JONATHAN REES | ANALYSIS | 24/02/21

Reaction and reform in university medical education

For Jonathan Rees, it is clear the time has come to fundamentally rethink medical education in universities.

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MEDICINE

The Covid-19 pandemic has brought home to universities what it is like to deliver teaching when key components of the necessary infrastructure, whether physical or human, are not under their usual operational control.

It is a predicament that UK medical schools have become familiar with over the last half-century. Medical schools increasingly depend on staff who they do not employ, based in facilities that are almost entirely under the control of another organisation, the NHS. In a previous article I provided a descriptive account of undergraduate university medical education in the UK. I highlighted this critical design weakness, but I did not account for why what shouldn't work, once did; and why now, it doesn't. I suggest we need to look for a new solution.

A post-war consensus

Although there have been historical differences across the UK, the archetypal structure of UK medical education is still best revealed in the structures of London medical schools in the early post-war period. Then, medical schools were small and distinct professional schools, with links to their partner hospital stronger than their links with their parent university. As David Palfreyman and Paul Temple commented,

> “ [medical] students spent a large part of their time in hospitals and usually formed a distinctive community where professional norms typically took precedence over academic ones.

The bonds between NHS hospital and medical school were tight, and the shared purpose of both parties was to produce doctors fit for professional practice. Whereas preclinical departments might have employed some non-clinically qualified staff, most teaching was delivered by those with medical degrees. Clinical teaching was predominantly hospital-based, concentrated on a few sites. Teaching hospitals were organisationally distinct from non-teaching hospitals in the NHS, and the needs of students were factored into how the clinical service was designed. Whether a patient might be kept under outpatient review, or even admitted, was influenced by the needs of undergraduate and postgraduate teaching.

Whilst university and hospital were financed via distinct government streams, the ethos was that since all funds came from the exchequer, considerable flexibility was enjoyed at the local level. Most clinical academics were highly visible as providers of NHS clinical service, with services often being led by professors. Conversely, many NHS staff undertook research. In practice, it was not always possible to guess the source of a particular clinician's funding. Finally, the university enjoyed considerable influence on the choice of NHS staffing, usually favouring those with research potential or those who showed an affinity for medical student teaching.

Some students might have found the environment claustrophobic, many were (rightly) critical of many aspects of their teaching, but they were all immersed in the milieu of their chosen profession from an early age. It suited many.

The traditional model breaks down

The world described above began to disappear in the 1980s. On the university side, the external research assessments fundamentally changed the nature of medical schools. Preclinical staff who had functioned principally as teachers in subjects such as anatomy were replaced by more research-active staff. As the volume of research and professionalisation of research increased, medical schools in London merged, and – elsewhere – these once distinct professional schools were integrated into larger university units. The need for cross-subsidy of research from teaching drove further change. Since medical student numbers are capped centrally, medical schools broadened the courses they delivered beyond undergraduate medicine, and expanded postgraduate taught and research courses. Despite this, alongside the much larger expansion of student numbers in the rest of the university, historical justifications for medicine's unique organisational structure and needs were viewed less and less favourably by central university management.

Clinical academic roles changed dramatically. Whereas at one time staff might devote half their time to clinical practice, and much of the rest to student teaching, with occasional individual staff standing out because of their interest and facility in research, this was no longer the norm. At many, if not most, medical schools, staff were increasingly appointed directly at a senior level based on highly competitive external senior fellowship funding from MRC, Wellcome or other national funding agencies, rather than through the lecturer/reader/professor path. Teaching, or even the organisation of undergraduate medical teaching, did not feature highly given the overriding need to maintain returnable research outputs. In reality, the footfall of university staff in hospitals has dropped as they have retreated to their laboratories ("mouse doctors" is the uncharitable epithet used by some).

Changes in the NHS have been equally indifferent to medical student teaching. The distinction between teaching and non-teaching hospitals has broken down, and students are distributed much more widely than they once were. The informal bonds that linked a medical school with its partner hospital are strained over a much larger area. NHS medical staff note the relative absence of academics on the wards ("an absence of professors").

A bigger problem relates to changing patterns of medical care. Inpatient wards used to contain many patients who — in comparison with today — seemed reasonably fit. Many, for instance, would be awaiting routine surgery (whereas now, such patients would be managed as outpatients). Such inpatients were a major clinical teaching resource — a considerable subsidy to teaching, only fully appreciated now that it is disappearing. At the same time, much

medical care shifted to “office practice”, either in the form of general practice or outpatients. Well over 90 per cent of patient consultations in the UK now occur in such ambulatory care settings. And yet medical student exposure in these settings is modest; the costs of providing teaching in these settings is high, and the logistics complicated.

The university staff tasked with organising NHS clinical teaching placements try hard to work round these issues, but given the deprecation of clinical teaching within their own medical schools, and the fact that NHS financial resources to support undergraduate teaching is tied within NHS funding streams, the task is increasingly a thankless one. Despite corporate presentations pretending otherwise, there are few carrots or sticks at their disposal. Outsourcing of what was once a core institutional competence under these conditions should figure prominently in any institution’s risk register.

Rediscovering medical apprenticeship

UK undergraduate medical education combining university study and a simulacrum of a clinical apprenticeship as a student enjoyed a worldwide reputation. This model preceded the NHS, but the particular post-war consensus allowed its continuation for much of the rest of the century. Institutional changes in both universities and the NHS meant what was once a latent fault-line has become a displaced fracture. No modern corporation, whether private or public, can live with another corporation moving semi-autonomously within it, let alone in a highly regulated environment like health. We need to think of something new.

Few dissent from the view that given certain foundational knowledge, learning clinical medicine within an apprenticeship framework is strongly preferred. The key to being an apprentice is that you are an employee, and that you learn your craft within the professional norms of that craft in situ. What if we moved the goalposts a little, what if we flipped what has become a faux apprenticeship within the student years to a position after university graduation? We would end up with a system not too dissimilar to law or accountancy. Students would study for a relevant degree at university, but one that is specifically geared to a future medical career. Those who graduate, would apply for an externally professionally accredited apprenticeship within the NHS, with or without an entrance exam.

A model for what I propose already exists: the combination of NHS workplace training and certification by external bodies (such as the Royal Colleges) is how higher specialist medical training works in the UK. What if we followed the same approach for apprentice doctors who, having graduated from university, are yet to choose their final specialty (most of whom would then segue into higher specialist training)?

Under this proposal, those intent on a medical career would gain the benefits of a more liberal university education with a little more intellectual freedom at a young age. It would also likely encourage a richer mixture of young people into clinical medicine. Organisational incentives would be better aligned: the university as a liberal educational force, and the NHS as a self-motivated employer ensuring it controls and delivers on its own workforce requirements. A modest proposal, indeed.