

Medical Education Cost & Debt Impacting Future Rural Physicians

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The concept of a rural physician shortage is not a recent discovery. The shortage has existed for more than 80 years despite the fact that, in general, people living in rural areas have a greater need for medical care, being older, sicker, and poorer than their non-rural peers.^{1,2} The American Association of Medical Colleges suggests the future rural physician workforce is likely to decline even further, with only three percent of recent medical students planning to practice in small towns and rural areas.³ Whitcomb argues the factors associated with this decline include the decreasing number of physicians entering family medicine and primary care, the changing lifestyle preferences of younger physicians, and the increasing level of medical student debt.⁴

In 1984, 87% of medical students had debt at an average of \$22,000 for those attending public medical school and an average of \$27,000 for students attending private school.⁵ In 2007, 87% of medical students had debt at an average of \$145,000 for students attending public medical schools and an average of \$180,000 for students attending private schools.⁵ Recent research found that approximately 23% of medical students, a number that in 2008 was more than double the percentage in 2004, have more than \$200,000 in debt.⁵ Jolly suggests that if debt levels continue to increase at current rates, graduates of the class of 2033 will use more than 25% of their after-tax income to repay medical school loans for 25 working years.⁶

As of now there is inconclusive evidence that shows a strong definite relationship between medical school debt and career choice. However, Weeks and Wallace maintain it is common knowledge that primary care careers have a lower financial return on investment in education than medical and surgical specialization.⁷ Residency programs of higher income special-

ties consistently fill with US medical graduates at higher rates, suggesting that US students are sensitive to income in making career choices. Phillips, Weismantel, Gold, and Schwenk suggest that students with high debt may also be influenced both toward and away from primary care specialties, because primary care physicians have lower salaries than specialists but typically shorter residency training.⁸ Numerous scholars have tried to explore the role of medical school training experiences, educational debt, and specialty reimbursement differences in hopes of understanding the complex interplay of factors that go into choosing a career in primary care.⁹

One study conducted by Palmeri et al. at Dartmouth University analyzed the economic impact of a primary care career.⁹ The research team used economic modeling, which employed a variety of factors, to develop a net income and expense model. Palmeri attempted to account for the variability of factors by looking at best, worst, and average expense scenarios. Palmeri also used published retrospective data from the Bureau of Labor Statistics, the 2007 Physician Compensation Survey, the National Association of Realtors, the College Board and *US News and World Report* regarding medical student debt, physician reimbursement, retirement planning, college savings, and cost-of-living expenses to develop their models. Palmeri reported results that showed primary care physicians in the first three to five years following residency will continue to have expenses that exceed their earnings. The study conducted by Palmeri aligns with those in recent publications noting that primary care physicians do not begin to have a positive cumulative net worth until approximately age 33.¹⁰

Palmeri also stated that the first few years after residency will be financially lean but feasible, except in the high expense mod-

el, if the newly practicing physician reins in expenses by extending educational debt repayment from 10 to 20 years. However, Palmeri points out two caveats to their findings. First, the primary care physician should have a starting wage at approximately \$130,000. Secondly, their income quickly has to increase to the mean of \$188,272. Consequently, Palmeri states that physicians cannot make the decision to follow a primary care career path lightly. Palmeri argues that the declining interest in the gatekeeping disciplines of internal medicine, family medicine, and pediatrics suggests that students intuitively grasp this problem, thus making the career choice disincentives explicit. Palmeri adds that sub-specialization allows a budget surplus for discretionary spending, ranging from modest to substantial, and the financial situation of those who pursue sub-specialization contrasts sharply with the dilemma of primary care physicians who face difficult economic choices.

With evidence that supports the increase in cost of a medical education affecting specialty career choices, one must also question the implications of this increase affecting rural career choices. Moreover, literature was included that not only focused on present-day medical students but included the future medical school class composition. Magnus and Mick argued that high tuition may restrict access to medical education for those from low-income families, underrepresented minority groups, and residents of rural areas.¹¹ Furthermore, Bergen emphasized the advantages of a diverse, representative medical student body.¹² Bergen agreed with Magnus and Mick in that Bergen felt that the advantages of creating a diverse student body are often cited as showing that students from underrepresented groups are more likely to treat ethnic minorities, practice in rural communities, and work in socioeconomically depressed areas.¹²

Research shows that medical students from rural backgrounds are more likely to eventually practice in rural communities.¹³ Woloschuk, Lemay, and Wright from the University of Calgary, School of Medicine, focused research on the financial state of medical students from rural backgrounds during tuition fee deregulation in Canada.¹⁴ Dhalla, Kwong, and Streiner stated that the proportion of students with rural backgrounds who apply to medical school is not reflective of the population that resides in rural Canada.¹⁵ Across Canada, tuition fees for medical schools have been on the rise.¹⁴ In a study including twelve Canadian medical schools Dhalla et al. found that a greater proportion of students from rural backgrounds came from families of lower socioeconomic status (parental income < \$40,000). The results also discovered that the mean projected education debt of graduation was significantly greater for rural background medical students compared with their metropolitan peers.¹⁴ Furthermore, Woloschuk et al. also noted that medical students from rural areas had significantly greater education debt at entry than medical students from metropolitan backgrounds. Woloschuk et al. maintain that rising tuition may not only serve as a deterrent to qualified candidates but may limit the diversity of medical students. Duffin suggested in prior work that this lack of

diversity ultimately has implications for the profession's ability to understand and solve major health issues.¹⁶ Woloschuk et al. also stated just as tuition fees increase, a threshold may eventually be reached whereby some students may consider the financial realities of entering medical school to be overwhelming. The findings of this research also discovered that medical students from rural backgrounds were significantly older than their peers from metropolitan backgrounds, suggesting that it takes students longer to attain medical school entry requirements and the finances to proceed with medical training.¹⁴ Woloschuk et al. suggested the rise in medical school tuition may be especially detrimental to students from rural backgrounds, as financial support from parents may not be as readily available to these students as it is to their non-rural peers.

Interestingly, the above-mentioned Canadian-based study is in concordance with older US data that shows as tuition fees rose in the 1970s and 1980s, the socioeconomic status (SES) of students enrolling in medical school increased.¹⁷ In fact, Rosinski conducted a study in 1965 that found that medical schools with the lowest fees attracted the greatest number of students with a lower SES.¹⁸ Ready and Nickens, health policy educators at the University of Michigan, suggest that medical school admissions policies involve a paradox regarding student diversity.¹⁹ Ready and Nickens also stated that medical school administrators have launched campaigns to recruit more ethnic minority medical students. As suggested above, the key motivation has been the growing evidence that minority physicians disproportionately serve poor and ethnic minority communities.²⁰ Magnus et al. felt that committees stress racial diversity but downplay socioeconomic diversity. Magnus et al. also hypothesized that recruiting more physicians from disadvantaged backgrounds would improve access to health care because a disproportionate percentage of such physicians would establish practices in their home communities. In comparison to the Canadian study conducted by Woloschuk et al., US medical students with a lower SES also suffer from high amounts of undergraduate debt.¹¹ Takagi argued that access to postsecondary education has declined for disadvantaged students in part as a result of more stringent federal criteria for determining who is financially independent and thus eligible for more aid.²¹ Therefore, in most instances it may not be the fault of many medical school admissions committees for not choosing to diversify their student bodies, but rather some disadvantaged students being deterred from the potentially overwhelming medical education debt. In addition, Ballantine argued that the higher admissions requirements and expectations have naturally led some medical schools to recruit students from wealthier geographic areas, which in most instances are non-rural areas.²²

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