

Medical School Tuition and Young Physician Indebtedness

An Update to the 2004 Report



October 2007

Three years ago, in 2004, an analysis of U.S. medical school graduates' indebtedness and young physicians' ability to repay this debt showed a worrisome trend.¹ If then-existing trends should continue, young physicians struggling to pay off their educational debt over the standard 10-year period could find these payments consuming over half of their after-tax income. Using the data available in 2004, we projected annual growth of indebtedness of public medical school graduates at 8.3 percent and of private medical school graduates at 8.9 percent, while the annual increase in physician income would be only 3.1 percent. The interest rate on student loans at that time was 2.82 percent. We revisit this analysis in the light of more recent conditions, to see if these trends have continued.

Table 1
Graduating Medical Student Debt (in dollars)

Year	Public		Private	
	Annual Tuition and Fees	Total Debt	Annual Tuition and Fees	Total Debt
2001	12,411	86,000	31,296	120,000
2002	13,873	92,000	32,649	127,000
2003	16,332	100,000	34,247	135,000
2004	19,043	105,000	37,269	140,000
2005	20,370	115,000	39,024	150,000
2006	20,978	120,000	39,413	160,000
Annual Rate	11.1%	6.9%	4.7%	5.9%

Recent data from the AAMC (Association of American Medical Colleges) Tuition and Fees Survey and the Graduation Questionnaire are shown in Table 1, which displays median tuition and fees² and median indebtedness reported by those medical school graduates who have debt.³ Tuition and fees—especially for public medical schools—have increased at an astonishing 11.1 percent.⁴ Data from the same source show that the percentage of students in debt at graduation has increased to 85 percent for private medical school graduates and 86 percent for public medical school graduates.

Over the period 2001–2006, public medical school graduate debt increased at a compound annual rate of 6.89 percent, while private medical school graduate debt increased at a compound rate of 5.92 percent. These apparent rates of increase have moderated for both public and private medical school graduates from the 8.3 percent and 8.9 percent rates used in the 2004 analysis. It is notable that indebtedness for public medical school graduates is now increasing more rapidly than it is for

private medical school graduates. If public school costs continue their rapid rise, the rate of increase in debt for public medical school graduates will surely increase.

For a projection out to 2033, the modest improvement in the rates of increase for debt with the new projection leads to a strikingly different student debt level, as shown in Figure 1. The old projection indicated that the indebtedness of private medical school graduates would exceed \$1 million by 2027, and the debt of public medical school graduates would reach that lofty level in 2033. By contrast, the current projection shows that the debt of both public and private medical school graduates would approximate \$750,000 by 2033.

¹ Jolly, P. Medical School Tuition and Young Physician Indebtedness. AAMC 2004. Available from https://services.aamc.org/Publications/showfile.cfm?file=version21.pdf&prd_id=102&prv_id=113&pdf_id=21.

² AAMC Data Book (2007), p. 55.

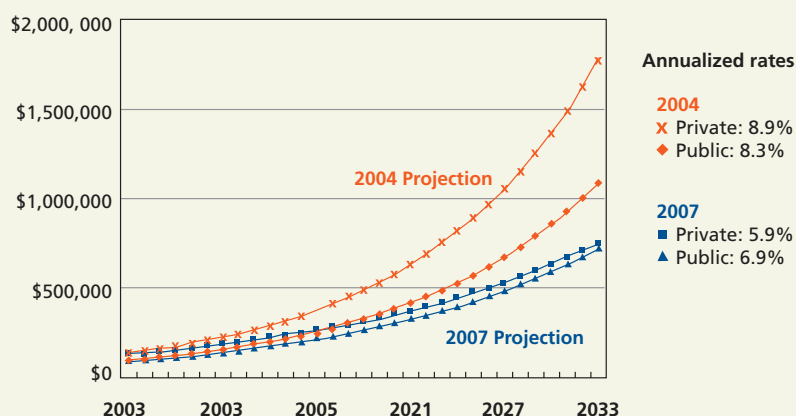
³ AAMC Data Book, (2007), p. 58.

⁴ Compound annual rate over the period 2001-2006.

Another relevant trend that must be reexamined is that of physician compensation. The prior analysis used data from the American Medical Association (AMA) publication, Physician Socioeconomic Statistics, which contained data for physician income through 2000. Over the period 1990–2000, the AMA data showed physician incomes increasing at a compound annual rate of 3.017 percent. Unfortunately, the AMA has not repeated that survey, and other sources provide somewhat different and rather inconsistent results.

Figure 1

Indebtedness of Medical School Graduates Old (2004) and New (2007) Projections



In “Losing Ground: Physician Income 1995–2003,” the Community Tracking Study Physician Survey found physician income increasing at only 1.45 percent annually, substantially below the rate of increase of the Consumer Price Index.⁵ The annual surveys of the Medical Group Management Association report statistics separately for primary care physicians and specialists. Over a recent six-year interval, they found physician incomes increasing at an annual rate of 2.6 percent for primary care physicians and 4.3 percent for specialists.⁶ Over the most recent seven years, the AAMC Faculty Salary Survey found income for M.D. faculty in clinical departments increasing at an annual rate of 3.6 percent.

