VIEWPOINT

Shortening Medical Training by 30%

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EXPERTS AGREE THAT THERE IS SUBSTANTIAL WASTE IN THE US health care system.[1] This waste drives up costs, threatens the government's long-term fiscal stability, suppresses incomes, and reduces resources for public education and other essential services. Similarly, there is substantial waste in the education and training of US physicians. Years of training have been added without evidence that they enhance clinical skills or the quality of care. This waste adds to the financial burden of young physicians and increases health care costs. The average length of medical training could be reduced by about 30% without compromising physician competence or quality of care.

The Obsolete Image of the Ideal Physician

For decades, the ideal academic physician has been the triple threat: an incisive diagnostician and empathetic clinician, a productive researcher, and a scintillating teacher. Similarly, the clinical practitioner was supposed to be omnicompetent, capable of managing all illnesses. The consequence is a broad training regimen that includes mandatory research experience for all physicians, and emphasizes the autonomy of the physician rather than team-based care.

The new model recognizes that with increasing clinical and scientific complexity, no physician can be a competent triple threat; that few clinicians will also be investigators; that no single clinician can know everything even in his or her own specialty; and that effective care requires collaborative, multidisciplinary teams. Medical education in the United States needs to adapt to this changing medical environment and physician ideal. Four elements in the present structure of medical education offer significant opportunities to shorten the training period for most physicians.

Premedical Training

More than 30 medical schools successfully operate 6- or 7-year medical programs in which premedical training is reduced from the typical 4 years of college to 2 or 3 years. Moreover, most medical schools in the United Kingdom and Europe have 6 years of medical school training after graduation from high school. While data are limited, there is no evidence that graduates of 6-year programs perform more poorly on standardized board examinations or as practicing physicians.[2] Students who want the traditional 4 years of college should be free to pursue them, but medical schools should not make it an entrance requirement.

Medical School Training

Why is medical school 4 years in length? The answer probably has to do with the Flexner Report's recommendation in 1910 for 2 years of preclinical science training followed by 2 years of clinical training.[3] Yet most physicians could be trained in significantly less time. Since 1997, the University of Pennsylvania has only 1 ½ years of preclinical science training. Duke University medical students focus on the basic sciences in the first year, complete core clerkships during the second year, and devote the third and fourth years to research and electives.[4] While outcomes data on alternative training arrangements are limited, there is no evidence that students from either school perform worse on board examinations, placement in residency programs, or other significant metrics of competence.[5]

The important patient care skills can be obtained in less than 2 years of clinical training. The medical school at Harvard University requires students to complete only 15 months of clinical rotations.[6] It is not difficult to eliminate 1 year of medical school training (½ year of preclinical and ½ year of clinical training) without adversely affecting academic performance. Having 1 ½ years of clinical training would still give students sufficient exposure to a range of specialties. This change would be consistent with the increasing emphasis on individualized instruction and assessing students on core competencies rather than on time served. Consistent with this proposal, Texas Tech School of Medicine as well as 2 Canadian medical schools now offer 3-year programs.

Residency Training

It is also possible to reduce residency training by 1 year. For internal medicine, pediatrics, and similar 3-year residencies, the third year is not essential to ensure competent physicians. This residency year is mainly engaged in supervising and teaching interns, in taking electives, or in some cases conducting research. While valuable, these activities are hardly essential to becoming a knowledgeable practitioner. Indeed, many trainees are permitted to short track into subspecialty fellowships, reducing their residency from 3 to 2 years. Shortening training in an era of work-week limits will force hospitals to reengineer programs to ensure residents' clinical competence—a worthwhile exercise.

Most surgical training programs include at least 1 year of research. The most important factor in becoming a competent surgeon is high volume—performing specific procedures many times over.[7] A research year does not add to surgical volume and skills building. A required research year might be relevant if all trainees were destined to become academic physicians. But most trainees will become practitioners; they will not use these gained research skills in their career and their training will be reduced by 1 year. The third year of internal medicine or pediatric residencies or the research year in surgical specialties could be eliminated without compromising the clinical quality of trainees.

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Subspecialty Fellowship Training

The typical medical and pediatric subspecialty training is a 3- or 4-year program. The structure involves 1 or 2 years of clinical training that entails caring for patients, performing consultations, and other patient-centered activities, typically followed by 2 years of mentored research with reduced clinic time. This structure indicates that learning the patient care aspects of a medical subspecialty can be accomplished in the 1 or 2 years of intensive clinical training. The time devoted to research is relevant only for trainees destined to become academic researchers. In surgical subspecialties, time could be saved by reducing the amount of training in general surgery. Instead of having reconstructive surgeons become experts in appendectomies, subspecialist surgeons could be trained to achieve clinical competence without spending several years performing general surgery.

A Proposal for the Future of Physician Training

Currently, it takes an average of 14 years of college, medical school, residency, and fellowship to train a subspecialty physician. This period could be reduced to 10 years or by approximately 30%.

Why should a reduction in the training time of physicians be considered? Efficiency has its own value. Waste, especially wasting the time of some of society's most highly educated and talented people, is unethical. Inevitably in the near future, efforts to reduce the Medicare budget will likely be accompanied by a reduction in the federal government's support of graduate medical education. Streamlining residencies will save academic health centers money because they would have to spend less on the extra costs associated with training that are now compensated by federal support for medical education. In addition, shortening the length of training would benefit medical students and trainees. With 1 year less of medical school, they would have lower debts from tuition. This reduction could be significant because the average medical student graduates with $160 000 in debt.

Another advantage of shortening the length of training would be to focus attention on the essential content of medical training. Changing the structure of training would force medical leaders to eliminate unnecessary and repetitious material and emphasize training physicians to become part of a care team; enable physicians to recognize their limitations as well as their competencies; enable physicians to use evidence more effectively to improve care; and enable physicians to become comfortable with group decision making, standardization of practices, task shifting to nonphysician providers, and outcomes measurement.

Objections Considered

Some physicians may fear that shorter training will not produce high-quality clinicians. However, several first-rate institutions have already shown that each of the reductions discussed can be achieved without decreasing physician competence. Medical schools that provide only 3 years of required classroom and clinical instruction, residencies that certify short-tracking trainees after only 2 years, and subspecialty fellowships that do not require prior specialty training all have shown that added years are not needed.

Shortening medical school training to 3 or 4 years might reduce the maturity, life experience, and socialization of practicing physicians who might start practicing as young as 26 years of age. Certainly clinicians would be younger, but that should not be conflated with immaturity.

Removing time that residents and fellows spend conducting research might affect academic medicine because fewer physicians might choose a research career. Trainees interested in academic careers as researchers will certainly need additional time to develop their basic science, clinical, or policy-related research skills. However, it is wasteful to add years of training for all physicians to ensure the small minority destined to be researchers has the opportunity to engage their interest in research.

A final objection to shortening training will be the coverage that residents and fellows provide in hospitals at night. Residency programs are already grappling with a reduction in work hours. However, the education of residents and fellows should not be held hostage to clinical service responsibilities.

Conclusions

Through slow accretion, years have been added to medical training. Yet many medical schools and residency and fellowship programs have already shortened their training in various ways, definitively demonstrating that these added years are not essential to training high-quality, knowledgeable practitioners. In an era when unnecessary medical services are being intensely examined to reduce costs, similar critical attention should be applied to eliminating waste from medical training, with a goal for US medical education to shorten training by 30% by 2020.

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