

## Payback time: the associations of debt and income with medical student career choice

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**CONTEXT** With impending health care reform in the USA, there is an imperative to increase the number of students choosing primary care (PC) careers. Research is needed to better understand the roles of economic factors in medical student career choice. The objective of this study was to examine the relationships among debt, income and career choice by comparing students planning PC careers with those aspiring to one of the 12 non-PC fields in which median income exceeds US\$300 000 ('high-paying non-primary care' [HPNPC]).

**METHODS** Surveys (response rate = 81%) were administered to Year 1 students scheduled to graduate between 1996 and 2012, and Year 4 students graduating between 1993 and 2010. Respondents were students at New York Medical College and East Carolina University's Brody School of Medicine. Analyses focused on the 2674 Year 1 respondents choosing a PC ( $n = 1437$ , 54%) or HPNPC ( $n = 1237$ , 46%) career, and the 2307 Year 4 respondents intending to pursue PC ( $n = 992$ , 43%) or HPNPC ( $n = 1315$ , 57%). Longitudinal analyses examining changes in career goals during medical school were

based on students who completed surveys in both Years 1 and 4. The outcome measures studied were self-reported debt, anticipated income and self-rated value placed on income.

**RESULTS** Relative to their PC counterparts, students intending to pursue HPNPC careers anticipated an average of US\$24 904 (Year 4 students) or US\$29 237 (Year 1 students) greater debt, placed a higher importance value on income, and anticipated earning an average of US\$58 463 (Year 1 students) and US\$89 909 (Year 4 students) more in annual income after graduation. Debt was associated with the value placed on income in the choice of career and the amount of future income anticipated. Students who valued income highly were especially inclined to switch from PC during medical school. The switch away from PC was associated with debt, as well as with a marked increase in anticipated income.

**CONCLUSIONS** Debt and anticipated income are important concerns which may shape future supplies of PC doctors.

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## INTRODUCTION

The future supply of primary care (PC) doctors is a concern in many parts of the world. For example, recent changes in US health care financing proposed by reform legislation imply a national imperative to increase the numbers of students who choose PC careers.<sup>1,2</sup> Although a variety of factors enter into a medical student's decision to pursue a specific career, recent studies suggest that economic concerns may be playing an increasingly important role.<sup>3,4</sup> The present study explores this issue within a US context.

The income gap between PC doctors and subspecialists in the USA has been increasing since 1979.<sup>3</sup> As Table 1 shows, data from the 2011 Medical Group Management Association (MGMA) report indicate<sup>5</sup> that median incomes of PC doctors in private practice lie in the range of US\$183 000–201 000, whereas those of doctors in non-PC fields range from a low of US\$191 000 in psychiatry to > US\$400 000 in anaesthesiology, nuclear medicine, orthopaedics and radiology. Several studies have cited indications that students are aware of the income disparities between PC doctors and subspecialists,<sup>6</sup> and that anticipated income may influence students' career choices.<sup>7,8</sup> An analysis of National Residency Matching Program data found a direct linkage between residency programme fill rates and specialty salaries, with specialties offering higher average and starting salaries enjoying higher fill rates.<sup>4</sup>

A total of 86% of medical students graduated with some education debt in 2010. The average debt was US\$158 000, but 30% of students had accrued debt exceeding US\$200 000.<sup>9</sup> The literature to date on the impact of student debt on career choice has been mixed, with some studies finding that students with higher debt are more likely to enter higher-paid specialties,<sup>10</sup> and others indicating that debt is not a major factor in career selection.<sup>11,12</sup>

Anaesthesiology, dermatology, internal medicine subspecialties (as a group), nuclear medicine, ophthalmology, orthopaedics, otolaryngology, pathology, plastic surgery, radiology, general surgery and urology are a highly compensated group of specialties as they all provide a median income of > US\$300 000.<sup>5</sup> Although prior studies have analysed the effects of anticipated income and debt on career choice, they have either focused on specific specialties or have compared students entering PC with all others. The current study is unique in that it examines two meaningful groups in which debt loads and views on income have not been compared in prior research.

