



SAINT LOUIS
UNIVERSITY.
EST. 1818

Perceived Discrimination Among Patients with Head and Neck Cancer

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Introduction

- Disparities within HNC patient populations leads to dramatically different outcomes
- Racial minorities, patients of low socioeconomic status, and rural patients...
 - Present at more advanced stages
 - Undergo different and often inferior treatments
 - Experience worse survival and morbidity
- Research identifying mechanistic and causative drivers of these disparities remains very limited.

Objectives

To determine whether perceived discrimination differs by self-reported race or other demographic variables.

To assess whether perceived discrimination differs with oncologic variables specifically cancer stage at time of presentation or time from biopsy to treatment.

Methods

Cross section cohort of 72 HNC survivors recruited from SLU HNC clinic with an upper limit of 100 subjects. Cross-section. Patients must be disease-free and at least 3 months post-treatment but within 5 years of treatment.

- Statistical Analysis:**
- Statistical analysis was performed using SAS version 9.4 (SAS Institute, Cary, NC). All results were two-tailed
 - General linear models estimated associations of patient characteristics with mean DMS score.
 - Bivariable results are reported as crude mean differences (CMD)
 - Patient characteristics were summarized using counts and percentages or means and SDs as appropriate
 - bivariable results reported as crude odds ratios (CORS) and multivariable results reported as adjusted odds ratios (AORs) with 95% CIs.

Survey Administration

What is your race?

☐ Asian/Pacific Islander

☐ Black

☐ Native American/Alaska Native

☐ White

Check all that apply

☐ Hispanic

☐ Non-Hispanic

☐ Yes

☐ No

☐ Prefer not to disclose

What is your ethnicity?

☐ Yes

☐ No

☐ Prefer not to disclose

Do you identify as transgender/non-binary?

☐ Yes

☐ No

☐ Prefer not to disclose

What is your household income?

Date of First ENT Office Visit

Today

MOY

Date of Diagnostic Biopsy

Today

MOY

Received Surgery?

☐ Yes

☐ No

Received Radiation?

☐ Yes

☐ No

Received Chemotherapy?

