A Closer Look at the Relationship between Education Debt and Income among New Physicians

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Center for Health Workforce Studies

- The Center for Health Workforce Studies (CHWS) was established in 1996

- Mission: To provide timely, accurate information and conduct policy-relevant research about the health workforce

- Goal: To assist health, professional, and educational organizations, policy makers, and other stakeholders to understand issues related to the supply, demand, distribution, and the use of health workers

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Background and Purpose of Study

- While a number of studies have examined the education debt of new physicians, few have considered it in relationship to income

- The impact of education debt on a new physician's lifestyle may vary greatly by their income level

- This study examines the relationship between a new physician's education debt and income over the last ten years, and investigates how this relationship varies by demographic and educational characteristics

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Data Source for Study

- New York Resident Exit Survey from 2008 to 2017

- Only U.S. citizens with confirmed practice plans are included in the study
  - Non-citizens are excluded because many of them have financial assistance from their home countries

- Total: 6,485 records

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Contents of NY Resident Exit Survey

- Background
  - Gender, race, marital status, high school location, etc.

- Medical Education and Training
  - Level of education debt, type of medical education (MD or DO), specialty, etc.

- Future Plans
  - Have actively searched for a job (yes/no), importance of job characteristics, etc.

- Practice Plans
  - Income, practice settings, location of principle practice, etc.

- Job Market Experiences
  - Number of job offers received, difficulty finding a job (yes/no), etc.

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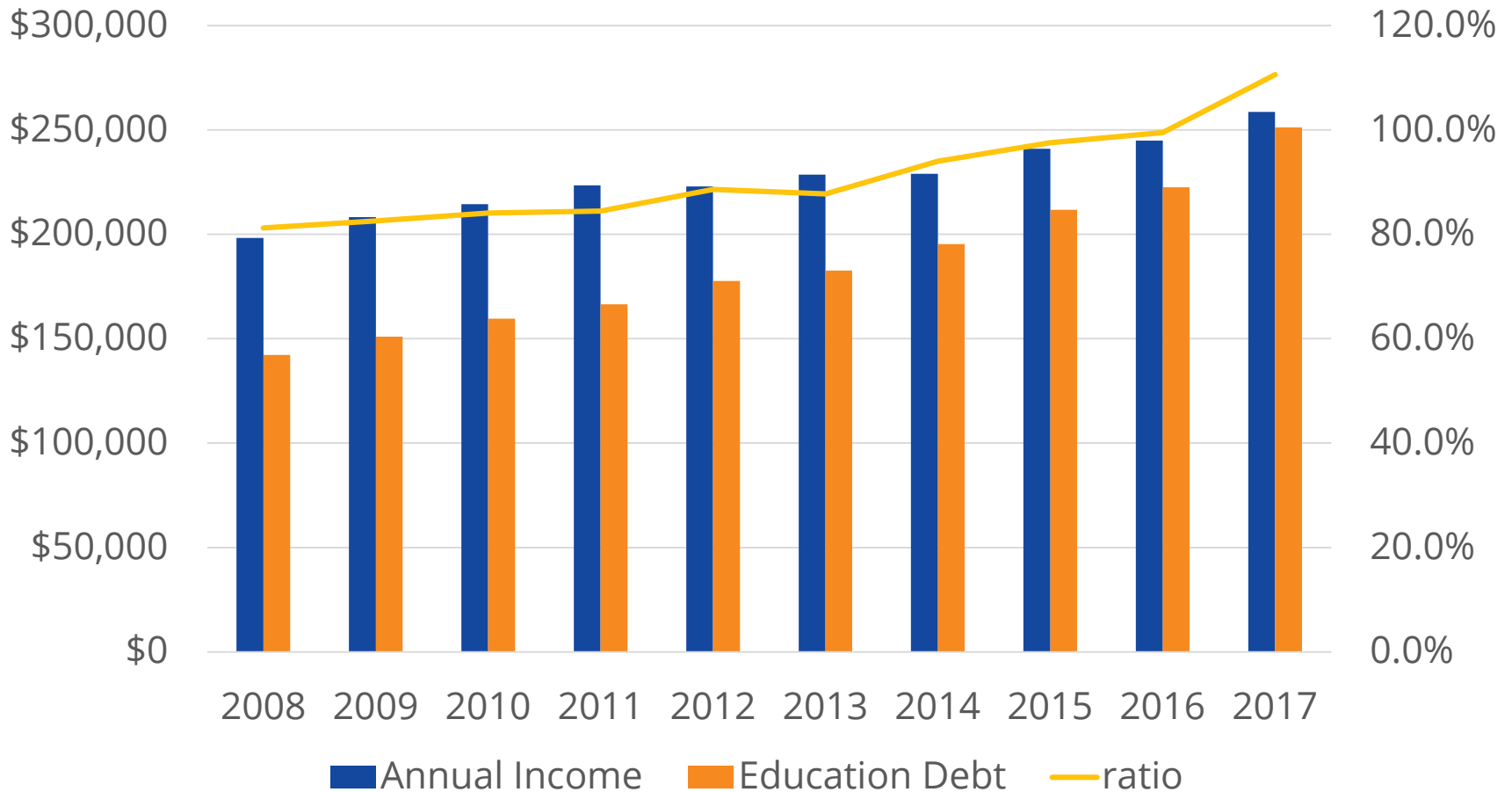Center *for* Health Workforce Studies