Table 1 Salary data obtained from the Medical Group Management Association 2011 report based on 2010 data<sup>5</sup>

Specialty	Median income, US\$	Category
Internal medicine-paediatrics	201 125	PC
General internal medicine	197 080	PC
General paediatrics	192 000	PC
Family practice	183 999	PC
Orthopaedics	473 770	HPNPC
Radiology	468 594	HPNPC
Nuclear medicine	468 234	HPNPC
Anaesthesiology	423 657	HPNPC
Plastic surgery	392 812	HPNPC
Urology	390 678	HPNPC
Dermatology	385 088	HPNPC
Otolaryngology	370 534	HPNPC
Pathology	347 958	HPNPC
Ophthalmology	338 208	HPNPC
General surgery	336 084	HPNPC
Internal medicine subspecialties	313 992	HPNPC
Obstetrics and gynaecology	282 645	Neither PC nor HPNPC
Emergency medicine	262 475	Neither PC nor HPNPC
Physical medicine and rehabilitation	241 115	Neither PC nor HPNPC
Neurology	237 918	Neither PC nor HPNPC
Paediatric subspecialties	219 947	Neither PC nor HPNPC
Psychiatry	191 267	Neither PC nor HPNPC
Public health and preventive medicine	–	Neither PC nor HPNPC

PC = primary care; HPNPC = high-paying non-primary care

Specifically, this study compares students who choose to enter PC (general internal medicine, general paediatrics, internal medicine-paediatrics, family medicine) with those who choose to enter one of the 12 specialties listed above, grouped together as the high-paying non-primary care (HPNPC) careers. The research questions driving this study are as follows:

- 1 What are the relationships among debt, income and the choice of a PC versus an HPNPC career?

- 2 Are financial concerns associated with the decision to switch from a PC into an HPNPC career during medical school?

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## METHODS

The present study utilised data from a longitudinal survey of all entering and graduating medical students at two medical schools, New York Medical College and Brody School of Medicine at East Carolina University. The survey was created to better understand factors driving career choices for medical students (Appendix S1, online).

Data collection began in the academic year of 1992/1993. This enabled the collection of data from Year 1 medical students from the class of 1996 onwards and Year 4 medical students from the class of 1993 onwards. Specifically, data were collected from Year 1 students scheduled to graduate between the years of 1996 and 2012 and from Year 4 students graduating between 1993 and 2010. To maximise statistical power, all relevant data collected during the study period (1993–2010) were utilised in the analyses. This research was institutional review board-approved and did not rely on external funding.

Paper-and-pencil surveys were group-administered to Year 1 students at matriculation and Year 4 students shortly before graduation. The dataset included 17 and 18 consecutive years of Year 1 and Year 4 surveys, respectively (response rate = 81%). The Year 1 and Year 4 study samples were 54–55% male and 59–60% White. The average age of respondents was 24 years among Year 1 students and 28 years among Year 4 students. Table 2 provides a detailed breakdown of each sample's demographic characteristics.

The survey instrument presented a variety of demographic and attitudinal items. The items of interest in this study pertained to self-reported debt, anticipated income, self-rated value placed on income and career choice.

### Debt

Respondents were asked whether they anticipated having outstanding educational loans upon graduation from medical school. A negative response equated to US\$0 in anticipated debt. Those answering in the affirmative were asked to estimate the US dollar amount of all educational loans they expected to have accrued.

### Anticipated income

Respondents were asked: 'Please estimate the dollar amount of your annual expected income (in current year dollars) 5 years after completion of residency training.'

### Self-rated value placed on income

Year 1 respondents from the class of 2001 forward and Year 4 respondents from the class of 1998 forward were asked to use a 4-point Likert scale (1 = no influence, 4 = major influence) to self-report the weight or value they placed on three items pertaining to income. These items were presented as follows: 'Considering your choice of specialty, how important is each of the following factors in that decision? (i) Provides an income that will allow me to live comfortably; (ii) Provides an income sufficient to provide adequately for my family, and (iii) Provides an adequate financial reward for the years of training required.' Ratings on the three items were averaged to produce a single score for each respondent, which reflected the importance that person placed on income. As described in Newton *et al.*,<sup>13</sup> factor analyses supported this as a distinct, reliable, unidimensional scale. Cronbach's alpha values exceeded 0.80 for Year 1 and Year 4 respondents, indicating acceptable levels of internal consistency.

