Influence of Medical Student Debt on the Decision to Pursue Careers in Primary Care

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ABSTRACT

PURPOSE: To determine if medical student debt has an effect on medical student specialty choice.

METHODS: A cross-sectional survey was distributed to students at 12 medical schools across the United States to assess the effect of debt on specialty choice.

RESULTS: In total, 415 students responded to the survey; 98 medical students reported that they were pursuing a primary care residency (PCR) and 250 reported that they were pursing a non-primary care residency (NPCR). There was no significant difference in average student loan debt anticipated by medical students pursing PCR and NPCR ($142,217 vs $150,784; P>0.46). Medical students pursuing a PCR reported lower estimated salaries on average than medical students pursuing NPCR ($137,711 vs $241,804; p<0.01). Of the surveyed students, 62% of students who are pursuing PCR and 77% of the students who are pursuing a NPCR would not have pursued medicine as a career if residents were responsible for paying tuition.

CONCLUSION: This study revealed no significant difference between the student debt of medical students pursuing PCR compared to those who are pursuing a NPCR. However, a large majority of medical students would not pursue a career in medicine if faced with the responsibility of paying tuition for residency.

KEYWORDS: medical student debt, residency tuition, primary care salaries, careers

INTRODUCTION

The cost of medical school attendance and the level medical student debt has substantially increased over the last decade with individuals' debt levels sometimes approaching $350,000.[1–4]According to the Association of American Medical Colleges (AAMC), medical school tuition continues to increase annually.[4–6] A major concern is that the increasing levels of medical student debt are contributing to the decline in medical student interest in pursuing a primary care residency due to the relatively lower reimbursement of primary care physicians compared to subspecialists. [2,7] Previous investigations have demonstrated that medical student debt has a variable influence on career choice; some studies suggest that this influence plays a major role in career choice while other studies suggest that debt has no influence.[8–14]

Although the impact of medical student debt on career choice is not clear, the rate of medical student debt growth is unsustainable.[1] The purpose of this study was to assess the influence of medical student debt on career choice. Our hypothesis is that medical student debt has a strong influence on career choice. Additionally, in 2014, a report from the Institute of Medicine Committee on the Governance and Financing of Graduate Medical Education considered options for potential funding sources for Graduate Medical Education.[15] One source they considered was to require residents to pay tuition. Given our hypothesized influence of medical school debt on career choice, we hypothesize that if residents would be required to pay for residency, a career in the medicine would be less desirable.

METHODS

After obtaining approval from our institutional review board, we designed and distributed a cross-sectional survey for allopathic medical schools in the United States. Medical students were asked if they planned a career in a primary care or non-primary care specialty, what their anticipated salary was within their first 5 years of practice, and if they would have pursued medicine as a career if residents were required to pay tuition.

The survey was initially piloted with six PGY-1 residents in the Brown University orthopaedic department to assess survey comprehension. The survey was then distributed to the deans of student affairs in medical school in the United States requesting them to distribute the survey to their medical students. The survey was distributed via the REDCap (Research Electronic Data Capture) program (Vanderbilt University, Nashville, TN), which is a tool provided by the Lifespan Biostatistics Core. Study data was also collected and managed using the REDCap program. REDCap program is a secure, web-based application designed to support data capture for research studies. REDCap program does not record IP addresses.

For statistical analysis, anticipated medical student debt and anticipated level of annual income were compare with a two tailed t-test with a cutoff of p< 0.05 for significance. Comparison of categorical data was performed with Chi-square analysis. Statistical analysis was performed

utilizing Microsoft Excel (Microsoft Corporation, Redmond, WA) and StatPlus: LE (AnalystSoft Inc, Walnut, CA).

RESULTS

In total, 12 medical schools distributed the survey (n=12) with a response rate of 6.6% (n=415). When asked about career plans, 98 medical students reported that they were pursuing a primary care residency (PCR), 250 reported that they were pursing a non-primary care residency (NPCR), and 67 reported that they were undecided.

There was no significant difference in average student loan debt that was anticipated by medical students pursing PCR ($142,217) compared to medical students pursuing a NPCR ($150,784) ($P$>0.46). There was a significant difference between the residents pursuing a PCR ($137,711) and between those pursing a NPCR ($241,804) in the estimated salary that the students anticipated on earning annually in the first 5 years of their practice (p<0.01) (**Figure 1**).

Overall, 62% of students who planned to pursue PCR and 77% of the students who are pursuing a NPCR would not have pursued medicine as a career if residents are required to paying tuition for post-graduate training (p<0.01) (**Figure 2**).

Figure 1. Comparison of anticipated medical student debt and anticipated annual income during the first five years of practice.

