



Physician Race/Ethnicity as a Factor in HPSA Practice

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Methods



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Data Sources: Physician Data

- **Source:**
 - ◆ Year-end AMA Masterfile (2000)
- **Targeted Population:**
 - ◆ Patient care physicians
 - ◆ Practicing in office-based or hospital-based settings
 - ◆ Non-Military
 - ◆ Graduated medical school after 1940
 - ◆ Completed residency training prior by 1999



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Data Sources: Physician Data

- Physician Characteristics:
 - ◆ *Race/Ethnicity* (African American, Asian, Native American, White, Other, Hispanic)
 - ◆ *Gender* (Male, Female)
 - ◆ *Location of medical school* (US/CA, Abroad)
 - ◆ *Specialty* (General Practice, Family Practice, OB/GYN, General Internal Medicine, General Pediatrics, Psychiatry, General Surgery, Med/Peds, All other)
 - ◆ *Years in practice* (Calculated)
 - ◆ *Practice address*



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Data Sources: Physician Data

- Data Processing:
 - ◆ Practice address identification process
 - ◆ Geocoding process
 - ◆ Missing race/ethnicity data analysis



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Data Sources: HPSA Data

- Source:
 - ◆ Division of Shortage Designation
- HPSAs Targeted
 - ◆ All geographic and special population HPSA designations considered
 - ◆ As of June 2001
 - ◆ Metropolitan and Non-metropolitan distinction (OMB)



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Data Sources: HPSA Data

- Data Processing:
 - ◆ Created boundary files based on DSD HPSA designations
 - ◆ Overlaid geocoded physician address data on boundary files
 - ◆ Physician addresses that fell within the boundaries of a HPSA were coded as Metro or Non-Metro



Data Analysis

- Illustrative cross-tabulations to point out differences in practice within metro and non-metro HPSAs across a variety of physician subgroups
- Logistic regression modeling to estimate the likelihood of practicing in a metro or non-metro HPSA across race/ethnicity groups controlling for the other variables considered



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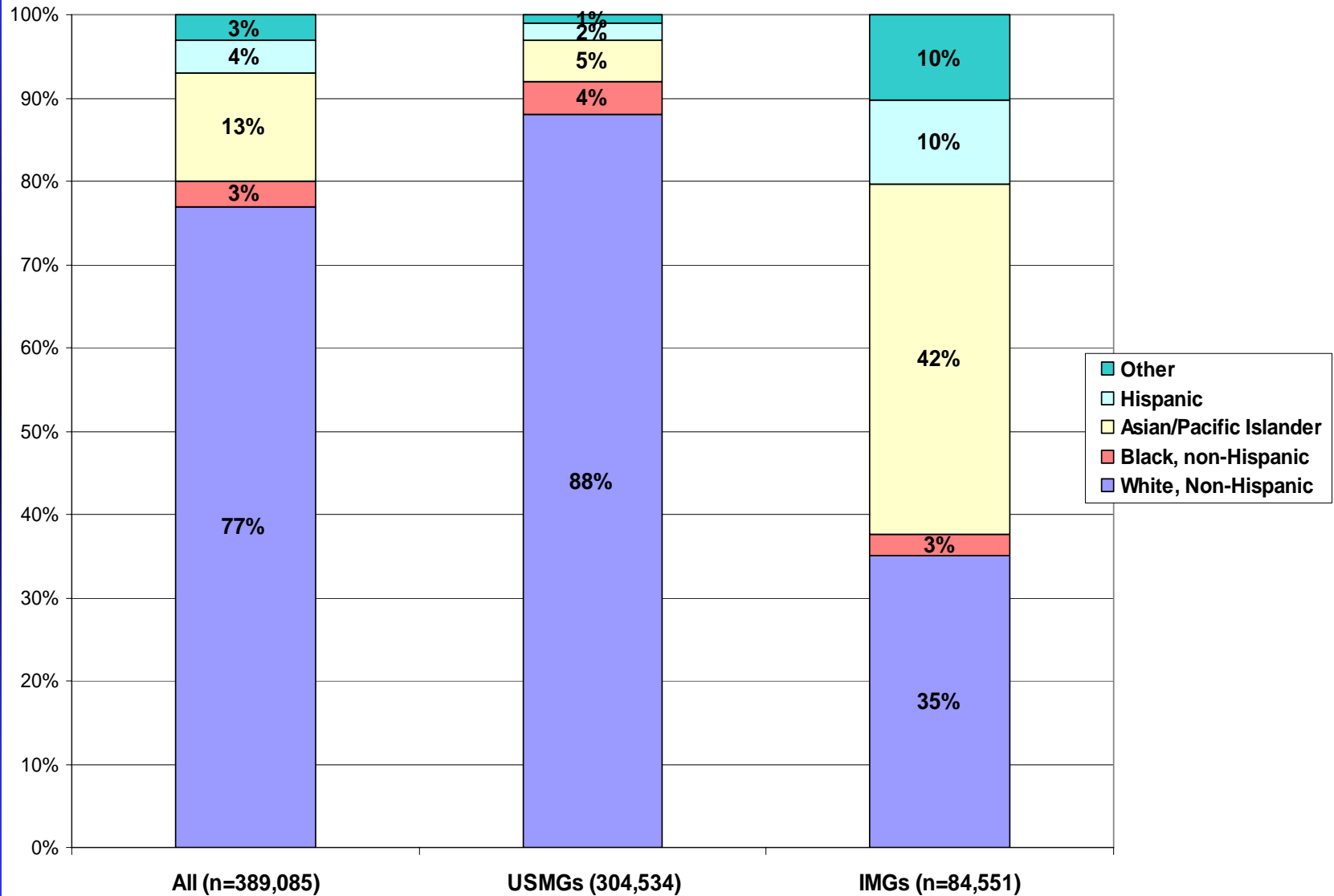
Findings



