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# An Updated Look at Attendance Cost and Medical Student Debt at U.S. Medical Schools

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### An Updated Look at Attendance Cost and Medical Student Debt at U.S. Medical Schools

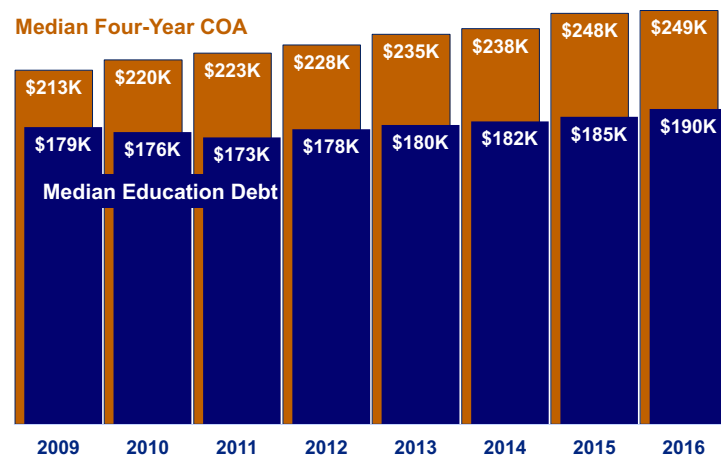
Medical school tuition and fees, cost of attendance (COA), and medical student debt have increased over the past decades. In 2016, 76% of medical school graduates had education debt,<sup>1</sup> with a median amount of \$190,000. After residency, a borrower at that debt level would have monthly payments ranging from \$1,500 to \$2,800 or more, depending on their repayment plan, residency length, and future income.<sup>2</sup> Most medical students continue to borrow six-figure amounts to help finance their education costs, making issues related to attendance cost and debt of great interest to numerous stakeholders.

In this *Analysis in Brief*, we examine three research questions. First, we conduct trend analysis to examine how the COA at medical schools has changed from 2009 to 2016, updating prior research in this area.<sup>3</sup> Second, we examine how medical education debt levels for graduating students have changed in that same time period. Third, we examine how medical school COA trends compare to undergraduate higher education COA trends, given that the majority of medical schools are financially integrated with their parent institution. In recent years, repayment options have expanded, including more plans that link monthly payment amounts to income, not debt level. This research will help stakeholders understand current trends so that repayment scenarios that graduates face today can be better understood.

#### Methods

Three data sources exist for this research. For trends in COA and medical education debt levels, we used data from the AAMC Graduation Questionnaire<sup>4</sup> (GQ) and the AAMC Tuition and Student Fees Questionnaire<sup>5</sup> (TSF). In the annual GQ, graduating medical students report their education borrowing in two categories, “premedical/college” and “medical school.” We combine those loans into one “education debt” total for this analysis.

Figure 1. Median four-year cost of attendance (COA) and education debt of indebted medical school graduates of U.S. medical schools, 2009–2016.



Note: All values are in 2016 dollars using the Consumer Price Index for All Urban Consumers (CPI-U). COA data are based on costs for in-state medical students.

Source: Authors’ analysis of the AAMC Graduation Questionnaire (GQ) and Tuition and Student Fees Questionnaire (TSF).

The GQ data do not differentiate between graduates who were charged in-state costs and graduates who were charged out-of-state costs. In the annual TSF questionnaire, each medical school accredited by the Liaison Committee on Medical Education (LCME) reports the tuition, fees, and living and other expenses for in-state and out-of-state students for all four years. We calculated a four-year in-state student COA for the graduating class at each school by summing these data across four consecutive annual surveys (e.g., for the 2016 graduating class, the four-year COA is the first-year cost from the 2012–2013 survey plus the second-year cost from the 2013–2014 survey plus the third-year cost from the 2014–2015 survey plus the fourth-year cost from the 2015–2016 survey).

We then analyzed the self-reported education debt data from all participating

graduates who responded to the GQ (regardless of their state of residence) along with the medical-school-reported in-state student COA data for trends since 2000, the time period for which four-year COA data are available for all schools. Given the variation between different institution types, both cost and debt data are reported separately for public and private medical schools because of the cost differences between institution types. To control for the effect of inflation across years, we used the Consumer Price Index for All Urban Consumers (CPI-U, 1982–1984 = 100)<sup>6</sup> to adjust the data to constant 2016 dollars.