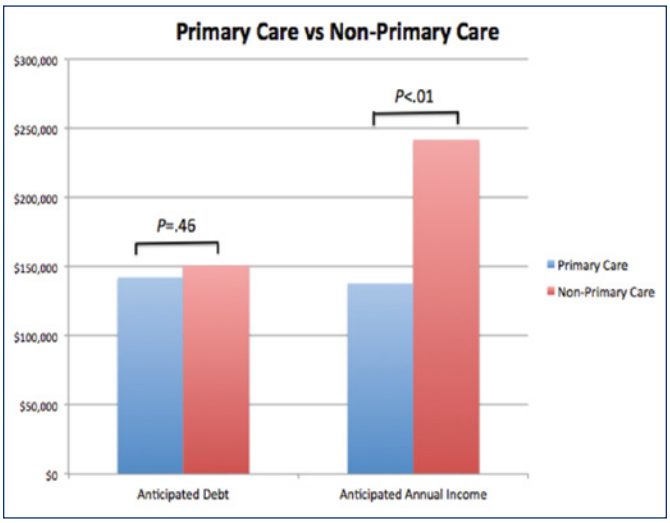
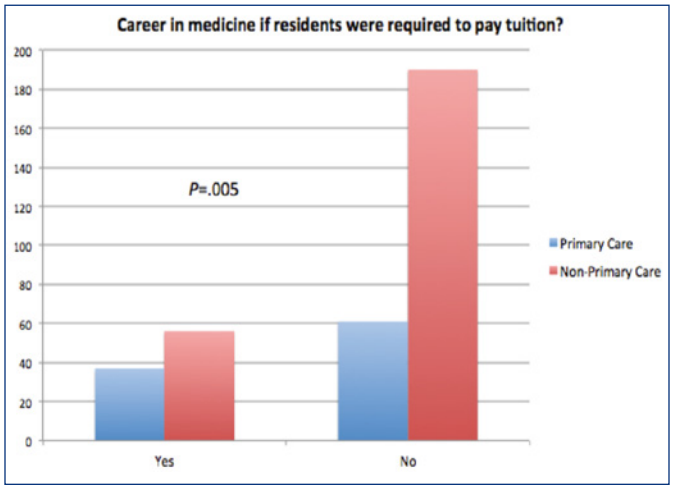


Figure 2. Comparison of the number of medical students who would or would not pursue a career in medicine if residents were required to pay tuition.



DISCUSSION

The cost of medical school attendance and medical student debt has increased over the last decade, and according to the Association of American Medical Colleges (AAMC), medical school tuition continues to increase annually. [4–6] Rising medical student debt may be contributing to the simultaneous decline in medical student interest in pursuing a career in primary care.[2] Phillips et al performed an analysis of medical student debt and its effect on intentions to pursue careers; it revealed that medical students from middle income families who anticipated more debt were less likely to pursue residencies in primary care.[2]

Schwartz et al demonstrated that in comparison to 1990, medical student interest in general internal medicine decreased in 2007, and medical students were also graduating medical school with higher levels of debt.[7] Grayson et al surveyed first- and fourth-year medical students to determine the influence of economic factors on career choice.[16] They found that medical students with higher levels of debt reported a higher value for the importance of income and anticipated to earn more than medical students with less debt. Medical students who reported a higher value for the importance of income were more likely to switch from pursuing a primary career to a high paying non-primary care career. This switch was associated with a higher anticipated medical student debt and higher anticipated income.

Gil et al calculated the total increase in medical student debt after medical school in hypothetical cases of an orthopaedic surgery resident and an internal medicine resident with $180,000 of debt that is a result of unsubsidized Stafford loans which currently have a 6.8% interest rate.[17] They reported that for an orthopaedic resident at a six training year program with one year of subsequent fellowship who chooses forbearance for all loans during residency and fellowship, the total interest accrued depends on the post-training repayment program chosen. They reported that a Standard Repayment plan will result in a total repayment of $383,302, representing a 113% increase in debt after medical school. Alternatively, if the resident chooses the Extended Repayment plan, this will result in a total repayment of $577,940, representing a 221% increase in debt after medical school. In the case of an internal medicine resident, a Standard Repayment plan will result in a total repayment of $311,284, representing a 73% increase in debt after medical school, while an Extended Repayment plan will result in a total repayment of $469,355, representing a 161% increase

in debt after medical school. Therefore, medical students ultimately pay far more than the estimated cost of their education while lenders make a significant profit on loans.

Although medical school tuition continues to rise, medical schools still face substantial financial pressure. In 2014, a report from the Institute of Medicine Committee on the Governance and Financing of Graduate Medical Education considered options for potential funding sources for Graduate Medical Education.[15] One source they considered was to have residents pay tuition. Of the respondents of this survey, 62% of students who are pursuing PCR and 77% of the students who are pursuing a NPCR would not have pursued medicine as a career if residents were responsible for paying tuition. Therefore, if residents are required to pay for residency, highly qualified students will decide against careers in medicine due to unreasonable financial pressures associated with physician training.

A substantial limitation of this is study is the low response rate despite the authors repeated attempts to recruit medical schools to assist in the goal of understanding the influence of medical student debt on career selection. Medical schools often cited policies regarding the distribution of surveys from outside of their own institutions and they noted that the AAMC Graduation Questionnaire (GQ) addressed similar questions we sought to answer in our study. A significant limitation of the GQ is that it is only distributed after medical students already are committed to a residency. Therefore, conclusions regarding the selection of career are significantly limited by selection and recall bias. The advantage of our survey is that it captures perceptions of medical students as they advance through their education. Therefore, it may more accurately capture the factors that influence career selection.

CONCLUSION

The results of our study suggest that there is no difference between the student debt of medical students pursuing PCR compared to those who are pursuing a NPCR. However, the salary the students anticipated on earning annually in the first 5 years of their practice was significantly different between these two groups. Additionally, the majority of medical students would not pursue a career in medicine if faced with the additional financial burden of being responsible for paying for tuition to be in residency. Student debt appears to affect career choice in today's medical school trainees. Efforts to minimize student debt and encourage career choice based on factors other than debt burden are needed.

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