Analysis IN BRIEF

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Trends in Cost and Debt at U.S. Medical Schools Using a New Measure of Medical School Cost of Attendance

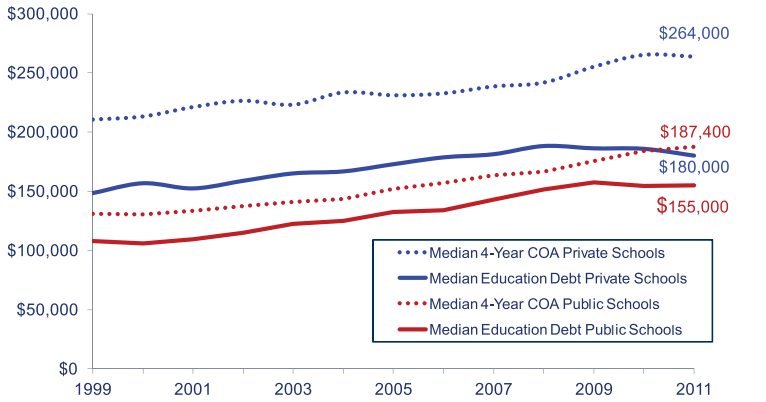
Most medical students in the United States borrow six-figure amounts to help finance their education costs. In 2011, 86 percent of medical school graduates had education debt[1], with a median amount of $162,000. A borrower with this debt level would have monthly payments ranging from $1,500 to $2,100 after residency, depending on his or her repayment plan.[2]

Conventional wisdom holds that education debt and its attendant repayment costs play a key role in the specialty choice of medical students, driving them away from primary care fields towards more lucrative specialties. However, we found no definitive proof in the research literature that education debt has a major influence on the career choices of most medical students and residents.[3] Yet trends in debt and cost remain important to monitor to understand the repayment scenario facing a typical indebted graduate. Furthermore, cost, among other factors, could potentially deter otherwise qualified individuals from applying to medical school, particularly among populations not well represented in the profession.

Medical student indebtedness has grown over time and is driven, in part, by interest rates and the cost of attending medical school. Traditional measures of medical school attendance cost include tuition and fees for first-year students (which do not include living expenses) and the cost of attendance for first-year students (which does not reflect that the final two academic years of medical school often have higher living expenses). In this context, we have three objectives in this *Analysis in Brief*:

1. to introduce a new way of calculating medical school attendance cost that encompasses the full four years, thus more accurately reflecting the actual costs faced by graduates during their entire time in medical school compared to the typical data showing only single year costs,
2. to show historical trends for cost of attendance and debt data, and
3. to draw attention to the recent slowdown in the growth of debt levels for graduating students at U.S. medical schools.

Figure 1: Median 4-year Cost of Attendance (COA) and Education Debt of Indebted Medical School Graduates U.S. Medical Schools,* 1999-2011



*Both 4-year COA and education debt are in 2011 constant dollars

Methodology

This report examines data from two AAMC annual surveys: the Graduation Questionnaire (GQ) and the Tuition and Student Fees Survey (TSF). In the annual GQ, graduating medical students report their education loans in the categories of "premedical/college" and "medical school," which we combined into the category of "education debt."

In the annual TSF survey, each medical school reports the tuition, fees, and living expenses for in-state and out-of-state students in all four years.

We summed these data across four consecutive annual surveys to obtain a four-year Cost of Attendance (COA) for the graduating class at each school.[4] For example, for the 2011 graduating class, the four-year COA is the first-year cost from the 2008 survey plus the second-year cost from the 2009 survey plus the third-year cost from the 2010 survey plus the fourth-year cost from the 2011 survey.

We analyzed the education debt data and COA data for trends over the last 13 years, the time period for which four-year COA data is available for all schools. Given the variation between different institution types, both cost and debt data are often reported separately for public and private medical schools. To control for the effect of inflation

1 Education debt includes medical school debt and premedical debt.
2 For sample repayment scenarios, see https://www.aamc.org/download/152968/data/debtfactcard.pdf.
3 For example see: Kahn M J, et al., Is medical student choice of a primary care residency influenced by debt? Med Gen Med. 2006; 8(4):18. Accessed June 5, 2012 at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1868367/
4 For more four-year COA data see: Key indicator in academic medicine: Education costs and student indebtedness at U.S. medical schools. *Acad Med.* 2012; 87:242-243.

