

# The Rising Cost of Medical Education and Its Significance for (Not Only) Psychiatry

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The cost of medical education has been rising over the past 50 years at a rate that is unsurpassed in history [1]. Medical school tuition, in particular, has climbed sharply, and tuition increases are outpacing both inflation and the consumer price index [2]. Despite escalating fees, students continue to take on greater and greater debt burdens, and the median indebtedness of graduating medical students is now US\$175,000—essentially a house mortgage in debt [3]. Asch and colleagues have questioned whether these growing expenses represent a “bubble market” and whether the price of a medical education has now become greater than its value [4]. They also point out that if the profession aims to reduce health care expenses, then medical education expenses need to be reduced—“the high costs of medical education are sustainable only if we keep paying doctors a lot of money, and there are strong signs that we can’t or won’t” [4]. Clearly, this is a critical issue facing the medical profession—and one that, if not addressed, may have

a significant impact on not only the socioeconomic diversity of medical school matriculates, but also the specialty choices of medical school graduates.

In this editorial, we briefly review factors contributing to the rising costs of medical education, discuss their implications for both medical students and the profession, and suggest possible solutions for addressing these challenges.

## Spiraling Costs of Medical Education

The reasons for the increasing overall price of medical education are multifactorial and complex. Medical schools are raising tuition dollars (cost to students) in an attempt to meet the growing expenses of delivering the curriculum (intrinsic education costs), but these efforts fall short due to the fact that tuition dollars do not fully cover education expenses (leading to subsidized costs). Medical education is typically heavily subsidized by clinical dollars, and clinical dollars have been shrinking in academic medical centers in recent years—a fact that is not projected to change in the near future [5]. Similarly, research dollars continue to shrink. After doubling from 1998 to 2003, the National Institutes of Health budget stagnated, leading to a relative overall decline in funding when taking inflation into account [6]. At times, universities also increase medical schools’ tuition to address budgetary problems at other colleges (displacing costs on students). The cost to students is further compounded by the fact that graduate medical education training continues to lengthen in order to train physicians in new procedures, allow time for academic research and mentoring, and provide opportunities for supervision and teaching of interns, while there has been no compensatory shortening of the undergraduate medical education period [7]. Consequently, medical school graduates have fewer years in which to earn income and repay their debts.

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Further, in the continuous efforts to increase the quality of the educational experience, the intrinsic expenses of delivering the curriculum continue to rise—educators are incorporating more high-tech approaches, such as high-fidelity clinical simulators, medical mannequins, and robustly outfitted clinical skills centers in the curricula. These approaches are well justified—improved application of basic science concepts in clinical settings, greater attention to patient safety and quality of care, and better collaborative and team-oriented delivery of care—yet they are expensive, and costs will continue to increase as educators keep up with the latest technological advances. Clearly, this is a multifaceted problem, and one that requires consideration of not only the intrinsic cost of delivering the curriculum, but also the cost to students and how these growing expenses are managed—by subsidizing costs, displacing costs on students, and increasing reliance on interest-bearing loans to pay for these expenses.

### Impact on Students

With the cost of delivering the curriculum increasing and a declining ability to subsidize the cost with funds from the clinical or research enterprise, academic medical centers have turned to raising tuition rates, effectively passing expenses on to medical students. In 1992, median public and private medical school tuition and fees were US\$6,740 and US\$18,365, respectively. By the year 2013, those numbers had grown by nearly 400 % for public medical schools, to US\$32,993, and by more than 180 % for private medical schools, to US\$52,456 (these are median figures; some schools charge substantially more for their tuition). Further, student loans and deferments have changed substantially in recent years. The loss of both subsidized Stafford loans for professional students and loan deferment options in residency means that interest will begin accumulating much sooner than for previous generations of graduates, effectively increasing their overall level of indebtedness. When one includes the total cost of attendance and considers interest over the “standard” 10-year repayment period, the total amount that graduates will repay is approximately US\$326,000; that amount increases to US\$492,000 if the repayment occurs over 25 years [3].

Although tuition and total repayment dollars provide one measure of the overall financial burden on medical students, those figures do not allow for an assessment of the effect of specialty choice and future compensation. Physician salaries have leveled off in recent years [8]; thus, an important measure of the impact of escalating medical education costs on the medical profession is the debt-to-income ratio [4]. This ratio is a comparison of how much students must borrow versus how much they will earn in their first year in practice. These ratios have been quite favorable for over a decade, meaning that the income graduates would earn would more than justify their

debt burdens; however, they are now beginning to be less favorable—and particularly so for psychiatry and family medicine [4]. In short, medical education is becoming less of a “good investment” for those who enter the field.

