

## The Relationship Between Physician Education Debt and Income

### Highlights

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- Both annual income and education debt of new physicians increased between 2008 and 2017.
- The average debt-to-income ratio was higher among primary care physicians than internal medicine subspecialists and surgical subspecialists.
- The average debt-to-income ratio was higher among new female physicians compared to male physicians.
- In most years examined, Asian physicians had the lowest debt-to-income ratio compared to physicians from other racial/ethnic groups.

### Background

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Education debt continues to increase, having more than doubled over the past 2 decades among bachelor's degree recipients.<sup>1</sup> Physicians are not immune to growing education debt.<sup>2</sup> While a number of studies have examined the growing education debt of new physicians, few have considered it in relationship to income.<sup>3-6</sup> One study that does consider a physician's income in relationship to their debt, suggests that physicians with lower incomes should still be able to pay off their loans, but they may have fewer discretionary funds available as a result.<sup>7</sup> Another report also acknowledges that education debt is more problematic for physicians with lower incomes.<sup>4</sup> Essentially, the impact of education debt on a physician's lifestyle may vary greatly by their income level. Physicians with fewer available funds may have more difficulty affording a new home or car, starting a family, and negotiating other major life events.<sup>8</sup> Ultimately, experiences like these may discourage future generations of students from choosing medicine as a career. The main purpose of this study is to understand what demographic and educational factors may affect the relationship between a physician's education debt and income.

### Methods

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The primary data source for this brief is responses to the New York Resident Exit Survey between 2008 and 2017. This annual survey of physicians completing residency or fellowship training in New York has been

conducted since 1998 and has an annual response rate of approximately 60%. The survey includes a number of questions about the respondent, including demographic and education, as well as their experiences searching for a practice position and the characteristics of their first job after having completed their graduate medical training. Data on starting salary and education debt have been collected since the survey began in 1998.

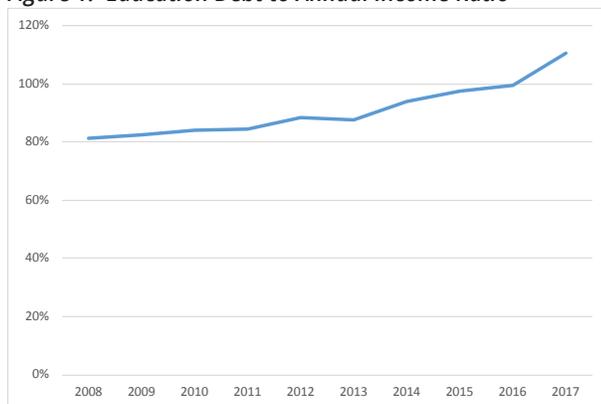
The analysis is restricted to US citizens (native born and naturalized) with confirmed practice plans. Non-citizens are excluded because many of them receive financial assistance for their education from their home countries, and they may choose to practice in another country making salary comparisons difficult. The analysis focuses on 6 variables: annual income, education debt, race/ethnicity, gender, education type (MD and DO) and specialty (Primary Care, Ob/Gyn, Internal Medicine Specialties, General Surgery, Surgical Subspecialties, Facility Based, Psychiatry and Other). The ratio of education debt to annual income (written as "debt-to-income ratio" below) is calculated by dividing a physician's education debt by their annual income. The ratio is used to demonstrate how the relationship between education debt and income relates to demographic and educational factors. The ratio is expressed as a percentage in the findings.

## Findings

### Both annual income and education debt of new physicians increased between 2008 and 2017.

Education debt, however, increased at a faster pace. In 2008, on average a new physician's education debt was 81% of their annual income, while in 2017, the average education debt of new physicians was more than 110% of their annual income. Furthermore, in 2017, the average education debt of new physicians was greater than average annual income for the first time since the exit survey began.

Figure 1. Education Debt to Annual Income Ratio

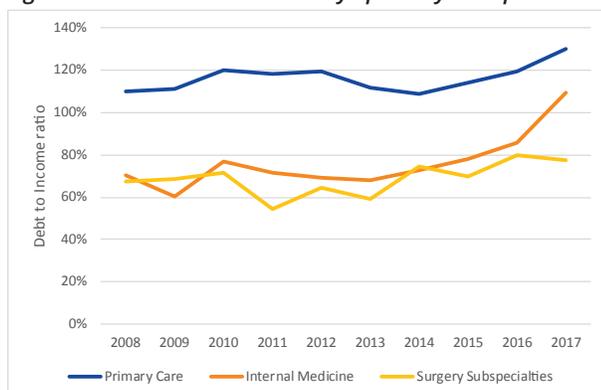


### Specialty

#### The average debt-to-income ratio was higher among primary care physicians than internal medicine subspecialists and surgical subspecialists.

Overall, the debt-to-income ratio was similar for internal medicine subspecialists and surgical subspecialists. However, in 2016 the ratio began increasing faster for internal medicine subspecialists compared to surgical subspecialists.