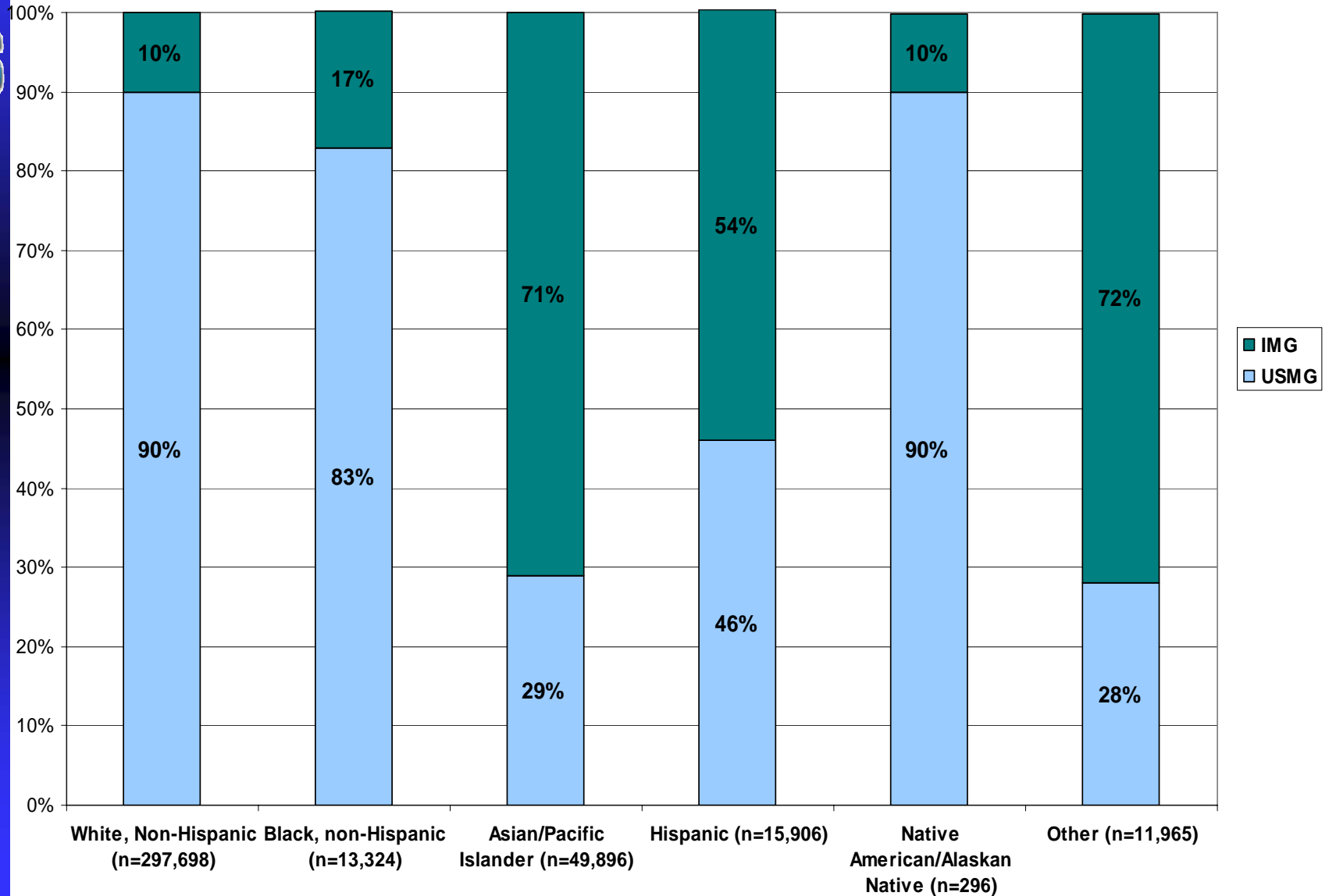
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Racial and Ethnic Makeup of the US Patient Care Physician Workforce

Racial/Ethnic Composition of the US Patient Care Physician Workforce



Physician Racial/Ethnic Cohorts by US and International Medical Graduates

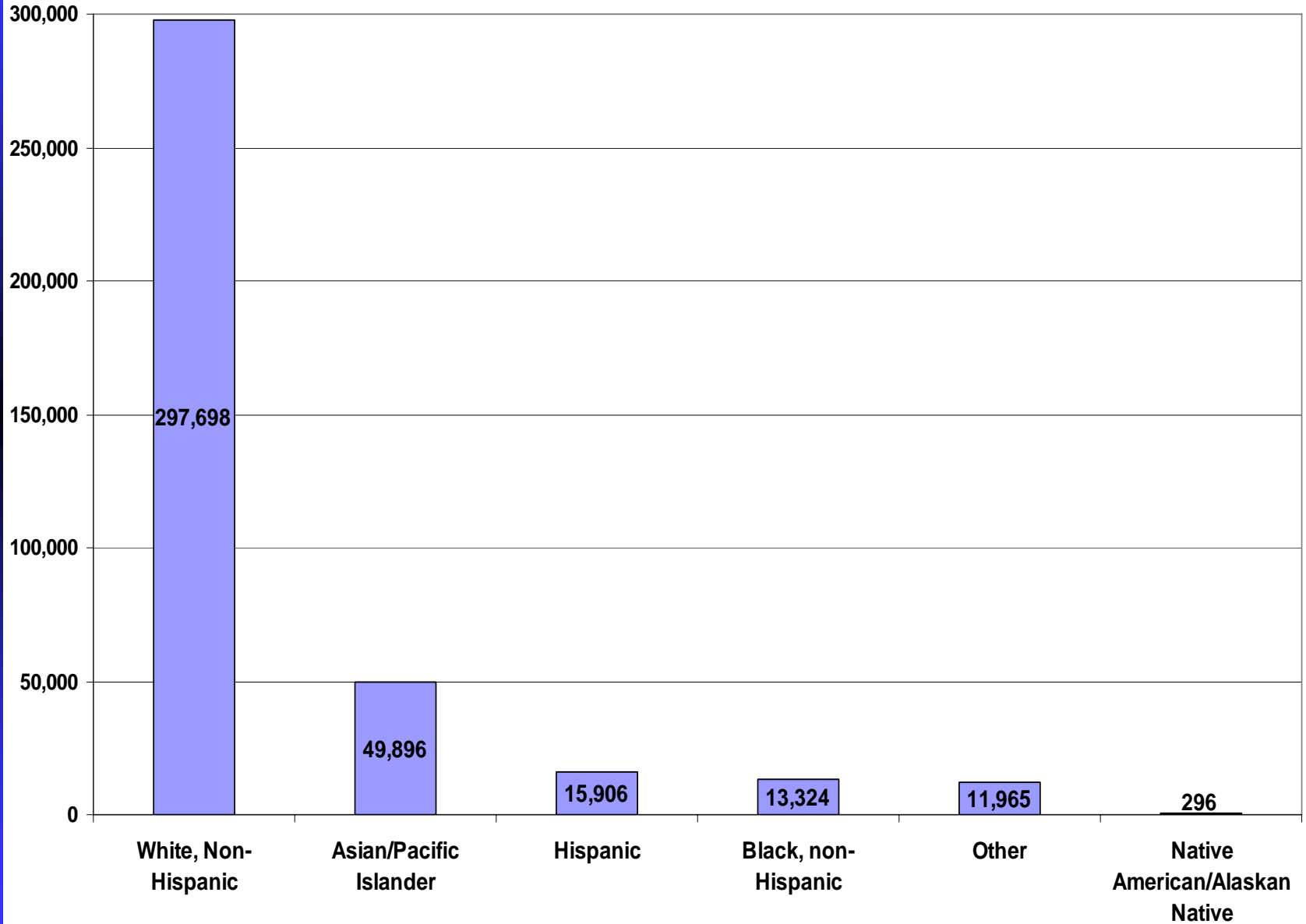




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Number of Physicians of Each Race/Ethnicity

