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Mike Mitka

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The Flexner Report at the Century Mark

A Wake-Up Call for Reforming Medical Education

Mike Mitka

FROM JANUARY 1909 TO APRIL 1910, a high school principal named Abraham Flexner visited all 155 medical schools in the United States and Canada to assess their ability to produce physicians rigorously trained in allopathic medicine. The book-length summary of his findings, published in 1910 by the Carnegie Foundation, served as the catalyst for a reform movement that changed medical education and still influences the way medicine is practiced in North America a century later.

The effort that produced the Flexner report (http://www.carnegiefoundation.org/sites/default/files/elibrary/Carnegie_Flexner_Report.pdf), formally known as *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* (Bulletin No. 4) [New York, NY: Carnegie Foundation; 1910], came about during the Progressive Era, a time in which many believed science, technology, and education could solve society's ills.

The Carnegie Foundation, which was founded during this time to improve education, funded Flexner to survey the medical schools, accompanied on his travels by Nathan P. Colwell, MD, secretary of the Council on Medical Education of the American Medical Association (AMA).

"The AMA came into existence in 1847, in part to have standards to protect the public, so when you went to see a physician, his license indicated that he had a certain minimum of medical education," said J. James Rohack, MD, AMA president. "The Council on Medi-

cal Education came up with the standards that Flexner used to assess the various schools."

The model for quality medical education was a properly equipped medical school with dedicated physician-educators attached to a top-of-the-line



Abraham Flexner and his 1910 report exposed the poor quality of many US and Canadian medical schools and helped accelerate the modernization of physician training.

teaching hospital. These schools (Flexner's ideal was Johns Hopkins University) would train students who had been selected for their superior qualifications. Training would be based on the scientific method, and students would learn by doing, spending most of their time in the laboratory and the clinic. Such institutions, Flexner found, were few in number and were mostly concentrated on the US eastern seaboard.

Flexner also found an appallingly high number of second-rate schools, many run by profit-motivated private physicians. Howard Markel, MD, PhD, a medical historian at the University of

Michigan in Ann Arbor, said the training of medical students was much different 100-plus years ago. "Most medical schools were proprietary—where a team of physicians basically opened up a store front and called it 'Doctor Jones' Medical School,' offering a year or 2 of lectures, some anatomy, and an apprenticeship with someone."

These schools were ill equipped. Many students were admitted having only a high school education and the necessary tuition money. Teaching was mostly didactic, emphasizing textbook readings and memorization. In addition, many of these schools issued medical degrees for completion of studies in nonallopathic disciplines such as homeopathy, hydropathy, and eclectic medicine (botanical-based therapies). Flexner also argued that the production of too many graduates with medical degrees suppressed salaries and dampened the profession's ability to attract the best and brightest students.

Flexner was blunt in his assessments. For example, he described the city of Chicago as "the plague spot of the country" for medical education. In touring Chicago's National Medical University, a night school enrolling 150 students apparently owned by its dean, Flexner wrote, "The school occupies a badly lighted building, containing nothing that can be dignified by the name of equipment. There had been no dissecting thus far (October to the middle of April), anatomy being didactically taught. . . . There is a large room called the chemical laboratory, its equipment 'locked up,' the table spotless. 'About ten' oil-immersion microscopes are claimed—also 'locked up in the storeroom.' There is not even a pretense of any-



thing else. Classes in session were all taking dictation.” Ultimately, Flexner concluded that only 31 of the 155 schools he visited should remain open.

In the United States, the Flexner report caused a sensation, selling about 15 000 copies and garnering headlines across the country. The AMA, academics, the public, and state legislators used the findings in the report to accelerate the closing of questionable facilities, and by 1922, only 81 US medical schools remained. The number of graduates decreased by half, from more than 5000 annually to about 2500.

Darrell G. Kirch, MD, president and CEO of the Association of American Medical Colleges, lauded the Flexner report’s legacy. “If you read the report, you can see how much we needed that kind of sweeping revolutionary change; the conditions of many medical schools were just abysmal,” Kirch said. “What grew up out of that report was truly spectacular. I do not believe it is an exaggeration to say that many of the miracles of modern medicine are directly attributable to Flexner, as he brought medical schools back to the heart of the universities.”

