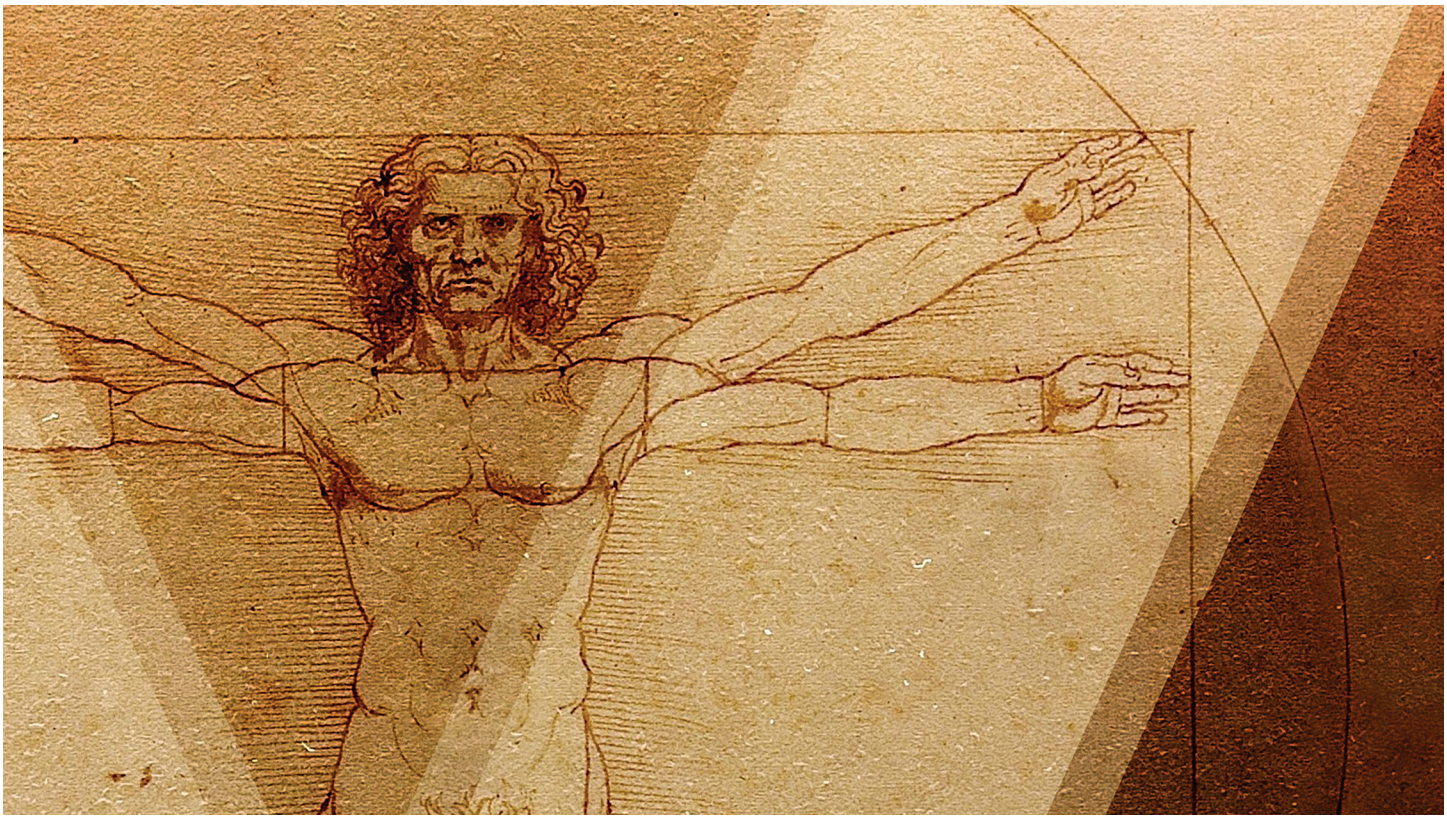
The Institutional Accomplice

How Medical Schools Have Quietly Contributed to a Step 1 Culture That Hurts Students and the Profession



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BY NICHOLAS HEITKAMP

Medical trainees today take a three-part licensing examination consisting of multiple choice questions created by the National Board of Medical Examiners (NBME). The first part of this series, the United States Medical Licensing Examination (USMLE) Step 1 exam, is the most important of the series, not only because it serves as a prerequisite for later examinations, but because scores are frequently used by residency programs to screen applicants for postgraduate medical training.

