical attachments. Although some clinical exposure now occurs in the first two years, it is limited, and the binary divide still largely holds.

The structure of the first two years will be familiar to university staff from other faculties. Most teaching is lecture based, class sizes are large (over 400 in some schools), and lectures are supplemented with tutorial or problem-based learning sessions. Students are based almost entirely on the university campus, and standard university semester term times are followed. All students will follow exactly the same syllabus, with common exams, although there are some limited opportunities for choosing bespoke research projects or group work. Assessment usually concentrates on tests of factual

recall and understanding, using multiple choice question formats, although there may be essays, written assignments, and limited practical exams.

The three clinical years are different. Again, all students study the same material with little room for personal choice, but clinical teaching is ordered into individual clinical modules, with a particular mix of modules grouped within a year. Within each year, students pass through these modules asynchronously. Lectures usually play a much smaller role than in the preclinical years, and students progress through a carousel of modules in small groups (usually four to fifteen students).

Within the the three clinical years students are required to complete thirty or so modules, with each lasting from one week to six weeks. Students likely spend time in peripheral placements, and the exact clinical exposure varies across different centres delivering the same module within any year.

For example, in the first clinical year (year 3), students may spend time in subjects such as cardiovascular medicine, surgery, psychiatry, or primary care. There is usually one or more assessments at the end of the year, and successful students progress to year 4. In year 4, typically, modules are more specialised and shorter, examples including dermatology, ophthalmology, renal medicine, or urology.

The final clinical year in most schools is designed to prepare for the foundation year — prepare for practice. The final graduation exams are usually taken half way through the final year, and there are often opportunities for electives (in other centres in the UK or overseas) as well as a period of shadowing of junior doctors.

As students move through the clinical years, their working year comprises forty or more hours a week. Most teaching is provided by NHS staff of varying levels of seniority, with some taking place in the evenings or weekends.

Accreditation and assessment

Medical courses are approved and inspected by the General Medical Council. UK medical schools probably enjoy less autonomy than those in many other European countries. In order to graduate, students must not only meet the academic criteria of their institution but satisfy various professionalism criteria in order to graduate. For instance, illegal drug taking, fraud, plagiarism, or not revealing a drink driving conviction would raise fitness to practice issues. If the issues are major, students are not allowed to graduate.

In recent years, most UK medical schools have included a common battery of questions in their final graduating exam. There are said to be clear differences in performance between schools, although since the structure of the courses is not identical various interpretations are possible. Early in the next decade, in order to graduate with a primary medical qualification, all UK-based students will need to pass a UK-wide medical licensing assessment (MLA) administered by, or at least supervised by, the GMC. Part of the rationale for this is the need to ensure commonality of competence assessment between UK graduates and those from overseas wishing to practice in the UK (25% of UK doctors graduated overseas).

There will be two components to the MLA: a common multiple choice paper and a structured and regulated clinical exam that will be delivered, for practical reasons, by each medical school for their own students. The assumption is that quality control of the clinical exams will be more formal than has been the case up until now.

Teaching student doctors

Medical schools employ non-clinical academic staff, and clinical academics. The latter practise within the NHS and are paid largely according to NHS pay scales – although NHS pay scales differs between the devolved nations and England and pension arrangements may differ too. Standard clinical academic contracts normally dictate that 50% of the time is spent on patient care with the remaining 50% allocated to research or teaching.

The funding of clinical academics and recruitment to clinical academic jobs is complicated, in part because of the need to train in two professions. Close to half of university clinical academics are funded via the NHS or other non-university sources such as research funders or charities. The proportion of NHS-funded posts is higher for lecturer posts than professors. However, there are large differences in staffing between the devolved nations and by specialty, as well as significant short-term shifts in staffing levels. Many medical schools, particularly the newer ones, employ fewer clinical academic staff and are not research intensive. Clinical academic numbers in the UK (around 3,000) have not kept track with student numbers, nor mirrored the large expansion in NHS doctor numbers over the last 30 years.

Funding medical education

There are two funding streams that follow students. In England, the first is via the Office for Students. The medical student tariff, along with dentistry and veterinary science, is high, but the exact amount varies between the devolved nations. In the clinical years, another stream of NHS funding meets the additional costs of supporting student education, such as NHS staff time and facilities. Again, the exact figures vary among the devolved nations and England, but the total sum per student per year including student tuition fees is over £50,000 per year.

Many of the calculations underpinning the two funding streams are historical and may appear hard to justify. It is widely assumed that on the university side research is cross subsidised and on the NHS side that money for teaching cross subsidises clinical care. It is noteworthy that the sums of money involved are comparable with the tuition fees at highly prestigious and much smaller ivy league medical schools in the US.

Complex and complicated

Difficulties in delivering high-quality medical education at scale are not confined to the UK. It is a moot point whether the balance right between education and training is right. Health care and education work on different time scales, and changes in medical practice (specialisation, the changing roles of hospitals and primary care, shift work, and expansion of doctor numbers) have all had an impact on educational delivery.

On the university side, the intensity of modern research has changed the character and focus of the traditional medical schools. There remain major recruitment problems in both the NHS and in medical schools. There should be doubts about whether a model that once served us well is the best we could hope for. Or at least, afford.

3 responses to “A beginner’s guide to medical education”

Rhian says:
Dec 12 2018 at 10:04 am

Really interesting article. It’s such s complex and political area, change or modernisation will be difficult to achieve.....

REPLY

Neil Turner says: Excellent concise summary

Neil Turner says:
Dec 17 2018 at 9:15 am

Excellent concise summary.

REPLY

Jonathan says:
Dec 19 2018 at 8:14 am

Very interesting.

REPLY