☐ Yes

☐ No

EMR Demographics

Sex

Age at Diagnosis

Insurance Payor

Address

Rural-Urban Continuum Value

EMR Oncologic Variables

Primary Site

T Classification

N Classification

M Classification

Stage at Presentation

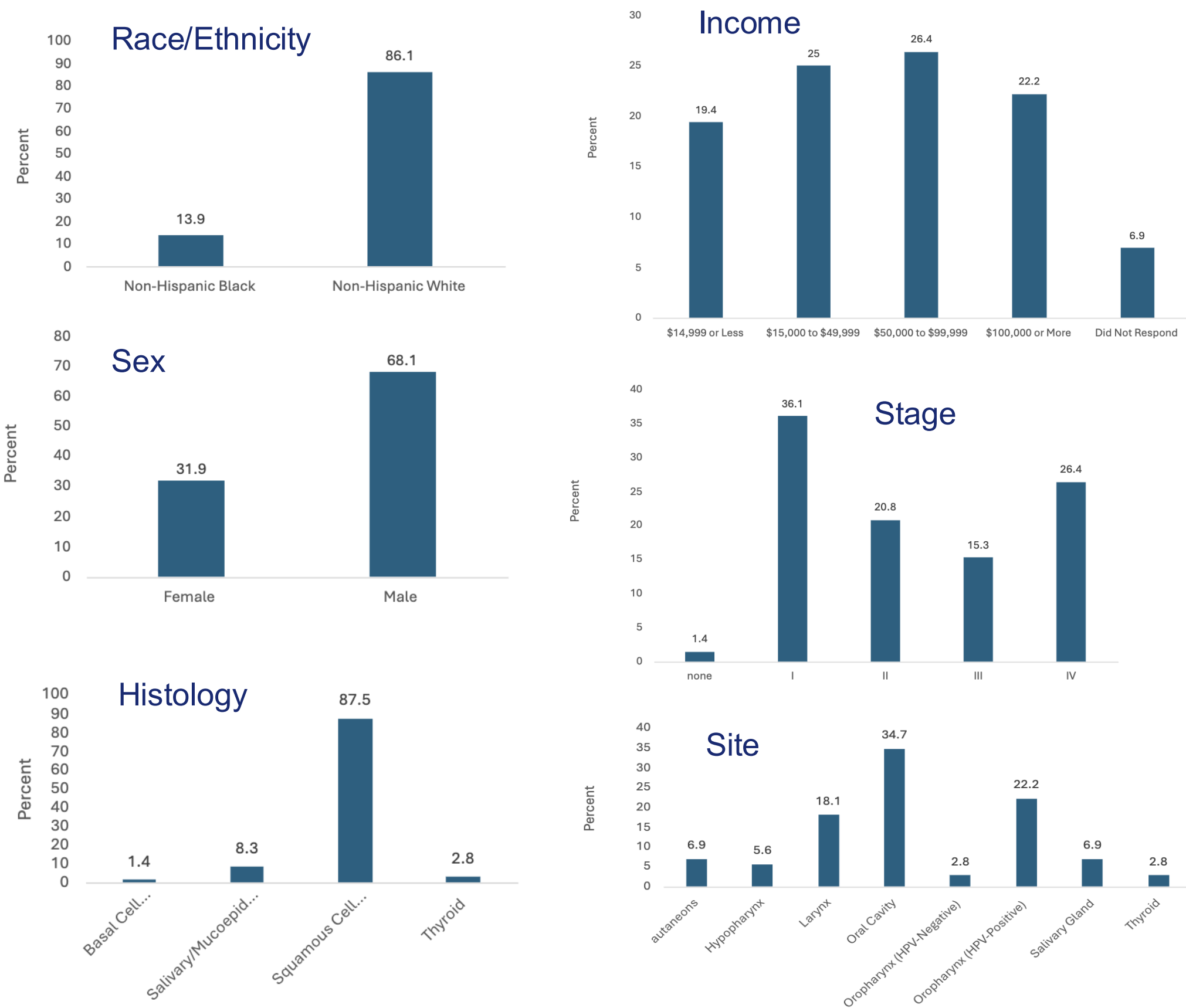
HPV Status of Tumor

Histology

n (Row %)n = 72					
	Never	Rarely	Sometimes	Most of the Time	Always
You are treated with less courtesy than other people.	49 (68.1%)	16 (22.2%)	7 (9.7%)	0 (0.0%)	0 (0.0%)
You are treated with less respect than other people.	55 (76.4%)	10 (13.9%)	7 (9.7%)	0 (0.0%)	0 (0.0%)
You receive poorer service than others.	53 (73.6%)	15 (20.8%)	3 (4.2%)	1 (1.4%)	0 (0.0%)
A doctor or nurse acts as if he or she thinks you are not smart.	59 (81.9%)	8 (11.1%)	4 (5.6%)	1 (1.4%)	0 (0.0%)
A doctor or nurse acts as if he or she is afraid of you.	69 (95.8%)	2 (2.8%)	1 (1.4%)	0 (0.0%)	0 (0.0%)
A doctor or nurse acts as if he or she is better than you.	57 (79.2%)	10 (13.9%)	5 (6.9%)	0 (0.0%)	0 (0.0%)
You feel like a doctor or nurse is not listening to what you are saying.	50 (69.4%)	16 (22.2%)	5 (6.9%)	1 (1.4%)	0 (0.0%)

Results

Descriptive Data



Statistical Analysis

Primary Outcome

Non-Hispanic Black patients reported less discrimination than Non-Hispanic White patients. However, this difference was not significant when controlling for age at diagnosis, sex, and income.

	DMS Score			
	n (%) or Mean (SD) n = 72	Mean (SD)	CMD (97.5% CI)	AMD (97.5% CI)
Age at Diagnosis	62.9 (12.9)	-	-0.004 (-0.07 – 0.06)	-0.007 (-0.07 – 0.05)
Race/Ethnicity				
Non-Hispanic White	62 (86.1%)	9.3 (3.4)	Reference	Reference
Non-Hispanic Black	10 (13.9%)	7.7 (1.1)	-1.62 (-2.90 – -0.35)	-2.77 (-5.88 – 0.33)

Secondary Outcomes

Compared to patients in highest income group, patients in the second highest and the lowest income groups reported more discrimination.

	DMS Score			
	n (%) or Mean (SD) n = 72	Mean (SD)	CMD (97.5% CI)	AMD (97.5% CI)
Age at Diagnosis	62.9 (12.9)	-	-0.004 (-0.07 – 0.06)	-0.007 (-0.07 – 0.05)
Income				
\$100,000 or More	16 (22.2%)	7.4 (1.3)	Reference	Reference
\$50,000 to \$99,999	19 (26.4%)	10.3 (3.5)	2.83 (0.81 – 4.84)	2.84 (0.76 – 4.93)
\$15,000 to \$49,999	18 (25.0%)	8.2 (1.5)	0.73 (-0.41 – 1.87)	1.24 (-0.23 – 2.71)
\$14,999 or Less	14 (19.4%)	9.9 (3.8)	2.49 (-0.05 – 5.03)	3.71 (0.44 – 6.99)
Did Not Respond	5 (6.9%)	11.0 (6.0)	3.56 (-3.31 – 10.43)	4.09 (-2.79 – 10.97)