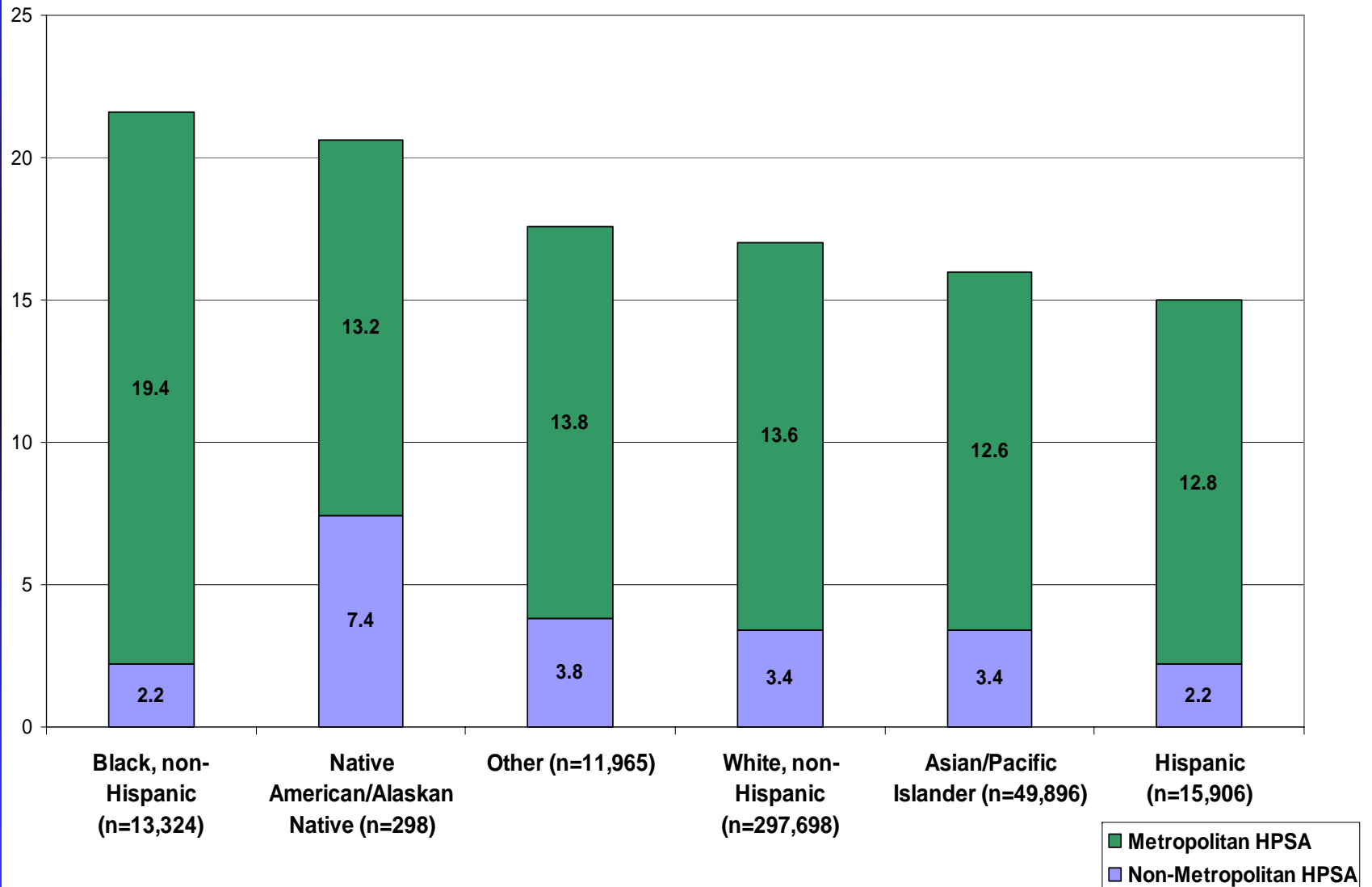




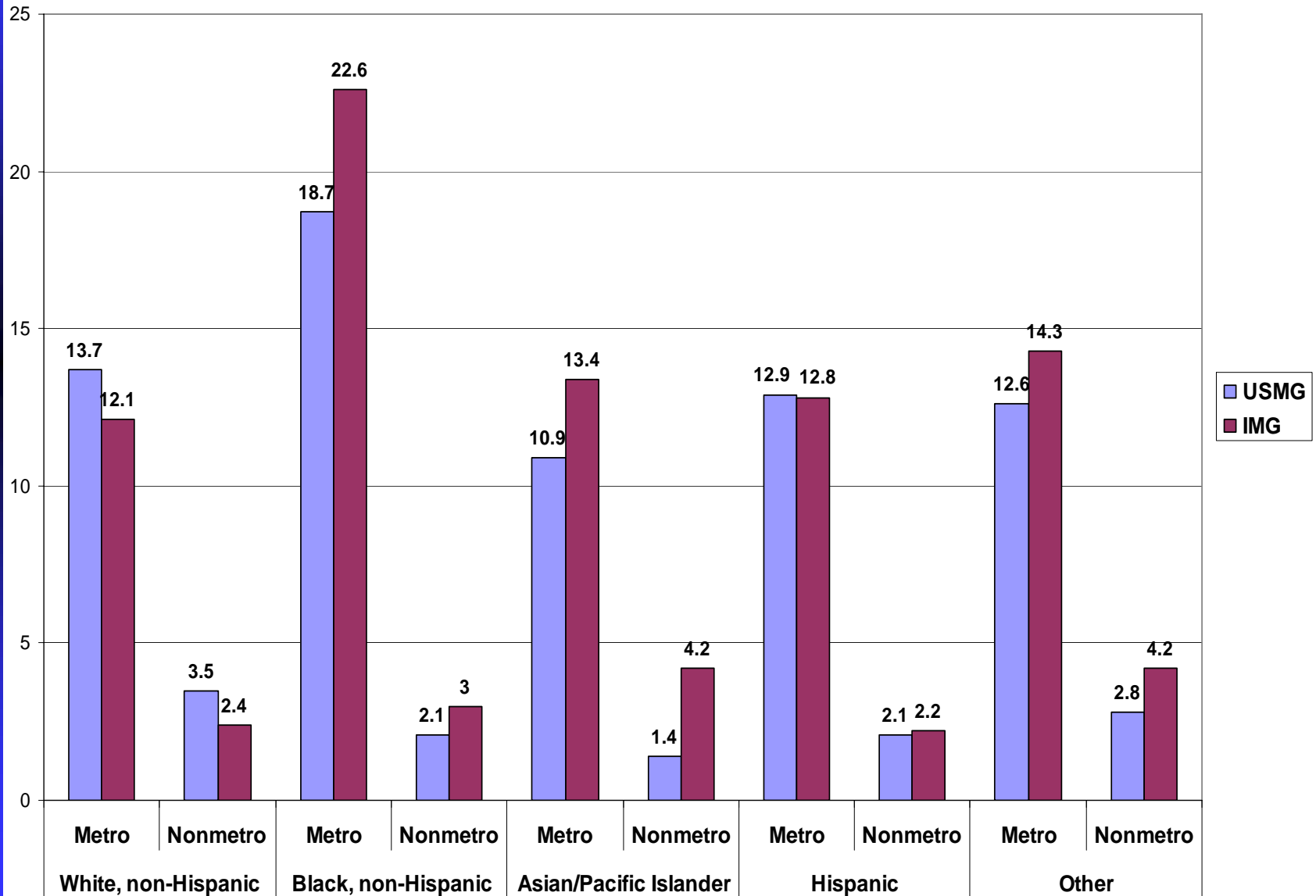
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Physicians in HPSAs