Finally, to compare medical school costs to undergraduate higher education costs, we used national data from the College Board, a national nonprofit organization that reports on annual changes in tuition, fees, and living expenses at undergraduate

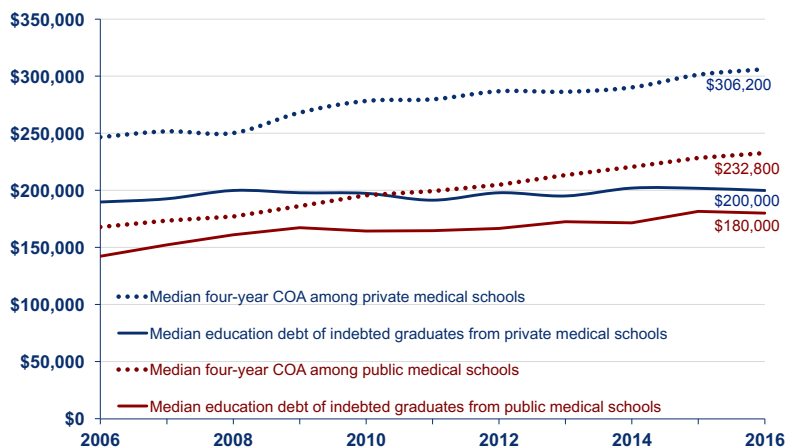
institutions, among other topics.<sup>7</sup> We calculated an undergraduate four-year higher education COA the same way the COA for medical schools was calculated.

**Results**

Our analysis shows that over the past eight years, the median four-year inflation-adjusted COA at medical schools has continued to increase (see Figure 1). From 2009 to 2016, the medical school COA grew, on average, 2.3% per year. During the same time period, the median education debt also increased, but at a rate of 0.9% per year. Of interest, the 2016 data show just a slight increase in cost (up 0.7%, after inflation, from 2015) compared to a larger increase in the debt level (up 2.5%, after inflation, from 2015), though this single data point is not enough to predict future trends.

While examining national data across all medical schools is important, so is examining the trends separately for public and private medical schools because of their differences in both cost and debt. Results show that public medical schools typically cost much less than private medical schools, but the debt levels for the two school types are much closer (see Figure 2 and Table 1). For example, for the 2016 graduating class, the median four-year COA was \$232,800 at public medical schools versus \$306,200 at private medical schools, while the median education debt among indebted graduates

**Figure 2. Median four-year COA and education debt of indebted medical school graduates of U.S. medical schools by medical school type, 2006–2016.**



Note: All values are in 2016 dollars using the Consumer Price Index for All Urban Consumers (CPI-U). Cost of attendance (COA) data are based on costs for in-state medical students.

Source: Authors’ analysis of the AAMC Graduation Questionnaire (GQ) and Tuition Student Fees Questionnaire (TSF).

was \$180,000 at public medical schools versus \$200,000 at private medical schools.

Over the eight-year period from 2009 to 2016, the inflation-adjusted four-year COA grew, on average, 3.2% per year at public medical schools and 1.9% per year at private medical schools.<sup>8</sup> In addition, the median inflation-adjusted education debt level among public medical school graduates grew, on average, 1% per year,

and among private medical school graduates, it grew, on average, 0.1% per year. These results show that in recent years, medical school cost for in-state students has grown faster than inflation at both public and private medical schools, while education debt has increased slower than inflation at both public and private medical schools. In addition, medical school cost and education debt have

**Table 1. Four-Year COA and Education Debt of Indebted Graduates by Institution Type, 2009–2016**

Year	Median Four-Year COA Among Public Medical Schools	Median Education Debt Among Indebted Public Medical School Graduates	Median Four-Year COA Among Private Medical Schools	Median Education Debt Among Indebted Private Medical School Graduates	CPI-U	Average Four-Year COA Among Public Four-Year Institutions	Average Four-Year COA Among Private Nonprofit Four-Year Institutions
2009	\$187,000	\$167,800	\$269,100	\$198,600	214.537	\$55,600	\$121,800
2010	\$196,600	\$165,100	\$279,200	\$198,100	218.056	\$58,200	\$126,200
2011	\$199,900	\$165,400	\$280,600	\$192,100	224.939	\$61,000	\$130,400
2012	\$205,600	\$167,300	\$287,800	\$198,600	229.594	\$63,500	\$134,300
2013	\$214,200	\$173,100	\$287,300	\$195,700	232.957	\$65,500	\$136,700
2014	\$221,300	\$172,300	\$291,200	\$202,800	236.736	\$67,000	\$138,700
2015	\$229,300	\$182,300	\$302,300	\$202,500	237.017	\$68,800	\$141,400
2016	\$232,800	\$180,000	\$306,200	\$200,000	240.007	\$70,400	\$144,500
<b>CAGR 2009–2016</b>	3.2%	1.0%	1.9%	0.1%	1.6%	3.4%	2.5%

Note: All values are in 2016 dollars using the Consumer Price Index for All Urban Consumers (CPI-U, 1982–1984). COA information data are based on costs for in-state medical students. Data are rounded to the nearest \$100 for consistency. CPI-U = Consumer Price Index for All Urban Consumers; COA = cost of attendance; CAGR = compound annual growth rate.