### Career choice

Year 1 and Year 4 respondents were asked to report the career specialty they intended to pursue. The specialties shown in Table 1 were presented alphabetically, along with an 'other' option which allowed students to indicate a specialty not included on the list. Respondents endorsing one of the four PC specialties were compared with those endorsing one of the 12 non-PC fields (HPNPC) for which national data show a median income of > US\$300 000.

Data were analysed using SPSS Version 16.0 for Windows (SPSS, Inc., Chicago, IL, USA). Consistent with similar research,<sup>14</sup> parametric tests were used to analyse the Likert-type ratings and other data described above. Analysis of variance (ANOVA) and *t*-tests were used to compare those who did and did not sustain an initial interest in PC over time, and to analyse the data involving comparisons between those intending to pursue PC versus HPNPC careers at Year 1 and Year 4. Pearson product-moment correlation coefficients (*r*) and *R*<sup>2</sup> values were computed to investigate associations between pairs of continuous variables (e.g. debt and anticipated income). One-

Table 2 Demographic data for the study sample

	Year 1 students			Year 4 students		
	PC	HPNPC	Total	PC	HPNPC	Total
Age, years, mean (SD)	24.64 (4.32)	24.03 (2.46)	24.36 (3.59)	28.46 (3.75)	27.97 (2.67)	28.19 (3.19)
Total, <i>n</i>	1417	1222	2639	987	1290	2277
Sex, <i>n</i> (%)						
Female	777 (55)	414 (34)	1191 (45)	551 (57)	484 (37)	1035 (46)
Male	647 (45)	807 (66)	1454 (55)	419 (43)	807 (63)	1226 (54)
Total, <i>n</i>	1424	1221	2645	970	1291	2261
Ethnicity, <i>n</i> (%)						
African-American	117 (8)	78 (6)	195 (7)	67 (7)	68 (5)	135 (6)
White	901 (63)	670 (54)	1571 (59)	598 (61)	781 (60)	1379 (60)
American Indian or Alaskan Native	16 (1)	9 (1)	25 (1)	17 (2)	9 (1)	26 (1)
Asian or Pacific Islander	303 (21)	386 (31)	689 (26)	239 (24)	355 (27)	594 (26)
Hispanic	46 (3)	27 (2)	73 (3)	28 (3)	23 (2)	51 (2)
Other	48 (3)	66 (5)	114 (4)	37 (4)	74 (6)	111 (5)
Total, <i>n</i>	1431	1236	2667	986	1310	2296

Percentages are based on column totals

PC = primary care; HPNPC = high-paying non-primary care; SD = standard deviation

tailed tests were conducted when differences and associations in a particular direction were expected in advance. Missing data were treated as absent (i.e. not imputed). Thus, sample size varied across analyses as a result of item non-response and because some of the relevant items (e.g. 'self-rated value placed on income') were added to the survey instrument several years after data collection had begun.

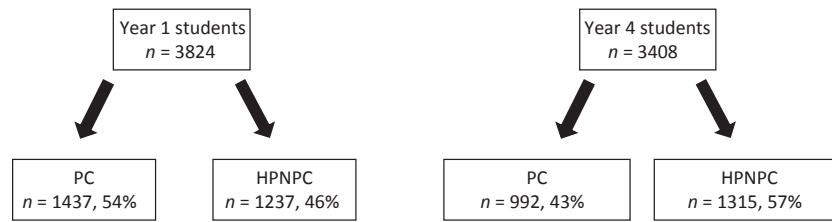
## RESULTS

### What are the relationships among debt, income and the choice of a PC versus an HPNPC career?

The first set of analyses focused on the relationships among debt, income and career choice, as shown in Fig. 1. The Year 1 dataset ( $n = 3824$ ) was restricted to the 2674 students choosing either a PC ( $n = 1437$ , 54%) or an HPNPC ( $n = 1237$ , 46%) career. Year 1 analyses involving the self-rated value placed on income were based on a subset of this larger sample drawn from the classes of 2001–2012 ( $n = 1903$ ). Consistent with the mean trends shown in Table 3, *t*-tests indicated that Year 1 students intending to pursue HPNPC careers anticipated significantly