Finally, rising education costs may have a significant and negative impact on the diversity of the student body in US medical schools. Over the past 40 years, the number of women entering medical school has grown substantially, and the USA has now achieved parity with the general population [1]. However, there has not been comparable growth in the matriculation of minority medical students. Similarly, as medical education expenses have increased, the gap in socioeconomic backgrounds of medical students has widened. In 2005, more than 75 % of the medical students enrolled came from the upper two quintiles of US household income, whereas approximately 10 % came from the lower two quintiles [9]. In contrast, a quarter of medical students came from the lower two quintiles of household income in 1971 [1]. The current trend in medical education costs will only further compromise efforts to increase the diversity of the physician workforce.

### Implications for Psychiatry

What does this mean for recruitment into psychiatry? Is potential income, in fact, linked to the specialty choice of graduates? A recent report from the Association of American Medical Colleges (AAMC), based on data from the annual AAMC Graduation Questionnaire (GQ) completed each year by senior medical students, suggests that education debt plays a minor role in specialty choice [10]. The 2013 AAMC GQ revealed that the greatest influences on specialty choice were personality fit, specialty content, role model influence, and work/life balance; these results have been fairly consistent over the past several years. In fact, data from one institution further supports these results: the University of Central Florida College of Medicine, a new medical school that enrolled its charter class in 2009, became the first medical school in the nation to offer a full, 4-year, tuition-and-living-expenses scholarship to the entire class. Graduates had little to no debt and, consequently, were unburdened by the weight of paying off a mortgage of student loans. Despite their full scholarships, only six out of 36 students chose a primary care field (either pediatrics or internal medicine), and only two out of 36 chose psychiatry. The remaining 28 students entered highly specialized fields, including emergency medicine, general surgery, neurosurgery, obstetrics and gynecology, ophthalmology, plastic surgery, radiology, and urology. The combination of high income (average of US\$471,555 in 2012 per the Medical Group Management Association) and lifestyle certainly plays a role in dermatology’s popularity among US medical school graduates [11].

In our opinion, this is further evidence in support of the AAMC GQ data, which suggests that mentors play a critical role in specialty choice. Students are heavily influenced by the culture of medicine. They desire mentors who are not only skilled and talented physicians but also well respected and admired. The medical culture values the highly specialized, procedure-based specialties, and the high salary that these physicians earn is but one reflection of their worth. The underlying message, when one specialty earns far less than another, is that it is of less value or deserves less respect. Even when unburdened by education debt, students are drawn primarily to high-paying fields in search of this respect. The problem is even further compounded for psychiatry, given the stigma of mental illness not only in medicine, but also in the general public.

The AAMC GQ does reveal some concerning trends related to specialty choice, income, and debt, however. In 2013, 27.8 and 47.8 % of graduates reported a moderate to strong influence of education debt and income expectations, respectively, on specialty choice. These numbers have been slowly trending up since 2009, when the level of educational debt influenced 21.9 % of graduates' specialty choices, and income expectations influenced 40.4 % [10]. These are trends that will need to be monitored as indebtedness rises among medical students. It may be that, once a critical level of debt is reached, income and indebtedness play an increasingly important role in determining specialty choice. It is clear that the influences on specialty choice are multifactorial, and if psychiatrists want to attract more students to the field, they will need to look for innovative solutions.

### Possible Solutions

Importantly, we believe that medical schools must evaluate options for reducing the cost of medical education. The current rise in tuition is simply unsustainable, particularly for fields such as psychiatry and family medicine, where the debt-to-income ratio is becoming less favorable. Some institutions are considering innovative approaches, such as reducing the duration of undergraduate medical education from 4 to 3 years. Not only does this approach decrease debt by 25 %, but it also increases the earning capacity of graduates with an additional year of income [12]. Others have suggested shortening the length of graduate medical education training by 1 year, which would also increase the total number of residency positions available; this strategy has the added benefit of addressing the impending shortage of residency positions in the USA [13]. However, that is a one-step, short-term solution, which does not address the long-term consequences. A move to competency-based education, which allows students to progress to the next level of training after meeting specified milestones rather than on the basis of the number of years

completed, could also allow some students to reduce their total debt burden by shortening their education [14].

The best solution will likely incorporate several of these approaches, plus others, and psychiatrists should embrace the opportunity to be part of the solution. Psychiatrists' expertise in communication, interviewing, physician-patient relationships, team-oriented approaches, and interprofessional education makes them uniquely suited to be at the table as academic medical centers begin to rethink their approach to education and revise their curricula. Not only do psychiatrists have much to offer in curricular reform, but their involvement from the beginning of the first year of medical school is critical for the development of mentoring and role modeling relationships with medical students—particularly because role models have a significant influence on specialty choice.