The various sources reflect different time periods, different populations, and different methodologies. Perhaps it should not be surprising that they show different recent growth rates. With no consistent source of data on physician compensation, we make the somewhat arbitrary choice to use 3.0 percent as the annual rate of increase, and the AAMC Faculty Salary Survey figure of \$216,600 for 2006 income.⁷ Clearly, the work reported here should be repeated if a reliable, consistent source is found in the future. This 3.0 percentage rate compares to the 3.1 percentage rate used in the 2004 analysis.

Another relevant change since 2004 has been a stiffening of the terms of repayment. In the former analysis, we used a 2.82 percent annual interest rate, but the rate on federal Stafford loans is now 6.8 percent.

⁵ See www.hschange.com/CONTENT/157/157.pdf.

⁶ Physician Compensation and Production Survey, 2006 Report, 2005 Report and 2004 Report, Medical Group Management Association.

⁷ AAMC, Report on Medical School Faculty Salaries 2005–2006, p. 2.

Most students defer loan repayment until completion of their three-year residency. The loan, if eligible for deferment, accrues no interest on the \$34,000 subsidized part, but does accrue interest on the remainder. At the end of a student's three years of residency, the \$120,000 median debt of a 2006 public medical school graduate using the federal direct loan program will have grown to \$151,342, and the \$160,000 median debt of a private medical school graduate will have grown to \$205,707. These graduates' monthly payments will be \$1,718 and \$2,336, respectively, if they pay over the default period of 10 years, and \$1,022 and \$1,389, respectively, if they extend repayment over 25 years.

The AAMC MEDLOANS program offers borrowers more advantageous terms. Unlike the federal direct loan program, MEDLOANS does not charge an origination fee. The initial rate of 6.8 percent is reduced to 6.5 percent at first disbursement, where it remains during uninterrupted periods of grace and deferment. When repayment on a MEDLOANS loan begins after three years of residency, the 2006 public medical school graduate's debt will be \$148,416, while the private medical school graduate's debt will be \$201,633—lower than that with a federal direct loan because of the 0.3 percent rate differential and no origination fee. The advantage of MEDLOANS becomes even more significant during repayment. The 6.8 percent rate is reduced by one percentage point after the first on-time payment and by an additional 0.75 percentage point for automatic debit payments, resulting in a rate during repayment of only 5.05 percent. With MEDLOANS, assuming that borrowers meet the requirements for these interest-rate reductions, the 2006 graduates of public and private medical schools will have monthly payments of \$1,578 and \$2,144, respectively, if they choose to repay over 10 years, and \$872 and \$1,185, respectively, if they pay over 25 years. The MEDLOANS program is compared with the federal direct loans program in Table 2.

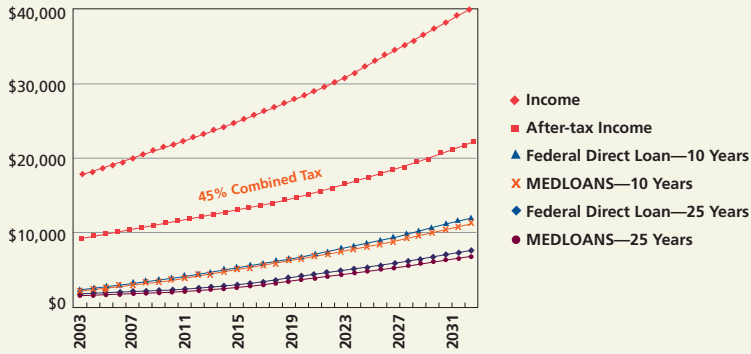
Table 2
Comparison of federal direct loans and MEDLOANS (in dollars)

	2006 Graduate Debt	Amount After 3 Years	Monthly Payment 10 Years	Monthly Payment 25 Years
Public Schools				
Federal Direct Loans	120,000	151,342	1,718	1,022
MEDLOANS	120,000	148,416	1,578	872
Private Schools				
Federal Direct Loans	160,000	205,707	2,336	1,389
MEDLOANS	160,000	201,633	2,144	1,185

With an estimated monthly physician income (before taxes) of \$18,050, these payments might be difficult to make, but manageable. If indebtedness continues to grow more rapidly than physician income, however, the strain will increase until ultimately the debt burden might become unmanageable.