Methods

- A ratio of education debt to annual income was calculated by dividing a physician's education debt by their annual income
  - The ratio is used to demonstrate the relationship between debt and income

- Four demographic and educational factors are examined in this study:
  - Specialty group: primary care, internal medicine subspecialties, and surgical subspecialties
  - Gender: female and male
  - Race/Ethnicity: Asian, Black/African American, Hispanic, White, and Other
  - Education type: allopathic (MD) and osteopathic (DO)

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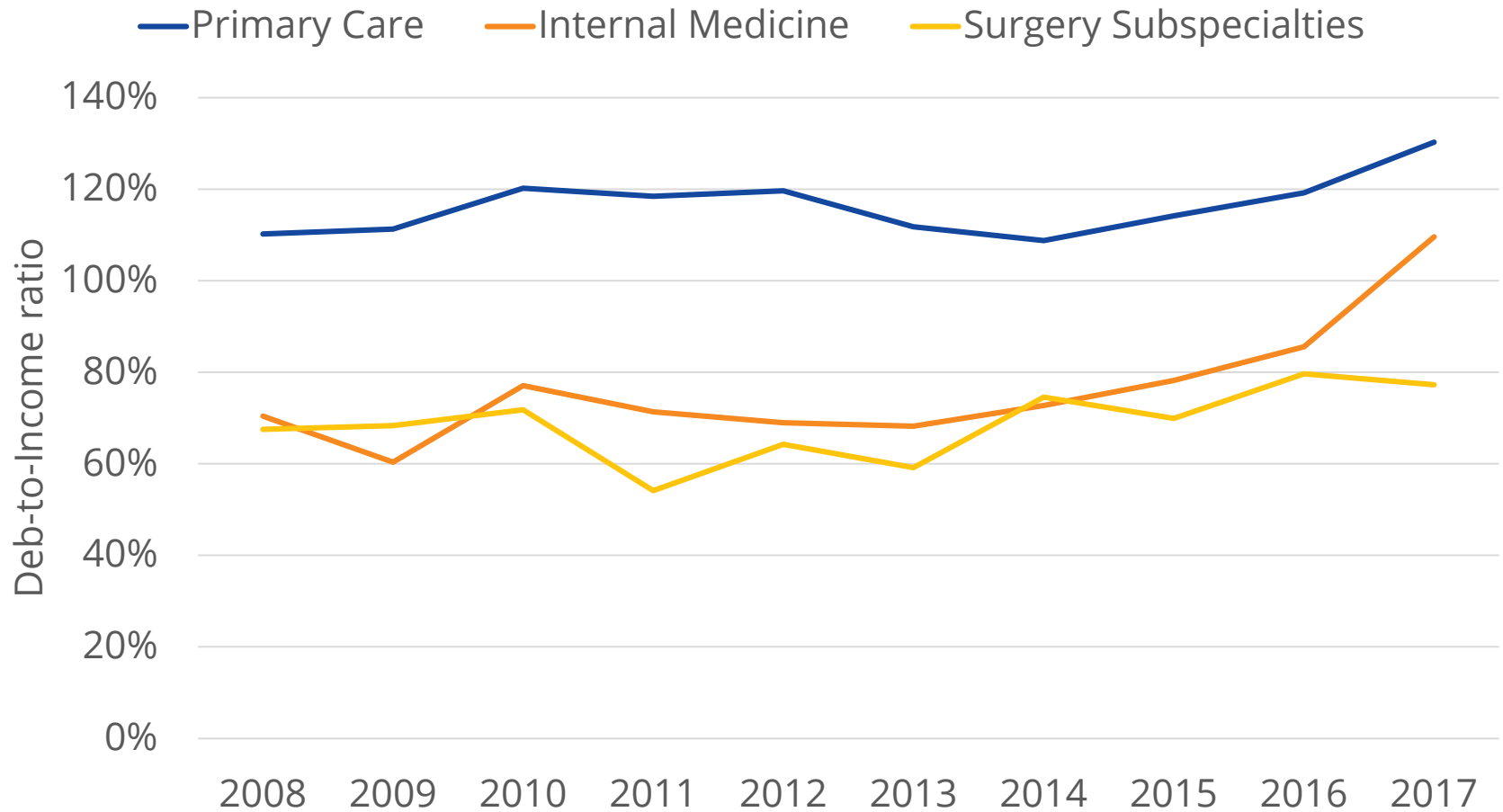Center for Health Workforce Studies