Percentage of Physicians in Each Racial/Ethnic Cohort Located in HPSAs



Percentage of USMG and IMG Physician Cohorts Located in HPSAs





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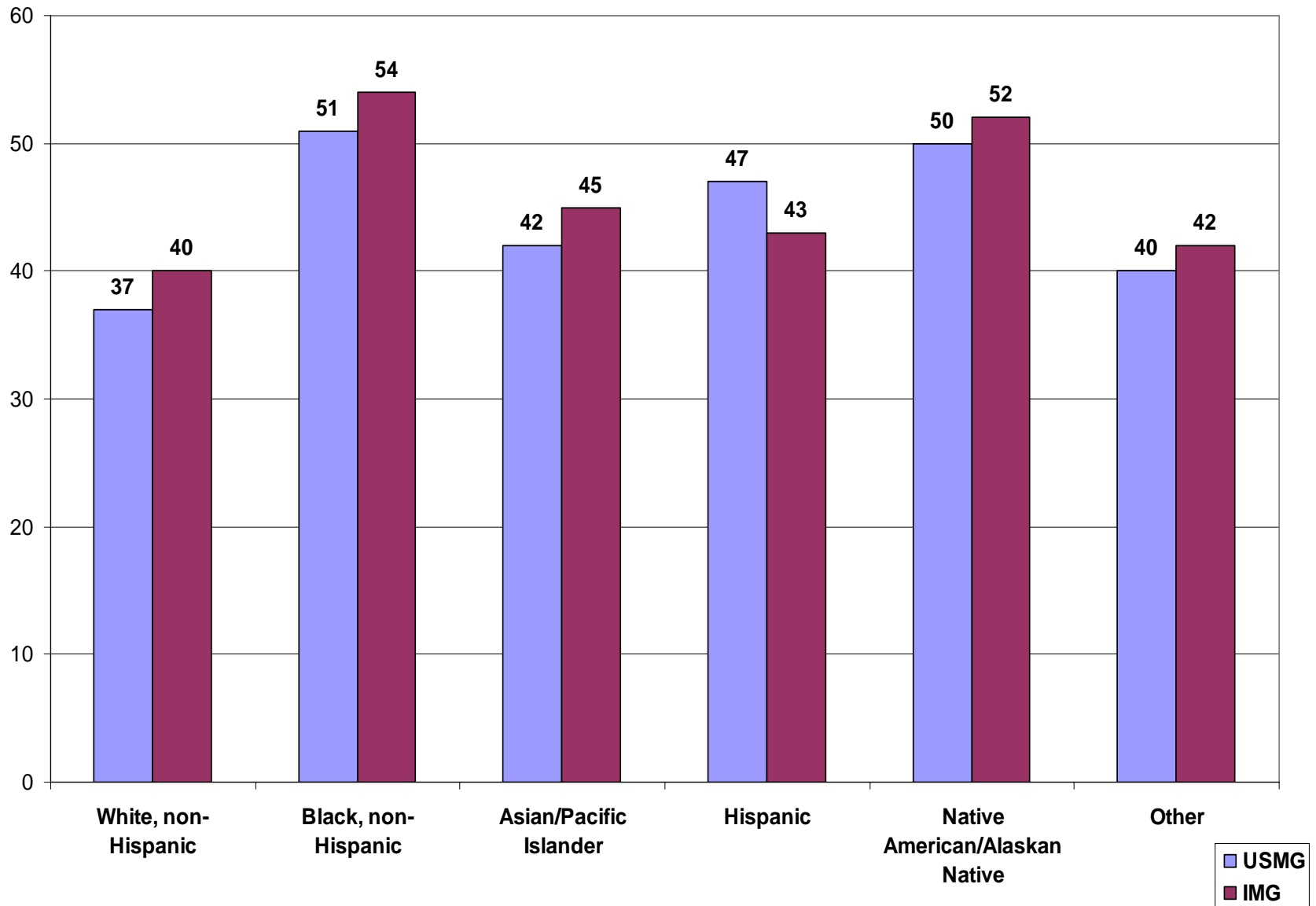
Primary Care Physicians in HPSAs



