



BECOMING A PHYSICIAN

## A 3-Year M.D. — Accelerating Careers, Diminishing Debt

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It's been more than 100 years since Abraham Flexner proposed the current model for medical education in North America: 2 years of basic science instruction followed by 2 years of clinical experience.<sup>1</sup>

Over the past several decades, major changes have caused the medical community to reconsider current educational models. These changes include increasing education costs, shifts in health care needs, the demographics of the applicant pool, and many scientific, pharmacologic, and technological advances resulting in increased specialization of physicians.

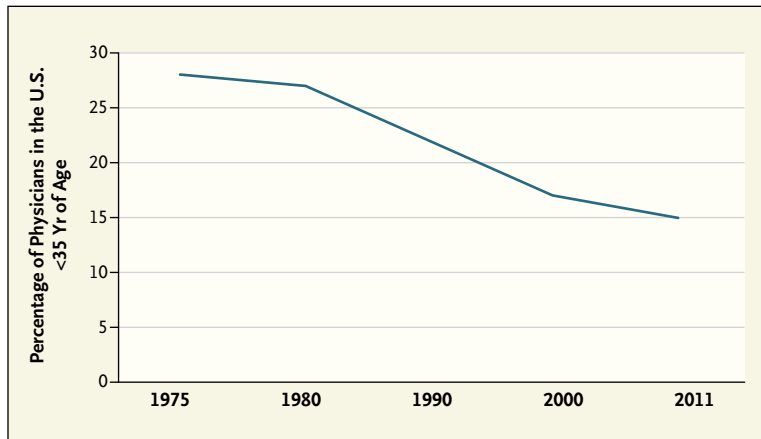
Oversight of U.S. medical education is compartmentalized, with standards independently set for undergraduate and graduate accreditation by the Liaison Committee on Medical Education (LCME) and the Accreditation Council for Graduate Medical Education (ACGME), respectively.

This system results in rigid, time-based, non-learner-centered training. Recognizing this limitation, the Carnegie Foundation recently recommended that education should “provide options for individualizing the learning process for students and residents, such as offering the possibility of fast tracking within and across levels.”<sup>1</sup>

In the past 30 years, the required training period after medical school has increased substantially,<sup>2</sup> but the time spent in medical school has not been shortened. The average age of physicians entering practice has therefore increased. Since 1975, the percentage of physicians who are younger than 35 years of age has decreased from 28% to 15% (see

graph),<sup>3</sup> as the prolongation of specialty training has delayed entry into the workforce, reducing the productive years of clinicians and physician scientists. Compounding the effect of the increased duration of training is the growing number of entering medical students who have taken “gap” years between college and medical school. National data indicate that the average age of first-year medical students is 24. At the New York University School of Medicine (NYUSOM), 55% of this year's entering medical students have taken 1 or more gap years.

Some analysts have suggested that the average duration of medical training could be reduced by approximately 30% — partly by eliminating 1 year of medical school — without compromising physicians' competence or the quality of care provided.<sup>2</sup> Two



Percentage of Physicians in the United States Who Are Younger Than 35 Years of Age, 1975–2011.

Canadian medical schools (McMaster University's Michael G. DeGroot School of Medicine and the University of Calgary's Faculty of Medicine) award an M.D. degree to all their students in 3 years. Several allopathic medical schools in the United States, including Texas Tech University Health Sciences Center School of Medicine, Mercer University School of Medicine, and most recently NYUSOM, have introduced dedicated pathways that offer selected students the option of obtaining a medical degree in 3 years. In addition, a consortium of six medical schools, comprising Texas Tech, Mercer, Louisiana State University, Indiana University School of Medicine, East Tennessee State University, and the University of Kentucky, are in discussions to develop a 3-year M.D. model.<sup>4</sup>

The first cohort of 16 highly competitive students was admitted into the 3-year pathway at NYUSOM this summer. These students had a mean grade-point average of 3.84 and a mean score of 36.5 on the Medical College Admission Test (MCAT). Four had already earned advanced degrees: 2 Ph.D.s and 2 master's degrees. Participating students will meet

the LCME's minimum requirement of 130 weeks of instruction. Unlike the Texas Tech and Mercer programs, NYUSOM's model is not limited to the training of primary care physicians. Students in the accelerated program have been offered conditional acceptance, at the time of admission to medical school, into a residency program at NYU Langone Medical Center. Interest in this new pathway was high: 50 of the approximately 280 students who were initially offered admission to the medical school in 2013 submitted the required supplemental application for this pathway, indicating interest in 16 different fields, including both medical and surgical specialties. The NYU program also offers an "opt-in" pathway, whereby students can defer the decision about fast tracking and specialty choice until the beginning of year 3, when they can make applications to one of our (or in the future other) graduate medical education (GME) programs.