greater debt than did those intending to pursue PC careers ( $p < 0.001$ ). They also placed more weight or value on income ( $p < 0.001$ ) and anticipated higher income after graduation ( $p < 0.001$ ) than did those pursuing PC careers. Correlational analyses indicated that Year 1 students with greater debt anticipated higher income after graduation ( $r = 0.16$ ,  $R^2 = 0.03$ ,  $p < 0.001$ ) and placed greater value on income ( $r = 0.11$ ,  $R^2 = 0.01$ ,  $p < 0.001$ ) compared with those with less debt. As expected, Year 1 students who placed greater value on income anticipated higher income after graduation ( $r = 0.28$ ,  $R^2 = 0.08$ ,  $p < 0.001$ ).

Next, the analyses reported above were repeated for Year 4 students. The Year 4 dataset ( $n = 3408$ ) was restricted to the 2307 students choosing either a PC ( $n = 992$ , 43%) or an HPNPC ( $n = 1315$ , 57%) career (Fig. 1). Year 4 analyses involving the self-rated value placed on income were based on a subset of this larger sample drawn from the classes of 1998–2010 ( $n = 1753$ ). As suggested in Table 3, the pattern of *t*-test results at Year 4 was identical to that found within the Year 1 sample. Again, students intending to pursue HPNPC careers anticipated significantly greater debt ( $p < 0.001$ ), placed significantly more



**Figure 1** Flow chart of data included in the first set of analyses examining the relationships among debt, income and career choice. PC = primary care; HPNPC = high-paying non-primary care

Table 3 Comparisons across respondents aspiring to primary care (PC) and high-paying non-primary care (HPNPC) careers

Dependent variable	Year of study	PC		HPNPC		p-value
		Mean (SD)	n*	Mean (SD)	n*	
Anticipated debt, US\$	1	92 442 (72 411)	1386	121 679 (88 163)	1205	< 0.001
	4	91 753 (71 026)	974	116 657 (86 591)	1284	< 0.001
Anticipated income, US\$	1	113 614 (44 106)	1238	172 077 (90 611)	1101	< 0.001
	4	126 623 (54 496)	946	216 532 (100 992)	1244	< 0.001
Self-rated value of income <sup>†</sup>	1	2.55 (0.75)	934	2.99 (0.72)	969	< 0.001
	4	2.45 (0.73)	707	3.04 (0.72)	1046	< 0.001

\* Sample sizes (n) vary across dependent variables as a result of item non-response and because some of the relevant items were added to the survey instrument several years after data collection had begun

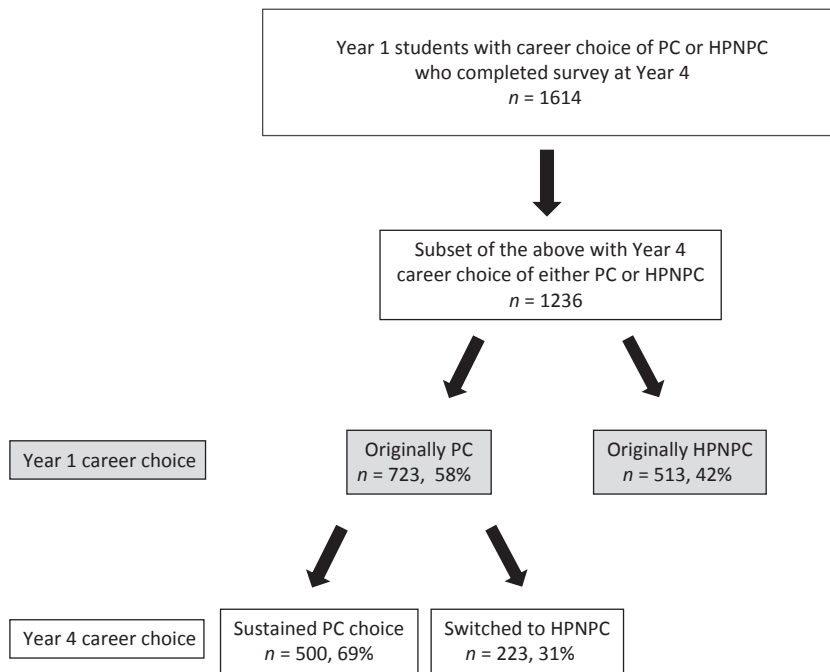
<sup>†</sup> Respondents used a 4-point Likert scale (1 = no influence, 4 = major influence) to self-report the weight they placed on income-related considerations when choosing a specialty  
SD = standard deviation