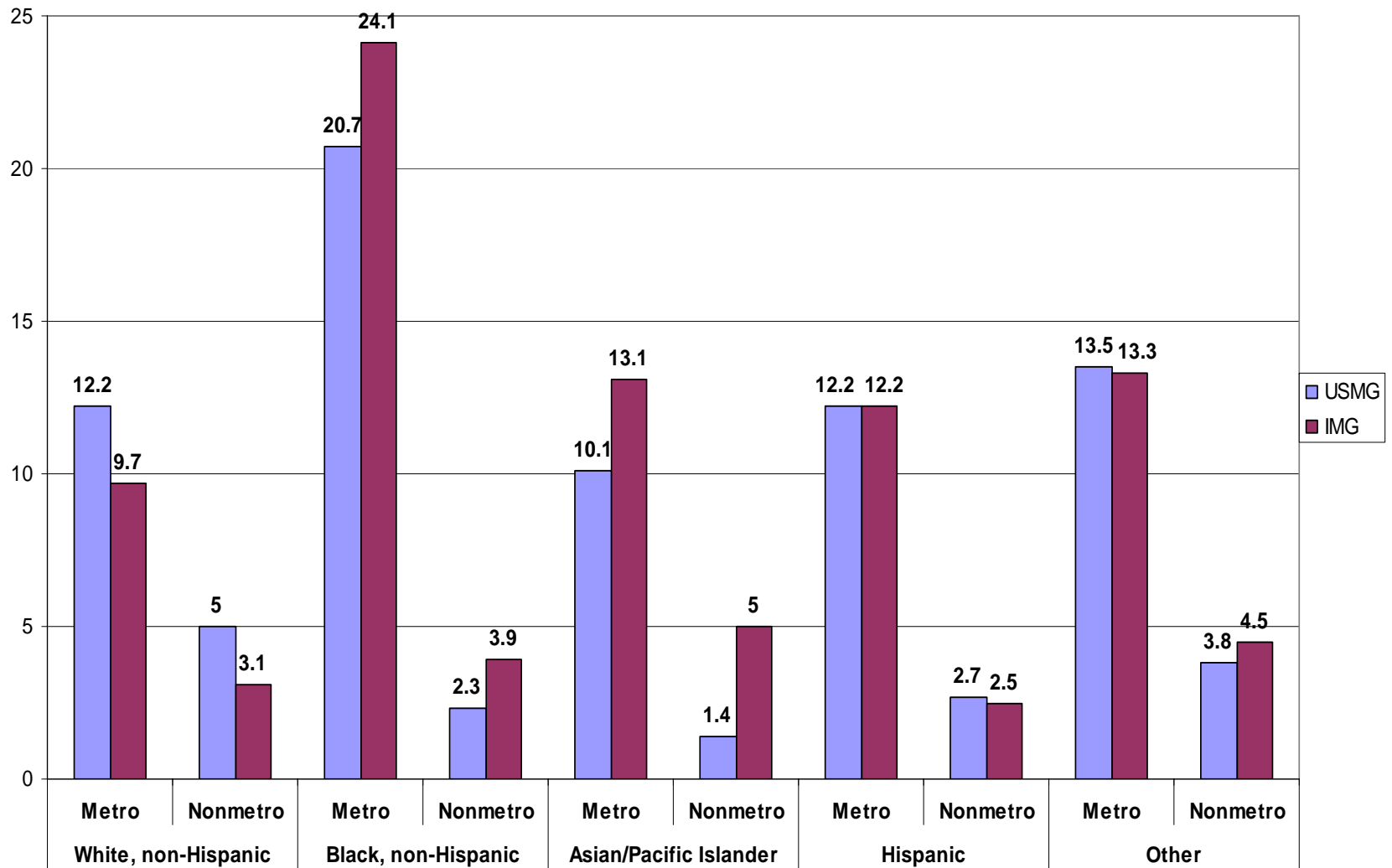
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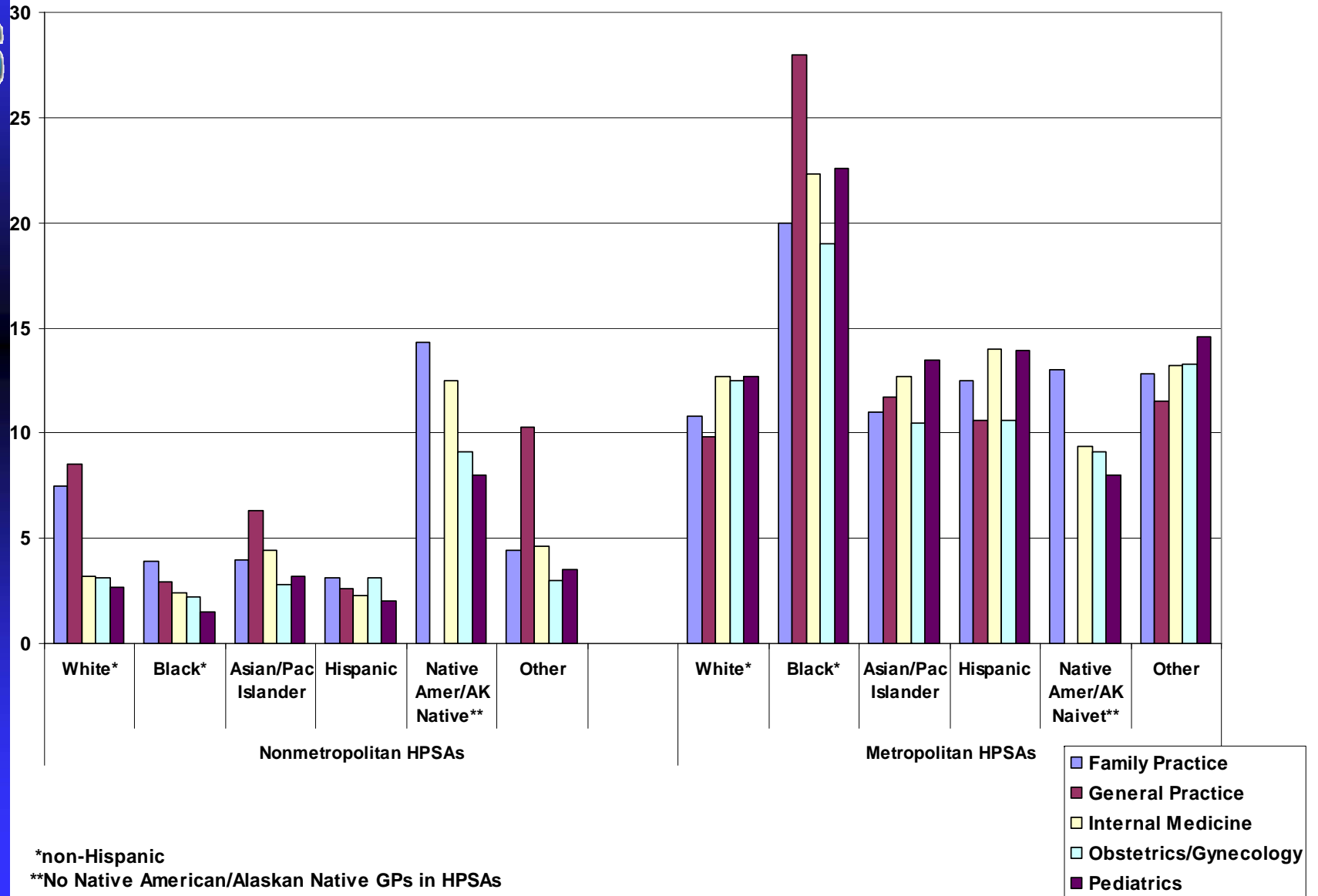
Percentage of USMG and IMG Physicians of Each Race/Ethnicity Practicing Primary Care