One benefit of shortened training, whether at the premed, undergraduate medical education (UME), or GME stage, is to help reverse the trend of physician

"age creep." Although shortening UME training alone will not increase the number of graduating physicians, it will allow graduates to enter practice sooner and thereby increase the physician-years in practice on the national level, helping to address the shortage.

The 3-year pathway to the M.D. degree will also enable linkage between UME and GME. Currently, U.S. medical schools with 3-year M.D. programs place graduates in residency programs at their own institutions, engaging students with mentors in the program during their first year of medical school. Such connectivity creates an opportunity to develop longitudinal competency-based assessment models that span the UME–GME continuum, tracking learning and its effect on clinical outcomes. As an increasing number of medical schools adopt a 3-year pathway, residency programs will probably begin accepting fast-tracked students from other programs, perhaps through a consortium, extending the possibility of tracking learner data along the UME–GME continuum across institutions.

Another benefit of a 3-year pathway is its effect on reducing the student debt burden. The economic advantage to the student is not only a 25% reduction in debt, but also an additional year of earnings from entering the workforce earlier. According to the Association of American Medical Colleges (AAMC), in 2011, the mean medical school debt for indebted graduates was \$147,188, with 64% of medical students carrying a debt of \$100,000 or more.<sup>5</sup> On the 2012 AAMC Medical School Graduation Questionnaire, 50% of graduating medical students reported that their level of educational debt influ-

enced their choice of specialty. Student debt burdens also adversely affect the economic and racial or ethnic diversity of the medical school population, thereby reducing the diversity of the physician workforce.<sup>5</sup>

Concerns about a 3-year pathway include the sense that though the fourth year is often underutilized, it can be a valuable maturation period for many students, providing opportunities for research or additional clinical exposure. Related concerns include the potential loss of exploration and enjoyment in the medical education process. Certainly, careful mentoring and monitoring, beginning at the time of matriculation, as well as the opportunity to opt in or opt out, are essential for the success of any accelerated training program.

Shortening UME training for selected students should be viewed as just one approach to addressing the need for change in the post-Flexnerian era. Shortening brings its own challenges, particularly the need to assess competency in the fast-tracked UME model. Indeed, if medicine shifts away from traditional time-based evaluation, such evaluation must be replaced by competency-based

assessment — ideally, a standardized national assessment model. In the years ahead, developing a uniform set of milestones and competencies whereby assessment cuts across each level of medical school, residency, and fellowship, thus linking UME and GME as a continuum of learning, will be a major task for medical educators.

The need for medical education reform in the post-Flexnerian era is widely recognized. We need to address the ways in which physicians acquire and manage information, utilize technology, and serve the country's needs, while delivering culturally competent care that reduces health disparities. The past three decades have seen a gradual lengthening of the training process, driven by isolated decision making at the individual programmatic level. We are at a point of inflection where a coordinated approach spanning the silos of UME, GME, accrediting organizations, and health care delivery systems is critical. We need to train physicians who are committed to lifelong learning and who are passionate and highly trained care providers, as well as scientists and leaders of a new health care delivery model. Time

spent in training is an important factor in medical instruction, and the process of becoming a physician requires an extended period (premed, UME, and GME) of both learning and practical experiences. We must ensure the value and efficiency of our educational efforts, appreciating the various ways in which trainees at all levels will be able to master the requisites necessary for entering the medical profession and advancing within it.

Disclosure forms provided by the authors are available with the full text of this article at [NEJM.org](http://NEJM.org).

An audio interview with Dr. Richard Schwartzstein about 3-year M.D. programs can be heard at [NEJM.org](http://NEJM.org).

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# The 3-Year Medical School — Change or Shortchange?

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Shortening medical school to 3 years, some observers argue, would increase the supply of physicians — perhaps particularly primary care physicians — and reduce the cost of medical training, without compromising clinical care.<sup>1</sup> Data from many years of experiments in shortening

medical education, however, suggest that doing so is unwise — a conclusion supported by assessments of the readiness of today's medical school graduates to assume increased clinical responsibility as they enter residency programs.<sup>2</sup> There may be exceptional students capable of accelerated

learning and small programs that create unusual opportunities for such students, but we believe that for the typical student seeking an M.D. degree, the duration of medical school should not be shortened.

There are many examples of past attempts to shorten training