value on income ( $p < 0.001$ ), and anticipated higher income after graduation ( $p < 0.001$ ) than did those opting for PC careers. Year 4 students with greater debt anticipated higher income after graduation ( $r = 0.17$ ,  $R^2 = 0.03$ ,  $p < 0.001$ ) and placed greater value on income ( $r = 0.07$ ,  $R^2 = 0.005$ ,  $p < 0.01$ ) than did those with less debt. Finally, Year 4 students who placed greater value on income anticipated higher income after graduation ( $r = 0.37$ ,  $R^2 = 0.14$ ,  $p < 0.001$ ).

**Are financial concerns associated with the decision to switch from PC into HPNPC careers during medical school?**

The second set of analyses examined the factors associated with the decision to switch from PC into one of the HPNPC careers. These analyses involved the examination of trends over time and were based only on those students who completed surveys at both Year 1 and Year 4. Data from the graduating classes of 1996–2010 were examined. As Fig. 2 shows, 1614 of

the respondents who opted for a PC or HPNPC career in Year 1 also completed a survey indicating career choice at Year 4. Of these 1614 respondents, 1236 indicated an interest in either PC or HPNPC careers at Year 4. Of these 1236 respondents, 723 (58%) had indicated plans to pursue PC at Year 1, and the remaining 513 (42%) had indicated plans to pursue HPNPC careers at Year 1. Of the 723 respondents intending to pursue PC at Year 1, 223 (31%) decided to switch into an HPNPC career by Year 4. Table 4 indicates the average debt and income anticipated by students who decided to switch to an HPNPC career ('switchers') relative to their peers whose PC interest persisted over time ('sustainers'). The self-rated value each group placed on income is also shown, along with the levels of significance (p-values) resulting from the t-test analyses. Sample size varied across these analyses on account of item non-response and because the items asking respondents to rate the importance of income in their career choice were added to the survey instrument several years after data collection had begun.



**Figure 2** Flow chart of data included in the second set of analyses examining the relationships among debt, income and switching from a primary care (PC) to a high-paying non-primary care (HPNPC) career (paired data)

When asked about financial obligations at Year 4, switchers anticipated significantly ( $p < 0.05$ ) more debt than did sustainers (Table 4), suggesting that debt may play a role in the decision to migrate away from PC. Year 4 students who switched out of PC and into HPNPC careers were also more likely than those who remained in PC to report that income was an important factor in their career choice. Switchers and

sustainers placed a similar value on income at Year 1, during the time in which both groups intended to pursue PC. However, at Year 4, a difference between the two groups of students emerged, with respondents who switched away from PC now placing greater weight on income than they did at Year 1. To examine the significance of this trend, a  $2 \times 2$  mixed-model ANOVA was conducted, with year in school

Table 4 Comparisons between switchers' and non-switchers' survey responses in Years 1 and 4

Dependent variable	Year of study	Did not switch from PC		Switched from PC into HPNPC		p-value
		Mean (SD)	n*	Mean (SD)	n*	
Anticipated debt, US\$	1	85 139 (71 045)	487	91 375 (73 889)	215	NS
	4	93 743 (70 450)	492	104 115 (76 434)	218	0.04
Anticipated income, US\$	1	104 805 (36 901)	435	119 852 (43 351)	182	< 0.001
	4	125 476 (47 151)	479	195 005 (76 944)	214	< 0.001
Self-rated value of income <sup>†</sup>	1	2.51 (0.77)	284	2.52 (0.77)	131	NS
	4	2.43 (0.77)	284	2.85 (0.72)	132	< 0.001