Percentage of Primary Care USMG and IMG Physician Cohorts Located in HPSAs



Percentage of Primary Care Physicians in Each Race/Ethnicity and Specialty Located in HPSAs

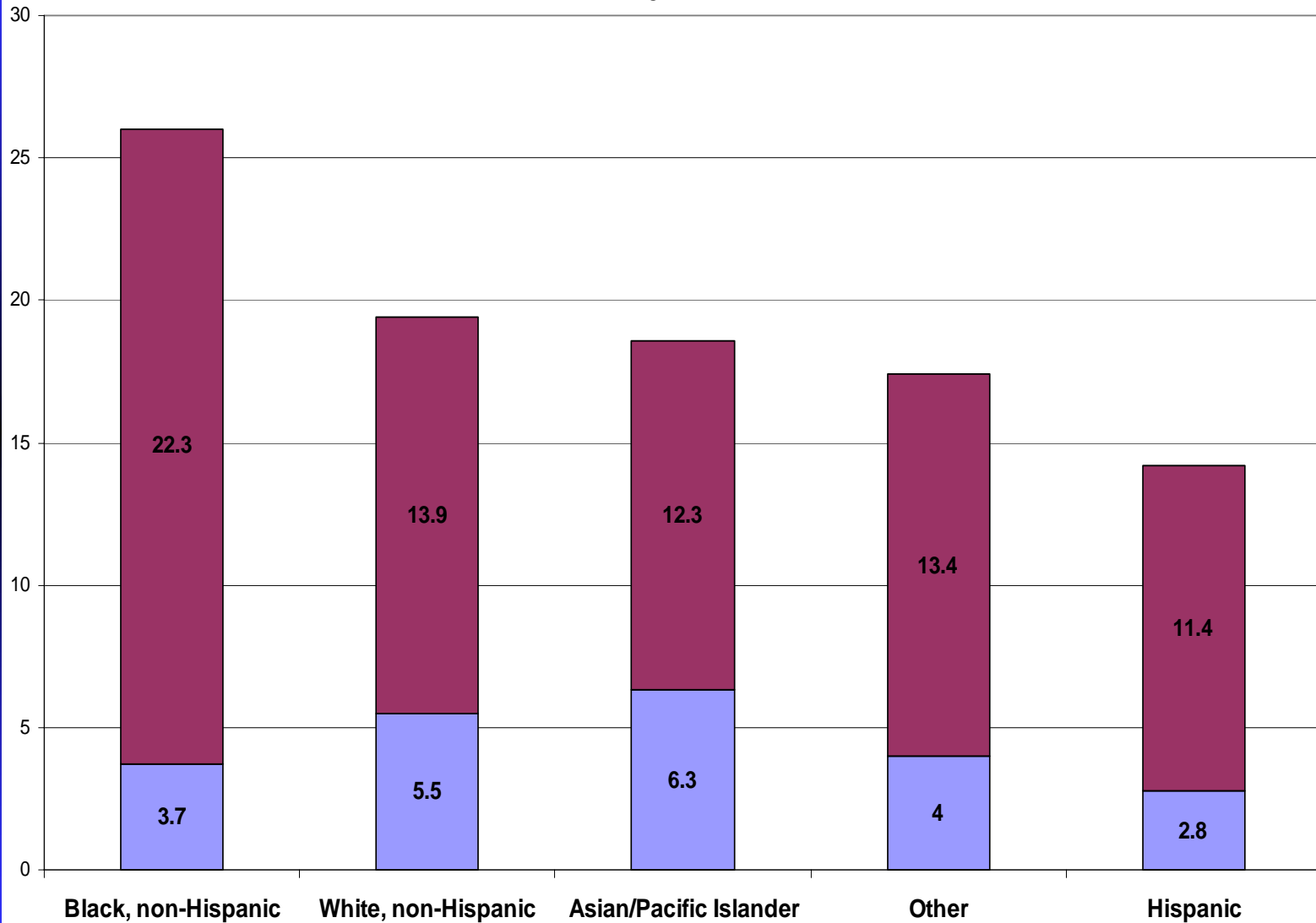




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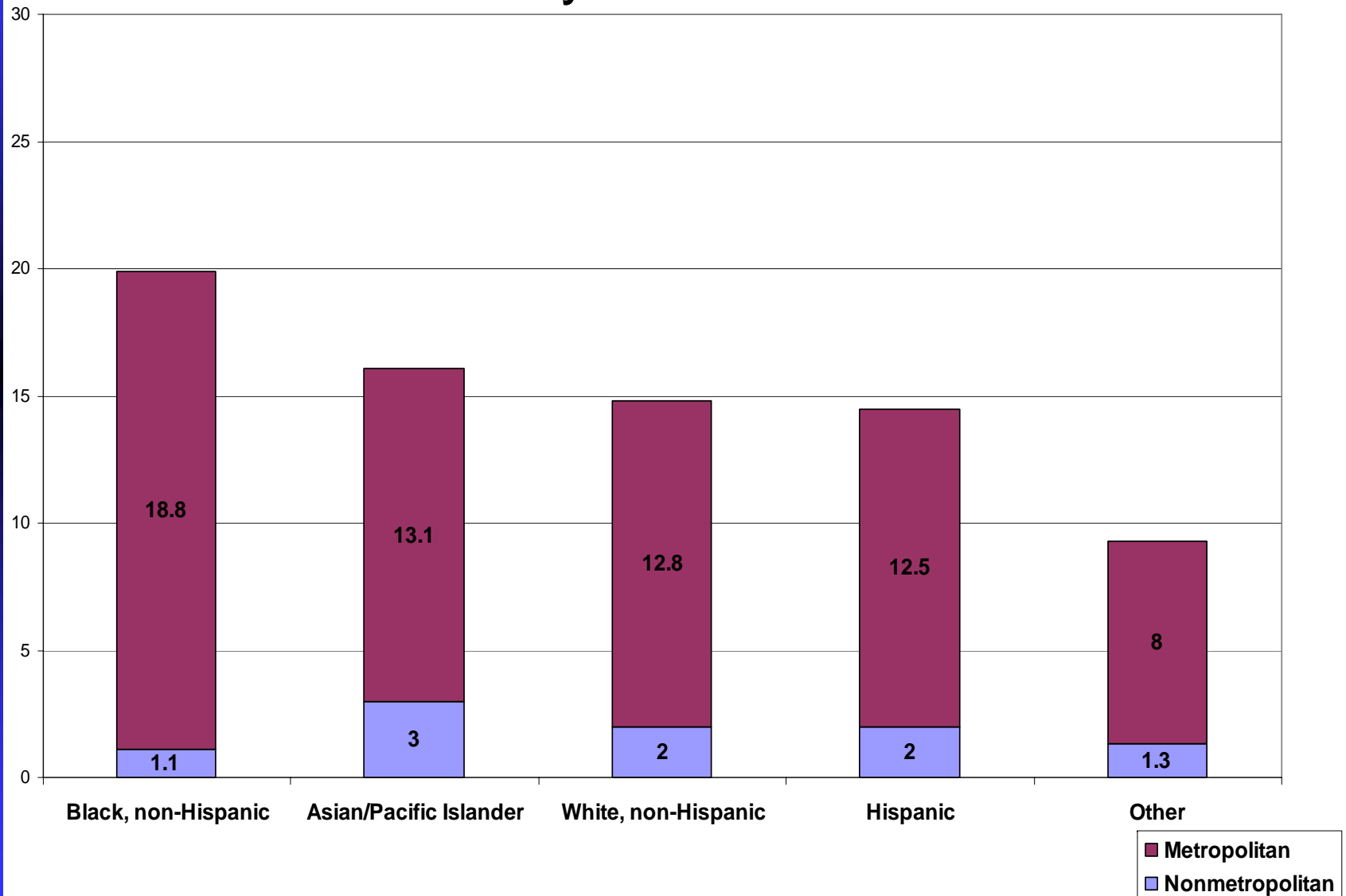
Other Physicians in HPSAs

