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Reforming American Medical Education in the Past, Present and Future

Alexey Abramov

In reporting his death in 1959, the New York Times editorialized, “No other American of his generation has contributed more to the welfare of his country to humanity in general.” Do you ever wonder why it takes the average American specialist physician fourteen years to complete the training for his or her daily practice? Consider that the everyday work of clinicians in a given society reflects a unique constellation of social, cultural, religious, and geopolitical aspects that ultimately define that clinician’s education. In the most familiar of ancient medical texts, the Hippocratic Oath, ancient healers lay out the paramount nature of the relationship between a student of medicine and his teacher:

I will hold my teacher in this art equal to my parents. I will share my life with him and, if he needs money, I will give him a share of my own. I will regard his sons as my brothers and teach them this art, if they desire to learn it, without fee or covenant.

The principle of teaching future clinicians remains a timeless tradition and a central pillar of practicing medicine.

Perhaps surprising, American’s pioneer medical educator was neither a physician nor on the faculty of a medical school. Indeed, by his own admission, Abraham Flexner had never stepped foot inside a medical school before the Carnegie Foundation appointed him to conduct the seminal study on medical education (Bonner, 162).

Flexner attended Johns Hopkins for his undergraduate studies – an institution that played a prominent role throughout his life and served as an archetype for the national standardization of medical education (Bonner, 161). From his perch as a schoolmaster in Louisville, Kentucky, Mr. Flexner’s School purposely lacked a formal curriculum, exams or student achievement records. Despite its unconventional design, the school gained an outstanding reputation and continued to inspire Flexner’s thoughts on education for fifteen years.

In the 19th century, medical education was a profitable business. Between 1810 and 1910, 457 medical schools were established; many existed for an incredibly short period of time – sometimes just a few years (Flexner, 2). With the proliferation of poor and unregulated proprietary medical schools in the 19th century, the American Medical Association (AMA) grew increasingly worried that under-achieving students would undermine public’s trust in the profession of medicine. As a solution, the AMA contacted the Carnegie Foundation for the Advancement of Teaching to complete the task of rating medical schools as an unbiased third party with Abraham Flexner at the helm.

In 1910, at the age of 44, Flexner surveyed one hundred and

fifty-five North American medical schools and reported his findings and recommendations in Bulletin Number Four, titled “Medical Education in the United States and Canada.” Contrary to modern assumptions, Flexner was neither the first to suggest surveying nor standardizing medical education – the AMA appointed his mission. At the core of the AMA’s concern for medical education was the perceived status of physicians in society. In the 19th century, there existed three ways to enter the medical profession: apprenticeship, proprietary schools, and universities (Beck, 2139). Apprenticeships were local practitioners who offered hands-on training to students interested and willing. Proprietary schools were for-profit enterprises run by clinicians who offered lectures to groups of students willing to pay to learn. Lastly, universities combined didactic and clinical training in lecture halls and some were affiliated with teaching hospitals.

On each of his visits, Flexner inspected the medical school’s laboratory facilities, admissions policy, size and training of the faculty, size of endowment and tuition, and the availability of a teaching hospital (Beck, 2139). He also compared the school’s offerings with the catalogue distributed to prospective students and AMA records. Medical school administrators across the country were more than willing to show a man from the Carnegie Foundation their faltering institutions – the name Carnegie was synonymous with philanthropy in their minds. However, Flexner did not deliver the fortune they hoped for. In his report, Flexner confidently articulated his dissatisfaction with the status quo in a way the AMA could not:

For twenty-five years past there has been an enormous over-production of un-educated and ill trained medical practitioners. This has been in absolute disregard of the public welfare and without any serious thought of the interests of the public.

Citing substandard teaching, putrid facilities, and the over-production of unqualified clinicians, Flexner advocated for leaving just 31 of the 155 medical schools.

Furthermore, Flexner sought to reconstruct the very core of American medical education by raising entrance requirements, standardizing the curriculum and ensuring clinical practice was a component of every medical student’s training. For his model, Flexner looked no further than Johns Hopkins, which instituted a four-year curriculum: two years of basic sciences and two years clinical immersion. The Johns Hopkins model required extensive resources in the way of laboratories, scientific equipment and full time faculty – all of which proved impossible for many medical schools. Thus, as a result of the embarrassing findings in the Flexner report and an in-

ability to meet new standards, many failing medical schools closed their doors. However, one would be amiss to assume to the Flexner report was the primary reason poor American medical schools shut down.

Increased regulations, at the hands of the AMA-controlled state licensing boards, changed the economics of medical education in the late 19th and early 20th century – in fact, many medical schools were already on the way out before Flexner even began his travels. As state-licensing boards raised entrance requirements across the board, prospective students struggled to afford rising tuition costs. In turn, proprietary medical schools lost revenues as fewer students enrolled (Starr, 118). Universities were in a better position to absorb increased costs of educating physicians by reallocating revenues from other sources, or relying on public funding.

Flexner's report was the first of its kind to expose the dilapidated state of medical education to the medical community and the American public. Soon thereafter, underperforming medical schools fell in line to adhere to Flexner's prescription for reform. Still many more shut down. Following his report, Flexner served as chief dispenser of funding on Rockefeller's General Education Board. By some accounts, no decisions were made concerning medical education in his absence (Bonner, 162). Given the reins of allocating Rockefeller's wealth to the medical schools of his choice, Flexner reconstructed medical education in the way he envisioned. As such, magnet schools like Johns Hopkins and others St. Louis, Iowa City, Nashville, New Haven, Rochester, and Chicago received impressive resources from the Rockefeller General Education Board (Bonner 163). To this day, medical schools in the United States continue to uphold Flexner's legacy by adhering to his standards.

In our 21st century, an individual's trust in a clinician's knowledge is a testament to the American public's need for physicians to demonstrate an extraordinarily high degree of competency. Consider that an American subspecialist physician requires an average of 14 years of college, medical school, residency and fellowship training to obtain the skills necessary for his daily practice (Emanuel and Fuchs, 1143). Moreover, as novel technologies continue to transform our modern world and medical advances promise cures for a proliferating roster of diseases, the public continues to raise its expectations ever higher.

In any study of history, one begins to notice recurring cyclical patterns. Today, medical educations are questioning the application of curricula of the past century to new healthcare challenges. Perhaps the true spirit of Flexner's work resides in the innovative solutions proposed for meeting those future needs. One of the innovative solutions proposed for educating tomorrow's clinicians interestingly involves shortening medical training by as much as a third—without compromising physician competence or quality of care. The breathtaking speed of communication and advanced scientific complexity requires a multi-specialty team-based approach to patient

care. Tomorrow's healthcare delivery methods may render the idealized model physician as a trifecta clinician, researcher and teacher as obsolete. By eliminating superfluous premedical requirements, shortening preclinical science training and clinical training in medical school, and gutting year-long research requirements during residency training, medical educators make the case that physicians will recuperate the costs of their education sooner, waste fewer years performing rote coursework and graduate with less debt – all of which will eventually trickle down to reduced healthcare costs (Emanuel and Fuchs, 1143).

In the words of Abraham Flexner, “[medical schools] cannot escape social criticism and regulation” for they are in themselves public service corporations. Throughout their long and tumultuous history, medical schools have been consistently defined and redefined by the people they serve. With more changes ahead, medical schools will evolve once again to meet the need head on.

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