Medical schools (and psychiatry faculty) should also be proactive in educating students about opportunities to reduce their debt burden through programs such as the National Health Service Corps (NHSC) and the federal loan forgiveness program. The NHSC program offers substantial tuition and loan repayment assistance for students who agree to serve in Health Professional Shortage Areas (HPSAs) with the greatest need. The NHSC program historically has provided debt relief for those entering primary care fields, but psychiatry was added as an eligible specialty in 2013; this information is not widely known by students or psychiatry faculty. Additionally, physicians who work full-time in a public service capacity can qualify for the Public Service Loan Forgiveness program. After making 120 qualifying payments on student loans, physicians working with a federal, state, or local government agency or a non-profit organization are eligible for forgiveness of the remaining balance of their education loans. Given the great need for psychiatrists nationally (psychiatry is a shortage specialty!), as well as the high number of psychiatry positions in federal, state, and non-profit agencies, this debt relief option holds much promise for future psychiatrists, and psychiatry educators should be proactive in telling students about it. Finally, psychiatry is less likely to benefit from “grateful patient” donations or other forms of philanthropy than other medical specialties due to the general stigma of mental illness. Consequently, the number of scholarships available to students interested in psychiatry is sorely lacking. Focused attention on fundraising to provide scholarships for those who are considering psychiatry early in their education may go a long way toward cultivating the number of students who seriously consider a career as a psychiatrist. Certainly, any steps to reduce medical school indebtedness will improve the debt-to-income ratio for the next generation of psychiatrists and improve the prospects for psychiatry.

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## References

1. Greysen SR, Chen C, Mullan F. A history of medical student debt: observations and implications for the future of medical education. *Acad Med.* 2011;86:840–5.
2. Association of American Medical Colleges. Physician education debt and the cost to attend medical school. 2012 update. February 2013. Available at [www.aamc.org/downloads/328322/data/statedebtreport.pdf](http://www.aamc.org/downloads/328322/data/statedebtreport.pdf). Accessed 24 Feb 2014.
3. Association of American Medical Colleges. Medical student education: debt, costs, and loan repayment fact card. October 2013. Available at [www.aamc.org/download/152968/data/debtfactcard.pdf](http://www.aamc.org/download/152968/data/debtfactcard.pdf). Accessed 24 Feb 2014.
4. Asch DA, Nicholson S, Vujicic M. Are we in a medical education bubble market? *N Engl J Med.* 2013;369:1973–5.
5. Lockwood CJ. Academic medicine: a bubble about to burst? *Contemporary OB/GYN*, February 1, 2014. Available at [contemporaryobgyn.modernmedicine.com/contemporary-obgyn/news/academic-medicine-bubble-about-burst](http://contemporaryobgyn.modernmedicine.com/contemporary-obgyn/news/academic-medicine-bubble-about-burst). Accessed 24 Feb 2014.
6. Gomez Diaz M, Ghaffarzadegan N, Larson R. Unintended effects of changes in NIH appropriations: challenges for biomedical research workforce development. July 24, 2012. Available at [www.iseesystems.com/community/connector/zine/2012\\_summer/unintendedeffectsofchanges.pdf](http://www.iseesystems.com/community/connector/zine/2012_summer/unintendedeffectsofchanges.pdf). Accessed 24 Feb 2014.
7. Emanuel EJ, Fuchs VR. Shortening medical training by 30 %. *JAMA.* 2012;307:1143–4.
8. Seabury SA, Jena AB, Chandra A. Trends in the earnings of health care professionals in the United States, 1987–2010. *JAMA.* 2012;308:2083–5.
9. Jolly P. Diversity of U.S. medical students by parental income. *AAMC Analysis in Brief* 2008;8(1). [www.aamc.org/download/102338/data/aibvol8no1.pdf](http://www.aamc.org/download/102338/data/aibvol8no1.pdf). Accessed 22 Feb 2014.
10. Association of American Medical Colleges. Medical School Graduation Questionnaire: 2013 All Schools Summary Report. July 2013 (Revised August 2013). Available at [www.aamc.org/download/350998/data/2013gqallschoolssummaryreport.pdf](http://www.aamc.org/download/350998/data/2013gqallschoolssummaryreport.pdf). Accessed 24 Feb 2014.
11. Rosenthal E. Patients' costs skyrocket; specialists' incomes soar. *New York Times*, January 18, 2014. Available at [http://www.nytimes.com/2014/01/19/health/patients-costs-skyrocket-specialists-incomes-soar.html?\\_r=0](http://www.nytimes.com/2014/01/19/health/patients-costs-skyrocket-specialists-incomes-soar.html?_r=0). Accessed 24 Feb 2014.
12. Abramson SB, Jacob D, Rosenfeld M, Buckvar-Keitz L, Hamik V, Francois F, et al. A 3-year M.D.—accelerating careers, diminishing debt. *N Engl J Med.* 2013;369:1085–7.
13. Doroghazi RM, Alpert JS. A medical education as an investment: financial food for thought. *Am J Med.* 2014;127:7–11.
14. Irby DM, Cooke M, O'Brien BC. Calls for reform of medical education by the Carnegie Foundation for the Advancement of Teaching: 1910 and 2010. *Acad Med.* 2010;85:220–7.