Usually taken after the first two years of medical school, students' scores on this exam largely determine the medical specialties to which they can match, with the most competitive specialties requiring the highest percentile Step 1 scores. Students with low Step 1 scores are generally limited, regardless of their career ambitions, to lesser competitive specialties. Although the USMLE Step 1 exam has recently been changed to pass-fail, the prevailing Step 1 culture that had existed leading up to this change still merits important discussion.

History of the NBME Exam

How did the career choices of medical students become dependent on the result of a single-day multiple-choice assessment of basic science knowledge in the first place? The original intent of this exam was to provide a comprehensive assessment of physician knowledge and skill that would be recognized by all states, obviating the need for physicians to take individual licensing exams to practice in each state. The original NBME examinations themselves were grueling, multi-day affairs that utilized hospitalized patients and oral presentations.1 Scores were reported in a binary fashion—students either passed or they did not. The exam has evolved over the years, with scores provided initially due to the belief that doing so benefitted examinees.[1] As scores began to be used for other purposes, the NBME began to include a disclaimer on using scores in residency selection: "It is important to understand, however, that the examinations have not been developed for the purpose of assessing preparation for postgraduate education."[2]

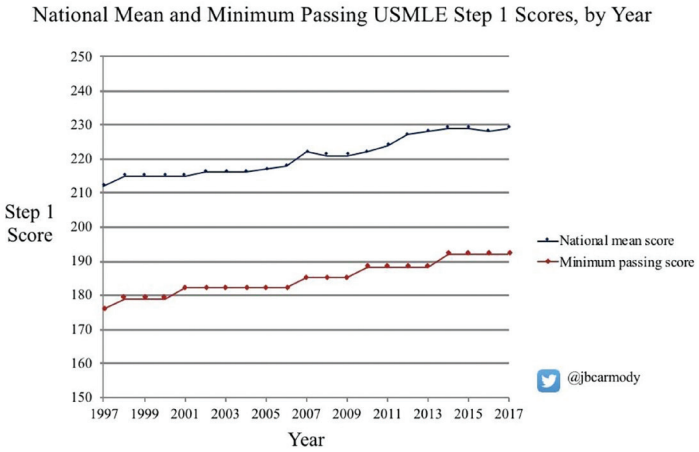
The exam has evolved over the past 100 years to its current-day form. Historically, physicians had several options for licensure testing. Until the 1960s, many states offered their own licensure examinations. Until 1992, there was also another licensing examination provided by the Federation of State Medical Boards (FSMB) known as the Federation Licensing Exam (FLEX). However, in 1992 the NBME gained total market control when the Federation of State Medical Boards agreed to merge the FLEX and NBME exams, giving rise to the USMLE series.[3] Students are now required to purchase and take the USMLE licensing examination, without any alternative options, from a private 501(c)(3) nonprofit company whose decisions come from its own board of directors. As recently reported by Stanford Dean of Medical Education, Dr. Neil Gesundheit, "the NBME has a deep and inescapable financial conflict of interest."[3]

We find ourselves in the midst of a current crisis in medical education, aptly described as "Step 1 mania."1 A national conversation has emerged analyzing the risks and benefits that the USMLE exam offers. Many discussions have been raised in the literature and via social media outlets which outline the effects that the USMLE has on students, several of which are mentioned below. The NBME not only has a monopoly on the administration of the exam, they have a financial conflict of interest in leveraging their ownership of the exam with profit they earn from study aids. Some residency program directors have also been implicated in the testing crisis as they contribute to perpetuating the behavior.[6] Yet what hasn't been discussed thus far is the role that medical schools play in Step 1 mania. Their lack of advocacy on behalf of students and their widespread use of NBME exams in the medical school curriculum make schools complicit in the high costs medical students pay for NBME profit.

The Financial Burden of Success

The USMLE exams are a financial burden for medical students. Prices for USMLE Step 1 have increased briskly over the past fifteen years, to a degree that outpaces inflation, despite the fact that the number of students taking the exam has remained stable.[4] This non-profit organization in fact makes a handsome annual profit. While the company makes some money from the sale of the Step exams themselves, their largest margins come from practice and shelf exams. Medical schools purchase the rights to practice exams and subject exams from the NBME at very high costs which are then transferred to students in forms of increasing tuition. In fact, many schools now require that their students then take these practice exams as a way of gauging their 'progress' prior to taking Step 1. In essence, indebted medical students are required by their school to take exams purchased from the very company that will license them to be a physician. It has been estimated that the cost that students incur from USMLE services, not including use of the Customized Assessment Services (CAS) by schools, is an average of $4,000 per student.[3]