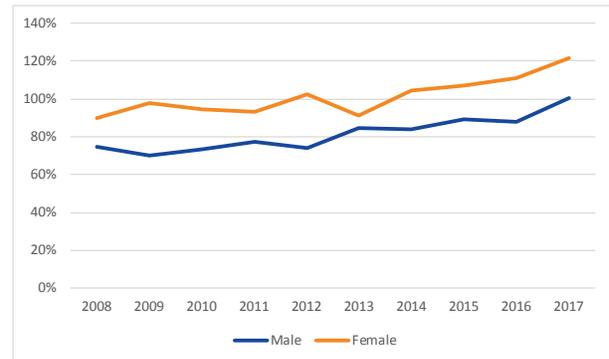
Figure 2. Debt-to-income Ratio by Specialty Group



### Gender

The average debt-to-income ratio was higher among new female physicians compared to male physicians. This relationship has persisted over time and can be primarily attributed to male physicians' higher starting income.<sup>9</sup>

Figure 3. Debt-to-income Ratio by Gender



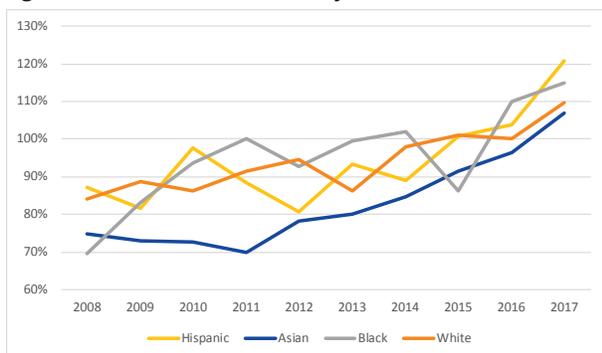
### Race/Ethnicity

In most years examined, Asian physicians had the lowest debt-to-income ratio compared to physicians from other racial/ethnic groups.

Partial explanations for this finding include: Asian students often have greater economic support from their families and Asian households on average have higher incomes than other groups;<sup>10, 11</sup> many Asian students are from immigrant families who tend to be less comfortable with the American norm of taking out education loans;<sup>12</sup> and Asian students tend to finish their degree programs more quickly than other students.<sup>13</sup> Our analysis of education debt and income finds that historically, Asian respondents tend to have lower education debt and higher starting incomes than most other new physicians.

Members of all racial/ethnic groups experienced growth in average education debt-to-income ratios over the period examined.

**Figure 4. Debt-to-income Ratio by Race<sup>a,b</sup>**

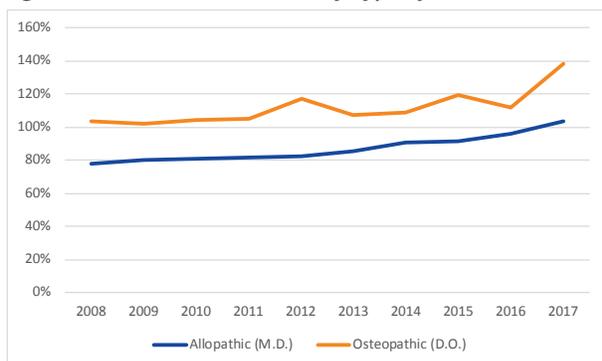


<sup>a</sup> American/Indian Alaskan Native are not displayed due to insufficient data.

<sup>b</sup> A multi-level regression model (with year as a random intercept) using the debt-to-income ratio as the dependent variable and specialty, race/ethnicity, gender, and type of medical education as independent variables indicated that gender, race-ethnicity, specialty, and type of medical education were statistically significant.

Physicians with allopathic medical school education had lower debt-to-income ratios than those who graduated from osteopathic medical schools. This is primarily due to greater education debt among osteopathic medical school graduates. Osteopathic medical schools tend to be private and generally cost more to attend.<sup>14,15</sup> On average, the education debt of osteopathic medical school graduates is about 25% higher than that of allopathic medical school graduates.

**Figure 5. Debt-to-income Ratio by Type of Education**



## Discussion

Financial burdens of new physicians are increasing because of rising education debt. In 2017, the average education debt of new physicians surpassed their average annual income for the first time since the exit survey has been conducted. This study demonstrated that several demographic and educational factors also impact the relationship between a physician's education debt and income. Female physicians, primary care physicians, and osteopathic medical school graduates have greater debt-to-income ratios and, thus, are less likely to have funds available for mortgages and lifestyle amenities relative to other physicians.

While there are federal and state-based loan repayment programs available to physicians, the problem of education debt persists. With changes proposed to federal education loan policy<sup>16</sup> and recent efforts offering tuition-free medical education,<sup>17</sup> the nuances of how the education debt burden is experienced by different groups of new physicians are important to keep in mind as policy discussions among academic institutions, policy makers, and other key stake holders continue. Effective policy to encourage the next generation of physicians to meet US healthcare needs is paramount.



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Established in 1996, CHWS is an academic research center based at the School of Public Health, University at Albany, State University of New York (SUNY). The mission of CHWS is to provide timely, accurate data and conduct policy relevant research about the health workforce. The research conducted by CHWS supports and promotes health workforce planning and policymaking at local, regional, state, and national levels.