Methods

- A trend analysis was performed to demonstrate the relationship between education debt and income over the last 10 years

- A bivariate analysis was performed to investigate the relationships between the debt-to-income ratio and each of the four demographic and educational variables

- A multilevel linear regression (using 'year' as a random intercept) on debt-to-income ratio was performed for all educational and demographic variables, as well as some control variables
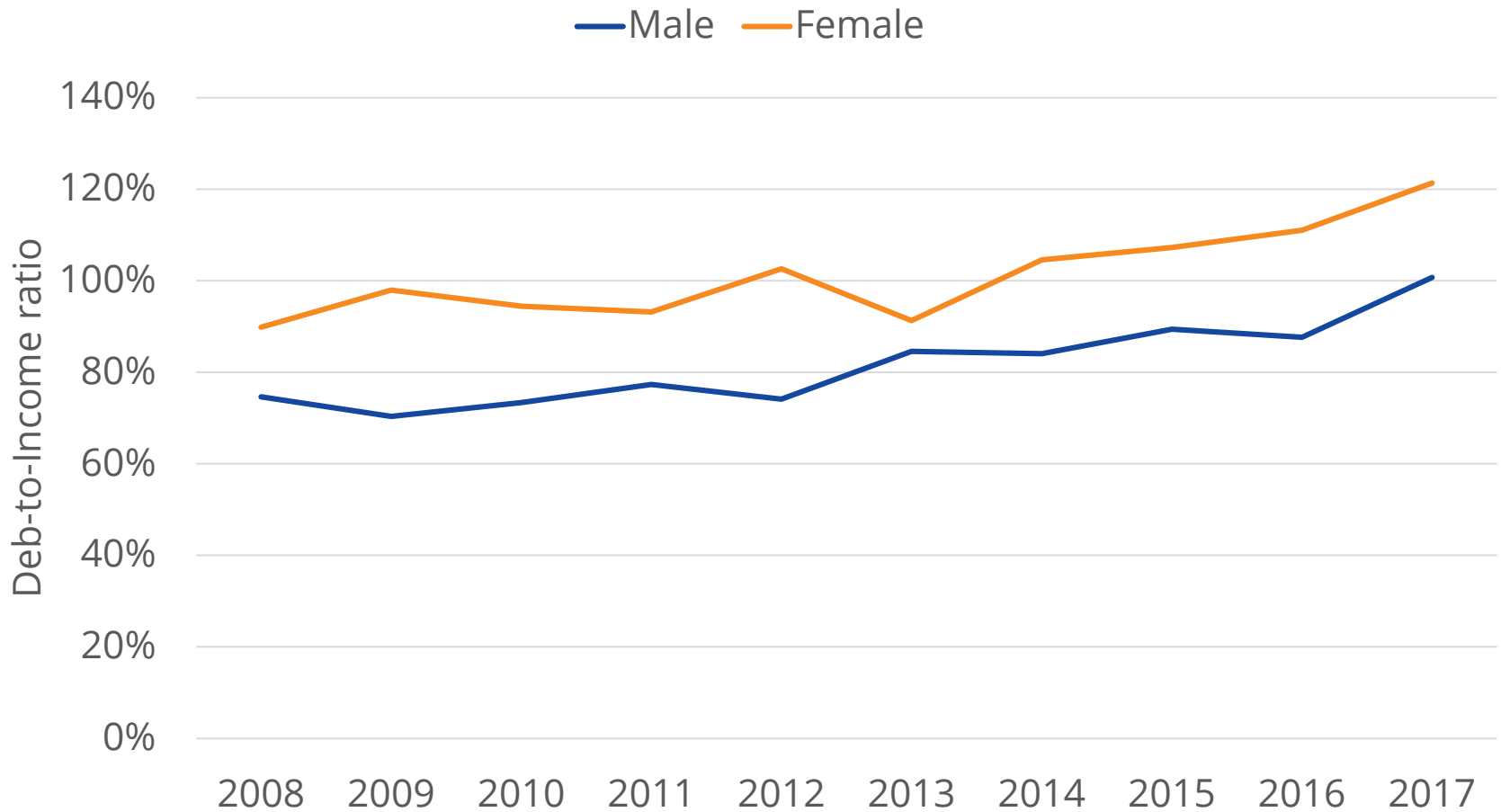
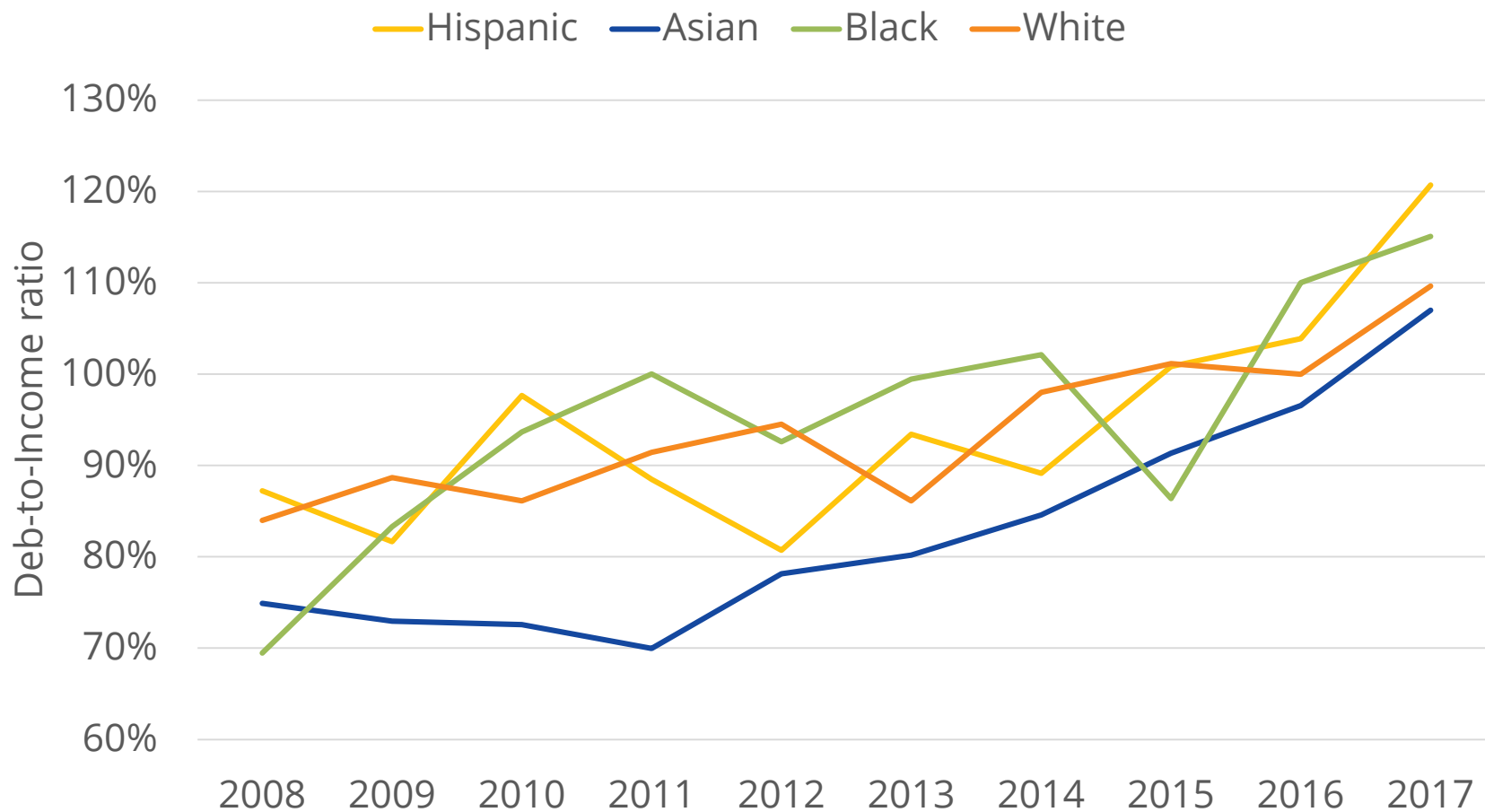# Trend of Education Debt, Annual Income and Debt-to-income Ratio, 2008-2017