Table 1: Changes in 4-Year Cost of Attendance (COA) at U.S. Medical Schools

School Type	Student Type	1998-1999 Median 4-yr COA	2010-2011 Median 4-yr COA	CAGR* of COA data	CAGR* of CPI data
Private	Out-of-state	$155,875	$263,964	4.5%	2.5%
Public	In-state	$96,796	$187,393	5.7%	2.5%

*CAGR = compound annual growth rate.
Note: During this 13-year span, some schools did not provide COA data for all four years and the total number of medical schools increased slightly. For 2011, approximately 63% of private school students were out-of-state and 86% of public school students were in-state.

Table 2: Mean Education Debt* of Indebted U.S. Medical School Graduates and Percent of Students Indebted

Year	Mean Education Debt (Current Dollars)	Percent Change from Prior Year (Current Dollars)	Mean Education Debt (2011 Constant Dollars)	Percent of Medical Graduates With Education Debt
1978	$13,500	N/A	$46,500	72
1988	$38,500	8.1	$73,200	83
1998	$85,200	5.9	$117,500	84
2008	$154,600	10.8	$161,500	87
2009	$156,500	1.2	$164,000	87
2010	$157,900	1.0	$162,900	86
2011	$161,300	2.1	$161,300	86

*Values are rounded to nearest $100 for clarity and include both public and private school graduates. Data limitations in earlier years prevent the reporting of medians.

across years, we used the Consumer Price Index All Urban Consumers (CPI-U, 1982-84=100)[5] to adjust the data to constant 2011 dollars.

Results

Figure 1 presents the median cost and education debt for public and private medical school students. Across school type, results show that while cost and debt amounts have increased over the last 13 years, cost still exceeds debt, which has leveled off in recent years.

The cost of attendance across school type has grown dramatically over this same time span. The median four-year COA at private schools has grown at a rate of 1.8 times the comparable rate for inflation while at public schools the growth rate has been over twice the rate for inflation (Table 1).

Over the same 13 years, the median education debt for indebted private medical school graduates grew from $110,000 to $180,000, a CAGR of 4.2 percent, or 1.6 times the rate for inflation. At public schools the same data point grew from $80,000 to $155,000, an annual growth rate of 5.7 percent, on average, or over twice the rate for inflation.

Table 2 reflects both historical and recent trends of mean education debt amounts. In 1978 indebted graduates across all schools had, on average, just $13,500 ($46,500 in 2011 constant dollars) in loans to repay. By 2011 that amount grew to $161,300. Thus, over the last 31 years, medical student debt has increased at twice the rate of inflation, growing, on average, 7.8 percent per year. However, the last three years have seen an unprecedented slowdown in growth of mean debt levels, with values relatively stable in constant dollars in 2008-2011. The percent of graduates with education debt has remained quite stable for over 20 years.

Discussion

We posit that calculating a four-year COA for medical school creates a more accurate picture of the total attendance costs faced by students compared to the traditional focus on single-year tuition and fees. The four-year COA data also shows that student education debt levels are typically lower than the four-year COA, a fact that is not apparent when comparing graduating medical student debt amounts to single-year tuition and fees amounts only.

The gap between four-year COA and debt levels tends to be higher at private medical schools compared to public schools, reflecting, in part, the public schools' smaller gifts and endowment funds that can be used to support medical student grants and scholarships. Indeed, in 2009-10 the 75 public medical schools reported a combined $1.25 billion in gifts and endowment while the 51 private medical schools reported $2.5 billion.[6]

The recent slowdown in education debt levels for medical students is not completely understood, though interest rates may play a role. In July 2006, the interest rate on graduate student (including medical students) Stafford loans was fixed at 6.8 percent; previously it had been a variable rate that, at times, was below three percent. The graduating class of 2009 was the first medical school class to face at least three years of a fixed 6.8 percent interest rate—the same time that the growth of debt levels began to slow.

Further investigation is needed to identify other factors beyond cost and interest rates that might influence the debt levels of graduating medical students, including the role of premedical debt. Calculating comparable trends for other higher education attendance costs, such as those at four-year undergraduate degree-granting institutions, is another avenue for future research.

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5 Consumer Price Index. Accessed April 9, 2012 at: ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt.
6 For more detail on medical school revenues see: https://www.aamc.org/download/251012/data/i.revenueofu.s.medicalscholsbysourcefiscalyear2010.pdf