\* Sample sizes (n) vary across dependent variables as a result of item non-response and because some of the relevant items were added to the survey instrument several years after data collection had begun

<sup>†</sup> Respondents used a 4-point Likert scale (1 = no influence, 4 = major influence) to self-report the weight they placed on income-related considerations when choosing a specialty

PC = primary care; HPNPC = high-paying non-primary care; SD = standard deviation; NS = not significant

(Year 1 versus Year 4) as the within-subjects factor and switch status (stayed in PC versus switched to HPNPC) as the between-subjects factor. A significant ( $p < 0.001$ ) interaction confirmed that those who switched away from PC developed a heightened interest in income over time, which their counterparts who remained with PC did not experience. In fact, a follow-up paired-samples *t*-test indicated that the average weight that sustainers placed on income at Year 4 was significantly *lower* than at Year 1 ( $p < 0.05$ ).

Table 4 also shows the income anticipated by students who did and did not switch out of PC. On average, switching out of PC and into one of the 12 HPNPC careers meant a US\$75 153 increase in anticipated income, whereas students whose aspirations remained within PC anticipated earning an average of only US\$20 671 more at Year 4 than they did at Year 1. To examine the significance of this trend, a  $2 \times 2$  mixed-model ANOVA was conducted as before, except that anticipated income was now analysed as the outcome variable. A significant ( $p < 0.001$ ) interaction confirmed that switching from PC was reliably associated with an increase in anticipated income over time that was much greater than would have occurred had students remained within PC.

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## DISCUSSION

Along with the current first steps toward implementing health care reform in the USA comes increasing recognition that improved health care access will not only highlight but exacerbate the US shortage of primary doctors.<sup>1</sup> For cost-effective, high-quality health care, the best places to provide most patient health care access are the offices of family doctors, general internists and PC paediatricians.<sup>2</sup> As health care reform in Massachusetts has demonstrated, more of these services will be needed.<sup>15</sup> So why are so few US medical students choosing careers in PC? Many factors go into each individual student's decision,<sup>16</sup> but increasingly major considerations are lifestyle and money.<sup>17</sup> To look at the possible influence of money on that decision, we framed our first research question to address the relationships among debt, income and career choices in several different ways.

Our results, not surprisingly, found that money really does matter. Whether its impact is analysed as that of anticipated debt, anticipated income or according to the self-rated importance of income, in each instance

higher values on the outcome variables studied were associated with the choice of a high-paying career rather than one in the lower-paying PC fields. The associations between career choice, anticipated income and self-rated importance of income were particularly strong. This relationship between monetary issues and career choice is supported by responses to our second research question and the subgroup analysis of data for students who switched from PC careers to higher-paying alternatives. Compared with their peers who sustained PC career goals, those who switched to HPNPC career goals anticipated more debt and attached greater value to income. Moreover, the decision to switch was associated with a marked increase in income expectations of an average of US\$75 153.

Although they placed relatively less weight on income than did their HPNPC counterparts, Year 1 students interested in PC were not altogether devoid of income concerns. An internal tension may therefore develop as medical students become increasingly aware of the income disparities among specialties during their progress through medical school. In effect, the initial value placed on income can conflict with growing awareness that one has freely chosen to pursue a PC specialty over more lucrative alternatives. This has the potential to produce an aversive state of perceived inconsistency known as 'cognitive dissonance'.<sup>18</sup> A well-established body of literature in psychology demonstrates that people are motivated to reduce such dissonance caused by conflicting cognitions.<sup>19</sup> For students who simultaneously value income and PC as a career choice, at least two possible courses of action to reduce dissonance are available. The students can: (i) switch to a more lucrative specialty, or (ii) rationalise their career decisions by convincing themselves that income is less important than they originally believed. In this study, 31% of the students initially aspiring to PC switched to an HPNPC career, perhaps following the first course of action. Alternatively, the 'sustainers' appear to have followed the second course, as evidenced by the lower average value they placed on income at Year 4 compared with Year 1. This attitudinal shift is consistent with psychological theory, which indicates that people often modify their attitudes in order to reduce cognitive dissonance.<sup>20</sup> In short, this study's pattern of results suggests that students with higher debt may be more likely to reduce dissonance (and debt) by switching to an HPNPC career. Meanwhile, their peers with lower debt may have the 'luxury' of being able to mentally downgrade the importance of income when they are confronted with the realities of pay disparities among medical specialties. It should

be acknowledged, however, that although cognitive dissonance is a potential explanation for the pattern of results uncovered, other explanations are also possible, as the present study was not designed to test cognitive dissonance theory directly. Future research explicitly examining this issue would be informative.