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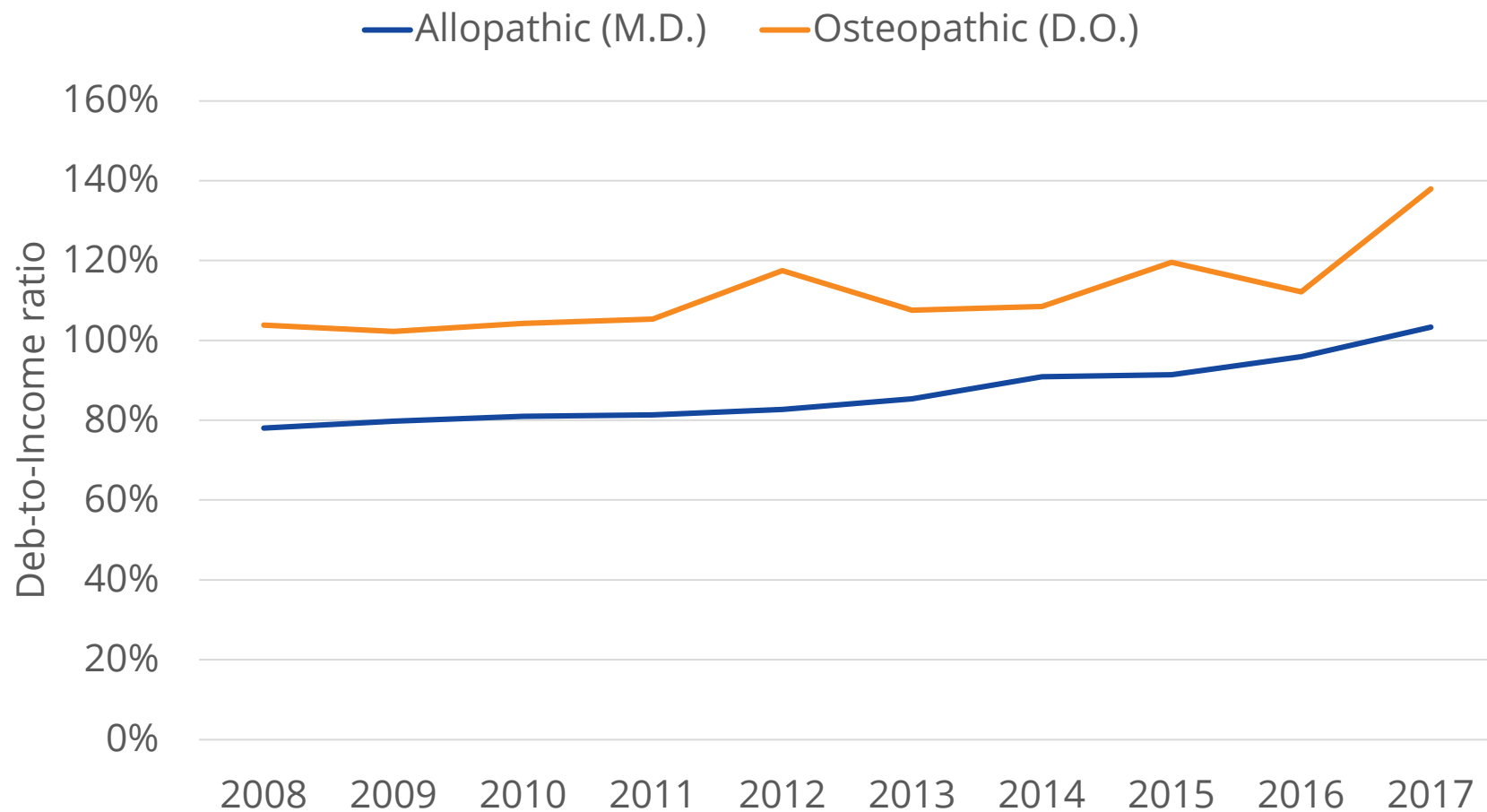
Debt-to-income Ratio by Specialty Group