Source: Authors’ analysis of data from the AAMC Graduation Questionnaire, the AAMC Tuition and Student Fees Questionnaire, and the College Board “Trends in College Pricing 2016.”

grown more quickly at public medical schools than at private medical schools.

A comparison of cost trends from medical schools and other undergraduate higher education institutions shows that trends in medical school cost roughly mirror those at comparable undergraduate institutions (see Table 1). Moreover, for both public and private medical schools, the average annual increase in four-year COA over the past eight years is lower than at their comparable undergraduate schools.

### Discussion

These findings update the research on COA at medical schools and the education debt of medical graduates. Taken together, the findings highlight the continued growth of education debt levels for graduating students, with increases in cost that are occurring at greater rates compared to education debt. As previously mentioned, the loan repayment options have expanded over the past decade, including more plans that link monthly payment amounts to income, as opposed to debt level. This change enables medical student borrowers, with few exceptions, to manage their education debt after they graduate from medical school and begin to practice.<sup>9</sup>

Relative to inflation, an initial expectation might be that higher education COA should increase at the rate of inflation.

However, the economic effect known as “Baumol’s cost disease” predicts that “because labor markets across different sectors are connected, rising productivity in manufacturing leads the cost of labor-intensive services—such as education and health care—to rise.”<sup>10</sup> This effect is supported by compelling evidence across numerous industries.<sup>11</sup> With medical schools at the nexus of higher education and health care, a rate of increase in their cost that is higher than inflation might be expected.

Because the majority of medical schools are financially integrated with their parent institutions, general trends in higher education attendance costs are reflected in medical school attendance costs for both public and private medical schools.<sup>12</sup> Among undergraduate institutions, “by far the single biggest driver of rising tuitions for public colleges has been declining state funding for higher education,” and in fact, since 2000, “the decline in state support accounts for about three-quarters of the rising cost of college” at public four-year schools.<sup>13</sup> Furthermore, “at private nonprofit colleges . . . student services

and faculty and administrative salaries—together explain most of the tuition increase” since 2000.<sup>11</sup> Although that research is not focused on medical schools, it seems reasonable that similar forces influence attendance costs at both public and private medical schools.<sup>14</sup>

Our research five years ago<sup>3</sup> noted that the slowdown in the growth of education debt levels was not well understood, though interest rates likely played a role. Interest rates still seem to play a role. Borrowing rates for medical school graduates peaked at a fixed rate of 6.8% for the graduating classes from 2010 to 2013. Since the 2013–2014 academic year, graduate student interest rates for federal student loan borrowing have varied annually in a range from 5.3% to 6.2%. To maintain awareness and understanding of the debt and repayment obligations faced by graduating medical students, we will continue to monitor interest rates, trends in attendance costs and education debt levels, and how federal repayment plan options affect these graduates.

### Notes

1. Education debt includes medical school debt and premedical debt.
2. For sample repayment scenarios, see [members.aamc.org/eweb/upload/2016\\_Debt\\_Fact\\_Card.pdf](http://members.aamc.org/eweb/upload/2016_Debt_Fact_Card.pdf).
3. Previous research established 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. Further, COA is a more inclusive look at cost because it includes living expenses in addition to tuition and fees. See “Trends in Cost and Debt at U.S. Medical Schools Using a New Measure of Medical School Cost of Attendance,” AAMC Analysis in Brief, 2012;12:2. Washington, DC: AAMC. [aamc.org/download/296002/data/aibvol12\\_no2.pdf](http://aamc.org/download/296002/data/aibvol12_no2.pdf).
4. For information, see [aamc.org/data/gq](http://aamc.org/data/gq).
5. For information, see [aamc.org/data/tuitionandstudentfees](http://aamc.org/data/tuitionandstudentfees).
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7. College Board. “Trends in College Pricing 2016.” [trends.collegeboard.org/college-pricing](http://trends.collegeboard.org/college-pricing). Accessed May 16, 2017.
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11. For example, see “William Baumol, whose famous economic theory explains the modern world, has died.” Vox. May 4, 2017. [vox.com/new-money/2017/5/4/15547364/baumol-cost-disease-explained](http://vox.com/new-money/2017/5/4/15547364/baumol-cost-disease-explained). Accessed June 1, 2017.
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14. For medical school revenue source information, see Association of American Medical Colleges. Revenue by Source, FY1977 through FY2016. [aamc.org/data/finance/480320/fig8-9.html](http://aamc.org/data/finance/480320/fig8-9.html).

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