	DMS Score			
	n (%) or Mean (SD) n = 72	Mean (SD)	CMD (97.5% CI)	AMD (97.5% CI)
Stage at Presentation				
I	26 (36.1%)	9.4 (3.2)	Reference	Reference
II	15 (20.8%)	10.1 (4.3)	0.71 (-2.29 – 3.71)	-
III	11 (15.3%)	7.7 (1.8)	-1.70 (-3.67 – 0.27)	-
IV	19 (26.4%)	8.7 (2.7)	-0.69 (-2.77 – 1.39)	-
Unstaged	1 (1.4%)	7.0 (-)	-	-

In crude analysis and when adjusting for age at diagnosis, sex, race/ethnicity, and site DMS score was not associated with stage.

Qualitative Analysis

Complex history not captured by the basic demographic variables

History of incarceration, Substance use, sexually transmitted infections

“This is my first time really coming to a doctor, and everyone here has been great!”

“My symptoms were ignored by my PCP/dentist even after I expressed concerns.”

Conclusion

- Perceived discrimination is influenced by a complex interplay of factors beyond race, including socioeconomic status and increased health-related social needs
- Income plays a significant role in shaping patients' perceptions of discrimination, underscoring the need to address systemic barriers such as financial toxicity
- Qualitative analysis indicates that patients with stigmatized conditions and greater health-related social needs experience more discrimination.

Limitations

- sample size and distribution
- All patients surveyed were head and neck cancer survivors, which introduces a selection bias, as those who have successfully completed their treatment may be less inclined to reflect negatively on their healthcare experiences
- Discrimination is a complex and deeply personal experience that a single survey cannot fully capture

Future Direction

- Investigate specific income-related barriers that may contribute to negative healthcare experiences
- Assess whether perceived discrimination results in avoidable delays and leads to clinically relevant outcomes, including duration of treatment, morbidity, and survival.