Debt-to-income Ratio by Gender

10

Debt-to-income Ratio by Race/Ethnicity

Legend: Hispanic — Asian — Black — White

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Debt-to-income Ratio by Education Type

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Control Variables for Regression Analysis

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Results from Debt-to-Income Regression Model

	Estimate	t	Sig.
Hispanic	-0.00499	-0.15945	0.873324
Asian	-0.13542	-7.12529	1.18E-12
Black/African American	-0.01944	-0.60177	0.547357
Other Race	-0.06215	-1.84808	0.064649
Female	0.162506	10.00117	2.46E-23
Osteopathic	0.232508	10.09989	9.21E-24
Internal Medicine Specialties	-0.33744	-12.8835	2.11E-37
Surgical Specialties	-0.38688	-11.2467	5.24E-29
Other Specialties	-0.29255	-14.5569	4.53E-47

- Reference Category: White male physicians in primary care with MD degree

- Hispanic, Black/African American, and Other Race are not significant (P>0.05)

- Results are consistent with findings from bivariate analysis

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Key Findings

- Both income and education debt grew for new physicians between 2008 and 2017, but education debt grew at a faster pace

- In 2017, the average education debt of new physicians passed their average annual income for the first time since the Exit survey has been conducted

- The debt-to-income ratio was higher for primary care physicians than for non-primary care physicians, mainly because primary care physicians' annual income was about 40% lower

Key Findings

- Female physicians also had higher debt-to-income ratios than male physicians, mainly because male physicians' annual income was about 20% higher

- Asian physicians had the lowest debt-to-income ratio, mainly because they had more financial support from their families and they finished school faster

- DOs had higher debt-to-income ratios than MDs, mainly because DOs' education debt was about 25% higher

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Implications

- The financial burdens of new physicians are increasing because of rising education debt

- The financial burden is more problematic for female physicians, primary care physicians, and DOs

- Measures should be taken to reduce medical students' education debt

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Questions?

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