Percentage of General Surgeons of Each Race/Ethnicity Located in HPSAs



■ Metropolitan
■ Nonmetropolitan

Percentage of Psychiatrists of Each Race/Ethnicity Located in HPSAs

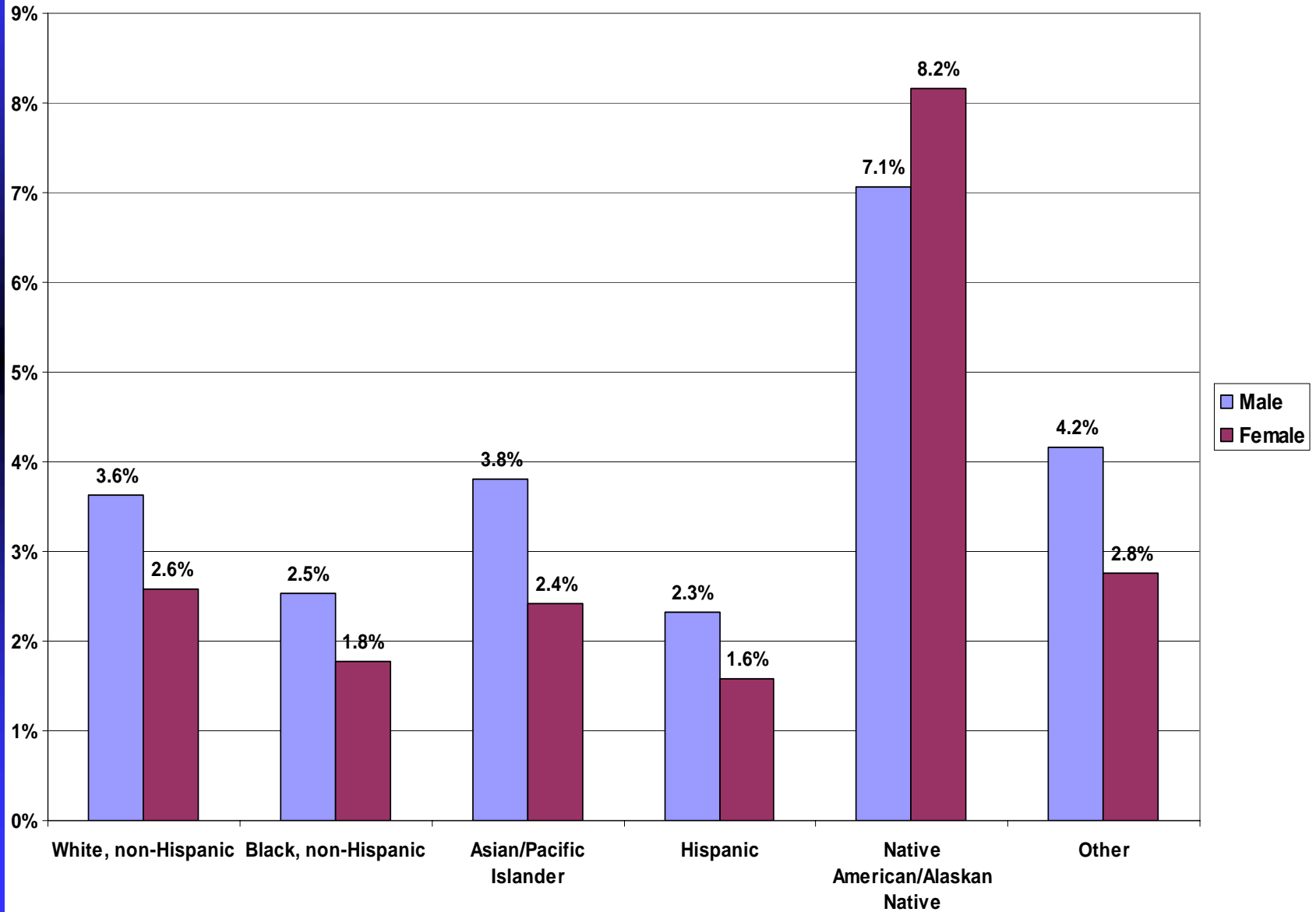




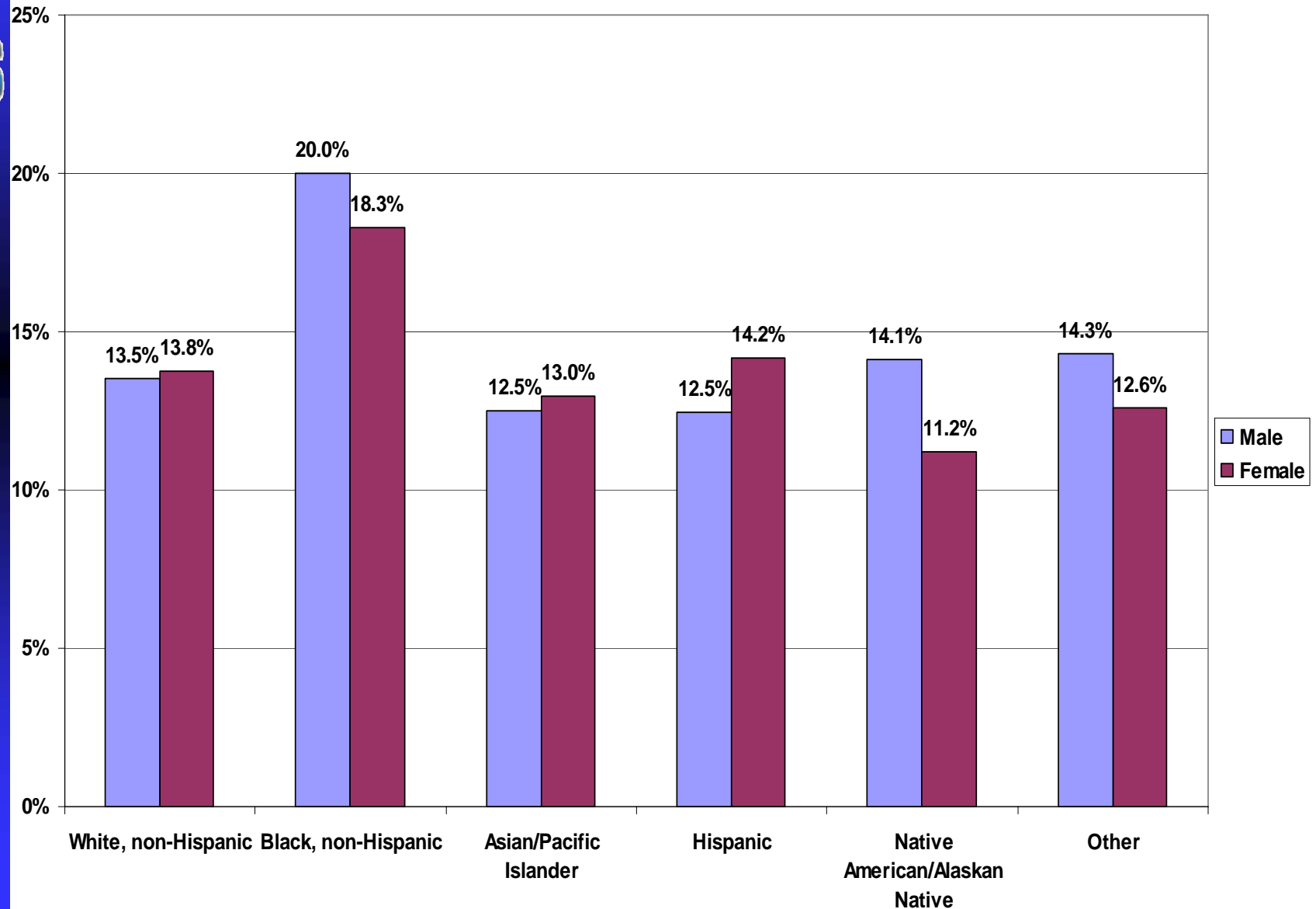
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HPSAs, Gender, and Race/Ethnicity

Percentage of Male and Female Physicians of Each Race/Ethnicity Located in Nonmetropolitan HPSAs



Percentage of Male and Female Physicians of Each Race/Ethnicity Located in Metropolitan HPSAs





Logistic Regression Results: Metro HPSAs

<u>Independent Variables</u>	<u>Slope</u>	<u>Signif</u>	<u>Odds Ratio</u>	<u>Independent Variables</u>	<u>Slope</u>	<u>Signif</u>	<u>Odds Ratio</u>
Females	-0.003	0.771	0.997	General Practice	-0.122	0.002	0.885
				Family Practice	-0.183	0.000	0.832
International Medical Graduates	0.025	0.072	1.025	OB/GYN	-0.062	0.010	0.939
				General Pediatrics	0.021	0.341	1.021
Years in practice	-0.007	0.000	0.993	Psychiatry	0.015	0.536	1.015
				General Surgery	0.080	0.003	1.083
Black, non-hispanic	0.412	0.000	1.510	Med/Peds	-0.156	0.152	0.855
Asian, Pacific Islander	-0.090	0.000	0.914	All other specialties	0.114	0.000	1.121
Native American	-0.065	0.277	0.937	Constant	-1.776	0.000	
Other	-0.031	0.705	0.969				
Hispanic	-0.066	0.009	0.936				



Logistic Regression Results: Non-Metro HPSAs

<u>Independent Variables</u>	<u>Slope</u>	<u>Signif</u>	<u>Odds Ratio</u>	<u>Independent Variables</u>	<u>Slope</u>	<u>Signif</u>	<u>Odds Ratio</u>
Females	-0.414	0.000	0.661	General Practice	0.822	0.000	2.275
				Family Practice	0.730	0.000	2.075