Although the cost of exams and services most directly contributes to the substantial financial burden that students bear, there is another issue that deserves discussion. The minimum passing score and the average score of the Step 1 exam have increased at similar rates over the past twenty years,[1] as seen in this graph from JB Carmody:



Each year, the NBME itself sets the minimum passing score for the Step 1 exam rather than outsourcing this important task to an independent organization free of bias and financial conflict. Thus, the NBME embraces a policy that continuously increases the pressure on our country's medical students to improve exam performance. Many would argue that the intellectual capacity of students has not increased beyond the margin of new discovery but rather they have been forced to utilize smarter and more efficient resources to stay competitive with the rising exam averages. As minimum passing and average scores

go up, students feel they must remain competitive by re-prioritizing their time and resources. Dozens of expensive proprietary resources have now become the new normal for students studying for Step 1. In fact, they are so widely used that schools unofficially recommend the usage of these resources as a means to stay "minimally competitive". Sadly, these resources are usually financed at prevailing rates for medical school loans. Included in this lucrative market for Step 1 resources is, of course, the NBME itself, which sells practice tests directly to students.

The Medical School Shadow Curriculum

A majority of lectures in the first half of medical school now have an optional attendance policy. That is to say, students can choose to come to a traditional in-person lecture or skip the lecture and study the material on their own. Yet some tenured professors disagree with this new policy and feel that it is in the students' best interest to be present in class. So why the disconnect? There are likely two parts to this answer. First, medical schools today make student feedback a very high priority, as data from student surveys play a central role in LCME accreditation.[7] Second, schools now recognize the pinch that students are in during their preclinical years. They know how important Step 1 is to students—that residency program directors use the scores to stratify applicants for interviews. Schools want to advertise a high match rate for their students and realize that good Step 1 scores are an integral part of achieving this goal. In the same way that schools advocate for the use of efficient third-party review material, they are contributing to the Step 1 culture by carving out study time from the official medical school curriculum. Indeed, schools have enabled a new shadow curriculum to thrive.

Medical Schools Are Hurting Student Wellbeing

Perhaps the most worrisome aspect of the Step 1 culture is how it impacts student wellbeing. A 2014 study by Dyrbye and colleagues showed that compared to aged-matched college graduates, medical students demonstrated significantly higher rates of burnout and depression.[5] Step 1 is certainly a major source of stress for students in the preclinical years, with so much riding on the outcome of the exam.

To the extent that medical schools have enabled Step 1 preparation to become the de facto curriculum in preclinical medical education, they are complicit in the deleterious effects it has had on student wellbeing. In this population already known to be at higher risk for burnout and depression, schools must recognize the undue mental health burden that the NBME places on students.

Next Steps Forward

It is time for medical schools to publicly recognize the problem they've helped to perpetuate and vow to purposefully advocate on behalf of students in the future. While it can be argued that carving out room for Step 1 preparation within the preclinical curriculum and requiring students to utilize NBME preparatory materials helps students prepare for these important exams, such actions also implicate medical schools as accomplices to the adverse effects that standardized exams like Step 1 have on students' financial and mental wellbeing. While access to reliable institutional mental health services has improved for most medical students over the past ten years, more needs done to prevent the root causes of student stress and burnout, rather than relying on mental health resources as a safety net. It is time that medical schools make the difficult decision to prioritize student well-being over a Step 1-influenced curriculum that delivers positive feedback on student surveys.

There are a number of ways schools can demonstrate leadership and improvements. First, schools can utilize the change to the pass/fail system of Step 1 as an opportunity to reflect on how far the NBME enterprise has disadvantaged their own students. This is the right time to reflect on the past and implement change moving forward. Second, schools can demand more transparency from the NBME itself as terms for its usage. With detailed financial reports, stakeholders will see the actual cost of products and where the margins are allocated. Third, in addition to financial transparency, schools need to demand the use of independent review boards for determining the minimum passing scores. The NBME's current practice of choosing their own standards is a direct financial conflict of interest that potentially affects both their profits and students' mental health. An independent board created by nationally recognized physician-leaders without ties to the NBME would create a fair system. Fourth, encouraging and recognizing a second licensing organization would end the current monopoly enjoyed by the NBME, allow for diversity of licensure exam products, end of the financial monopoly, and likely drive improved quality and innovation.[8] Lastly, schools have the opportunity to redeem their past oversights by intentionally advocating on the side of their students during the impending Step 2 frenzy.

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