Indeed, Kenneth M. Ludmerer, MD, professor of history and biostatistics at Washington University in St Louis, said Flexner specifically wanted medical schools to have university ties. “Before Flexner came along, there was quite a lot of debate of what a medical school should look like as an institution; everyone liked the university model, but many thought it was not practical because it was expensive,” Ludmerer said. “There was talk of having a tiered system with schools like Johns Hopkins providing hard research and others teaching practical medicine. Flexner came along and said all schools needed to follow the university system; they did not all need to be the same, but they needed to have the same value system and commitment to research.”

While the past 100 years have seen impressive improvements in medical education and medical practice, David Rosner, PhD, MPH, professor of history and sociomedical sciences at Columbia Uni-

versity in New York City, points out that the conversion to the modern came over the protests of many in medicine. “You had these elite researchers and specialists who wanted to eliminate the unscientific medical schools, and local practitioners who saw their practices threatened by competition from top school graduates and from licensing by the AMA, which may not have viewed their training as sufficient,” Rosner said. “A compromise was reached in which the older physicians were grandfathered in to continue to practice medicine, regardless of the quality of their schooling, while the remaining schools would produce highly trained practitioners, but in smaller numbers as to limit competition, especially in more rural areas.”

BEYOND THE REPORT

Flexner personally contributed to the rise in quality of medical education. The reforms that were instituted following the report’s release cost money, and while states increased their support, extra funds were still needed. To partially fill that economic void came philanthropic organizations, including the Rockefeller Foundation. In 1917, John D. Rockefeller Jr appointed Flexner as assistant secretary of his foundation’s General Education Board. Flexner showed a knack for convincing the wealthy with philanthropic tendencies to contribute to the foundation, from which he disbursed millions of dollars in grants to leading medical schools to modernize and improve their equipment and facilities (Markel H. *JAMA*. 2010;303[9]:888-890). “Flexner always called himself the humble servant of powerful men, but he knew what he needed to do to achieve his own goals,” said Markel. “He had to get the right people in line, including philanthropists, organized medicine, deans, and elite medical institutions.”

Daniel M. Fox, PhD, president emeritus of the Milbank Memorial Fund and a Flexner historian, said income from outside the medical schools and their teaching hospitals was vital in transforming the medical landscape. “The Rockefeller money jump-started the

process,” Fox said. “Each department of the medical school could devote its energies to education, research, and patient care rather than having to spend it on just generating clinical income.”

OTHER CONSEQUENCES

But there were downsides attached to Flexner’s legacy as well. Improving medical education meant lengthening the time of study and raising tuition rates. Medical schools soon became the enclaves of those who could afford the training—mostly upper-class white males. The closing of substandard schools, or their mergers with other institutions, eliminated many of the schools that had been training women and minorities. The cutback in the number of graduates boosted the income of practicing physicians, but it also limited workforce supply, which has led to ongoing concerns about physician shortages, especially in underserved areas.

Markel cautioned against “presentism” and the inclination to view history through today’s prism. He does not think Flexner intentionally advocated medical school reform to harm women or minorities. “I do not believe he was bigoted, especially with his background as a child of immigrant Eastern European Jews. Flexner found schools that were inferior and underfunded, regardless of whom they were teaching,” Markel said. “The real issue is that the good old days were not that good anyway, and to put it all on his lap is too much. American society was harsh and closed to women and blacks and remained that way for decades.”

Ludmerer also downplays a direct link between Flexner, his report, and malicious consequences. Instead, Ludmerer suggests a different view of the educator. “Flexner was a champion of excellence, and it is the most lasting of his accomplishments,” Ludmerer said. “It is this identity and value of who we are as physicians and as a profession, of increasing knowledge. That, I think, is timeless and something we are in his debt for, even as we disagree with the specifics of his recommendations and actions.” □