Figure 2

Projected Monthly Physician Income and Payments Private Schools



Escalation: Income 3.0%, Private Debt 5.92%
 Combined Federal, State, Local, Payroll Tax Rate: 45%

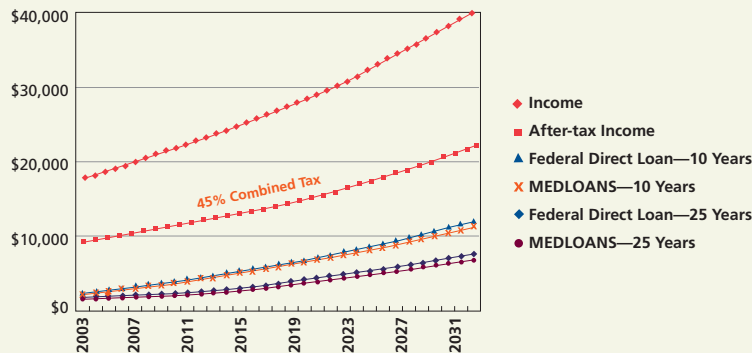
Figures 2 and 3 display projected monthly physician income (before and after taxes) and projected monthly payments for both federal direct loans and MEDLOANS, under the 10-year and 25-year options, over the next two and one-half decades. Projections for public and private medical school graduates are shown separately.

The assumed tax rate of 45 percent is intended to include federal, state, and local income taxes, as well as payroll taxes. While today’s average tax rate for those with incomes in the \$200,000–\$250,000 range may be somewhat lower, the average tax rate would go higher as incomes increase more rapidly than tax brackets are increased to adjust for inflation. The assumed rate, admittedly only an approximation, would be lower in states with no state income tax.

Figures 2 and 3 are visually almost indistinguishable. Although there are definite differences in the initial loan payment, as can be seen from Table 2, loan levels for successive cohorts of public medical school graduates are rising more rapidly than loan levels of private medical school graduates, with the result that initial loan payments for the class of 2033 are projected to be almost the same for public and private medical school graduates.

Figure 3

Projected Monthly Physician Income and Payments Public Schools



Escalation: Income 3.0%, Public Debt 6.89%
 Combined Federal, State, Local, Payroll Tax Rate: 45%

Table 3
Educational Debt Service as a Percentage of After-tax Income

25-year Repayment Option

	2006 Graduates	2033 Graduates		
		2% Income Growth	3% Income Growth	5% Income Growth
Public Schools				
Federal Direct Loans	10.3%	38.8%	29.8%	17.7%
MEDLOANS	8.8%	33.1%	25.4%	15.1%
Private Schools				
Federal Direct Loans	14.0%	40.8%	31.4%	18.7%
MEDLOANS	11.9%	34.8%	26.7%	15.9%

If present trends continue and physician incomes increase at 3 percent per year, by 2033, the average physician will be earning \$40,000 per month after expenses, from which he or she will have to pay \$18,000 in combined federal, state, and payroll taxes, leaving \$22,000 for personal spending. If borrowers use the standard 10-year repayment period, they will be spending half of this remainder to retire their medical education debt. If they opt for the more manageable 25-year repayment period, they will pay approximately \$6,000 per month for educational debt service, and they will be in their fifties by the time the loan is paid off.

To demonstrate the very different outcomes one would see using different rates of growth for physician income, Table 3 shows the monthly payment for 2006 and the projected monthly payments for 2033 as a percentage of after-tax income, assuming a 2 percent, 3 percent, or 5 percent rate of increase for physician income. The 2 percent rate would barely keep up with the cost of living, while 5 percent would be an optimistic rate. The data in the table assume the 25-year repayment option, which likely would be chosen by most borrowers.

Today's graduates are already required to commit approximately 9–12 percent of their after-tax income for educational debt service. Even under the optimistic assumption of a 5 percent annual increase in physician income, this fraction would increase to 15–18 percent. Under the more realistic assumption of a 3 percent rate of increase, graduates of the class of 2033 will start repaying 25–31 percent of their after-tax income. If physician incomes grow at only 2 percent annually, the burden will be yet greater.

One qualification offers some mitigation of the above gloomy scenarios. The graphs show for graduates of each succeeding year the burden at the time when repayment is started. As with any fixed obligation, it will become less burdensome as young physicians progress in their careers and incomes continue to increase.

These trends indicate eventual hardship for both primary care doctors and specialists, but the absolute value of compensation is much higher for specialists. In comparison with our base year 2006 figure of \$216,600 for all physicians, primary care physicians probably earn 30 percent less, and the typical specialist earns 16 percent more. The threshold for repayment pain will thus be reached much sooner for primary care physicians than for specialists.

This report is a projection, not a prediction. The situation will almost surely look different in 2033. If attending medical school ceases to be a rewarding investment for students, it will become impossible to recruit an able class of medical students without a subsidy, and public or private subsidies may become available. Making interest on educational debt fully deductible to borrowers would certainly help, and Congress might be persuaded to approve such a change. Market forces may limit tuition increases, and they may put upward pressure on physician compensation.

But if nothing changes, the outlook for medical education looks bleak.

Paul Jolly
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