International Medical Graduates	0.045	0.097	1.046	OB/GYN	-0.073	0.115	0.929
				General Pediatrics	-0.146	0.001	0.864
Years in practice	-0.002	0.038	0.998	Psychiatry	-0.443	0.000	0.642
				General Surgery	0.431	0.000	1.539
Black, non-hispanic	-0.409	0.000	0.665	Med/Peds	0.140	0.463	1.151
Asian/Pacific Islander	0.012	0.697	1.012	All other specialties	-0.377	0.000	0.686
Native American	0.724	0.001	2.064	Constant	-3.208	0.000	
Other	0.157	0.003	1.170				
Hispanic	-0.534	0.000	0.586				



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Significant Findings – Metropolitan HPSAs

Black physicians are 50% more likely to practice in metropolitan HPSAs than physicians of other racial/ethnic groups.



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Significant Findings – Nonmetropolitan HPSAs

White, non-Hispanic, Native American/Alaskan Native and “Other” physicians are more likely to practice in nonmetropolitan HPSAs than physicians of other racial/ethnic groups



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Significant Findings – Nonmetropolitan HPSAs

Family and general practitioners and general surgeons are more likely than physicians in other specialties to practice in nonmetropolitan HPSAs.



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- Black, non-Hispanic physicians practice in metropolitan HPSAs at high rates, but little progress has been made in increasing the number of black medical graduates
- Asian/Pacific Islander and “other” IMGs are an important presence in nonmetropolitan HPSAs – Programs allowing IMGs to practice in HPSAs continue to help meet needs in HPSAs.
- Hispanic physicians have lower rates of HPSA practice – Why?