Research prior to this study has also examined debt, albeit in a slightly different way. For example, one investigation<sup>21</sup> looked at career choices by medical students within the general realm of internal medicine. Many students reported a switch to a career choice with a higher income over the course of their medical school years. That study did not find an association between student debt and the sustaining of internal medicine interest or switching of careers. However, neither did it capture data specific to future subspecialty choice. This is important because within the realm of internal medicine, some subspecialties have the potential for providing higher incomes than are available in other subspecialties and general internal medicine, which limits how these data can be interpreted.

The methods employed in the current study help to clarify the role of debt. The relatively small  $R^2$ -values and group differences (e.g. the US\$25 000 difference in debt anticipated by Year 4 students intending to pursue HPNPC versus PC careers) should be noted. Clearly, debt is not the only reason why medical students value income, choose HPNPC careers and aspire to earn high salaries. However, it does play a reliable role, significantly predicting various outcomes of interest. Given the large numbers of medical students matriculating and choosing career specialties every year, even a modest effect could translate into non-trivial outcomes.

In short, although the influence of debt should not be overemphasised, it should be duly noted in order to augment what is known about medical student career choice. Many students accrue education-related debt during the course of medical school. This has implications. Overall, in the current study debt loads were found to be reliably associated with some very important outcomes. They differentiated students who decided to pursue PC versus HPNPC careers, with the latter group anticipating significantly higher debt. In addition, debt was significantly related to: (i) how much weight students placed on income when selecting a career specialty, and (ii) how much money they expected to earn 5 years after the completion of residency training. In Year 4 students, the relationship of debt with the propensity to switch from PC

into a higher-paying specialty warrants particular attention.

DeZee *et al.*<sup>22</sup> structured a recent study to query students with military obligations who chose non-PC careers about financial incentives that might induce the choice of a PC career. They found that 30% of respondents would have chosen a PC career for a median incentive payment of US\$27 500 and 41% would make that same choice for a median military salary of US\$175 000. This provides additional supporting evidence that it is not just career characteristics, but also money that matters when deciding which medical specialty to pursue.

The current study has several limitations that should be noted. It was designed to investigate the impact of debt and income on career choice within the USA. Given the marked variability in health care education, practice and remuneration across countries, the findings may not be applicable to other settings. Our study is limited to data sourced from only two schools within the USA. However, a prior analysis showed that the student characteristics of our combined sample are similar to those of the national body of students.<sup>23</sup> The longitudinal nature of the study allowed for a large sample size and an analysis of students whose career aspirations changed over time.

It should also be acknowledged that the present study focused solely on factors related to debt and income and did not attempt to include all possible career choice influences. The study also queried career choice, which may differ from career attainment for an assortment of reasons. In addition, the correlational design precludes causal interpretations and the longitudinal nature of the study limits the interpretation of absolute dollar figures. The data reported are not corrected for inflation or changes in mean salaries by specialty over the years. This should not change our conclusions, however, as incomes in the HPNPC specialties have only disproportionately increased relative to those in PC in recent years.<sup>3</sup>

Although many factors influence career choice, money is a significant concern. Medical students in the USA are graduating with increasing levels of debt<sup>24</sup> and debt load appears to be pushing students toward higher-paying careers.<sup>25</sup> Some of the elements in the new federal US Affordable Care Act have the potential to increase reimbursement to PC doctors, at least in the short-term. Long-term legislative solutions may have to include more substantial corrections of specialty-specific income expectations and forgiveness of debts for those entering PC careers.



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**Ethical approval:** this research was approved by the Institutional Review Boards of New York Medical College and Brody School of Medicine.

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## SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article.

### Appendix S1. Factors in career specialty choices.

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