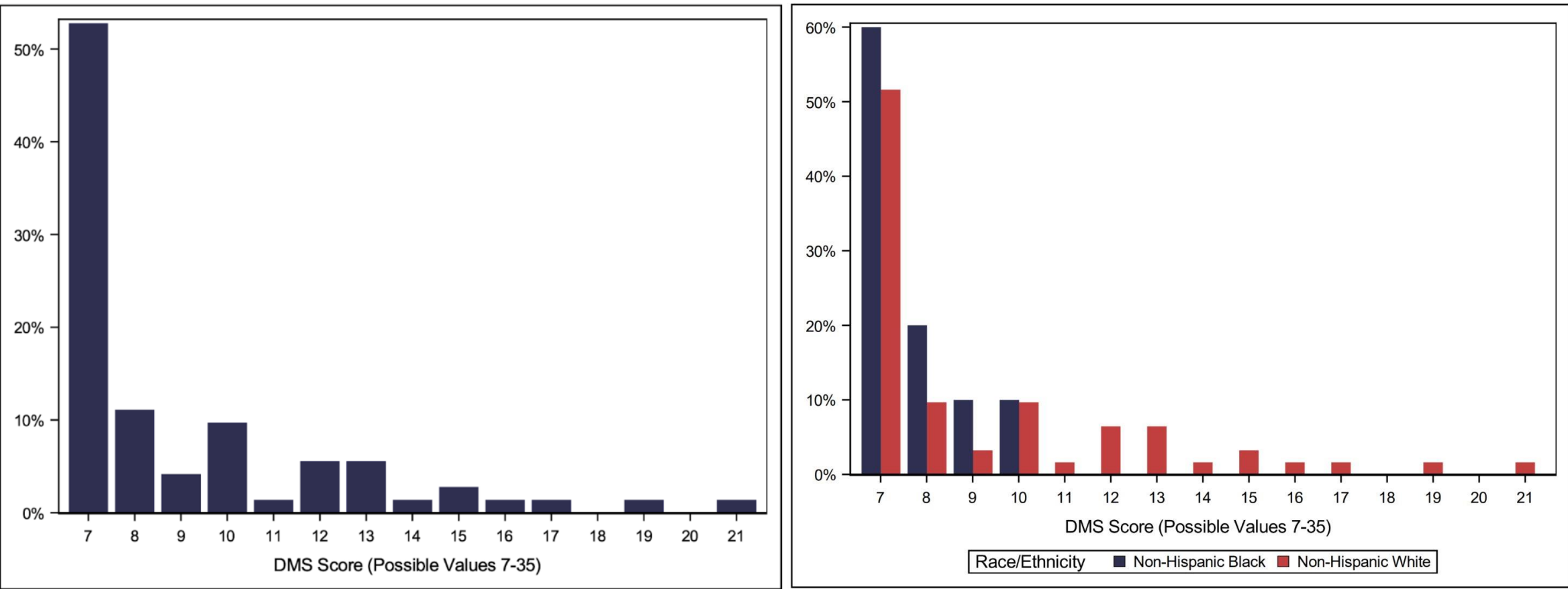
References/Links

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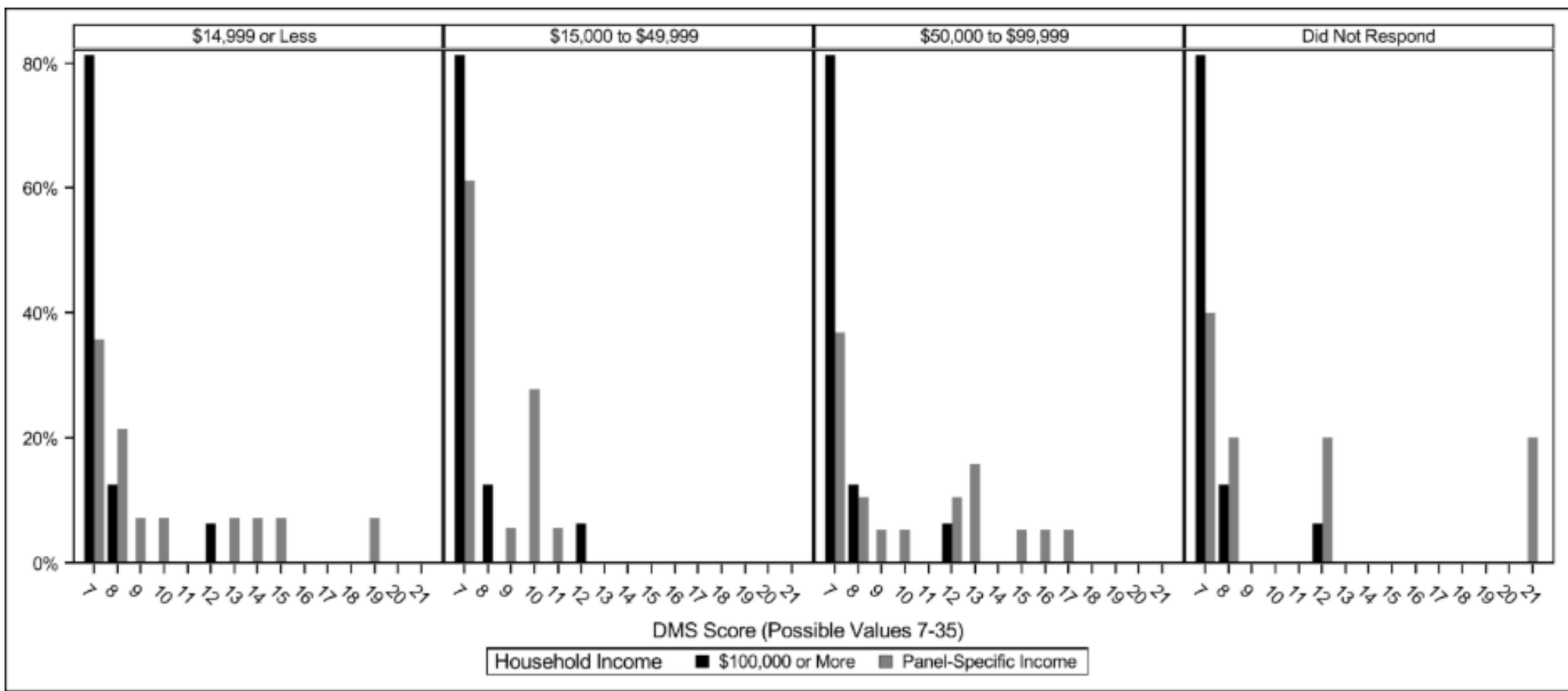
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Distribution of DMS scores.



A score of 7 indicates “Never” to all perceived discrimination questions, while 35 indicates “Always.” The vertical axis represents the percentage of patients with each score.

DMS score distribution by income



Light bars represent patients in each income category (A–D), while dark bars show the reference group (≥\$100,000). Panels: A) <\$15K, B) \$15K–\$49K, C) \$50K–\$99K, D) Did not respond.