Neighborhood-level financial exclusion and cancer screening disparities in the US: 2018–2022

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Key Takeaways

Neighborhood-level financial exclusion, reflected through home mortgage denial rates, is a novel and consistent predictor of lower cancer screening

Federal policy efforts should integrate financial access measures to guide cancer screening outreach and tackle structural cancer disparities

Background

- Cancer disparities are driven by social determinants of health (SDoH), shaped by policies and structural inequities [1,2]
- Financial exclusion, or mortgage lending bias, is an under utilized SDoH
- Communities facing lending bias often have lower access to preventive care, including cancer screening

Figure 1, Abdullah et al. (2025) [2]

1. Tucker-Seeley R, Maysa Abu-Khalaf, Bona K, et al. Social Determinants of Health and Cancer Care: An ASCO Policy Statement. JCO Oncology Practice. 2024;20(5):621-630. doi:https://doi.org/10.1200/op.23.00810
2. Abdullah A, Liu Z, Molinari M. From Diagnosis to Survivorship: The Role of Social Determinants in Cancer Care. Cancers (Basel). 2025 Mar 22;17(7):1067. doi: 10.3390/cancers17071067. PMID: 40227566; PMCID: PMC11987860.

Methods

- **Home Mortgage Disclosure Act (HMDA)**
  - Lending Bias, as determined through the estimation of home loan denial rates (HLDRs) by census tract (2017-2018, 2019-2020, 2021-2022)

HLDR = Denied Home Loans / (Approved + Denied Home Loans)

- **Cancer Screening**
  - Prevalence rates of cancer screening (colorectal, breast, and cervical) were obtained from the Center for Disease Control and Prevention (CDC) Population Level Analysis and Community Estimates (PLACES) database (2018, 2020, 2022)

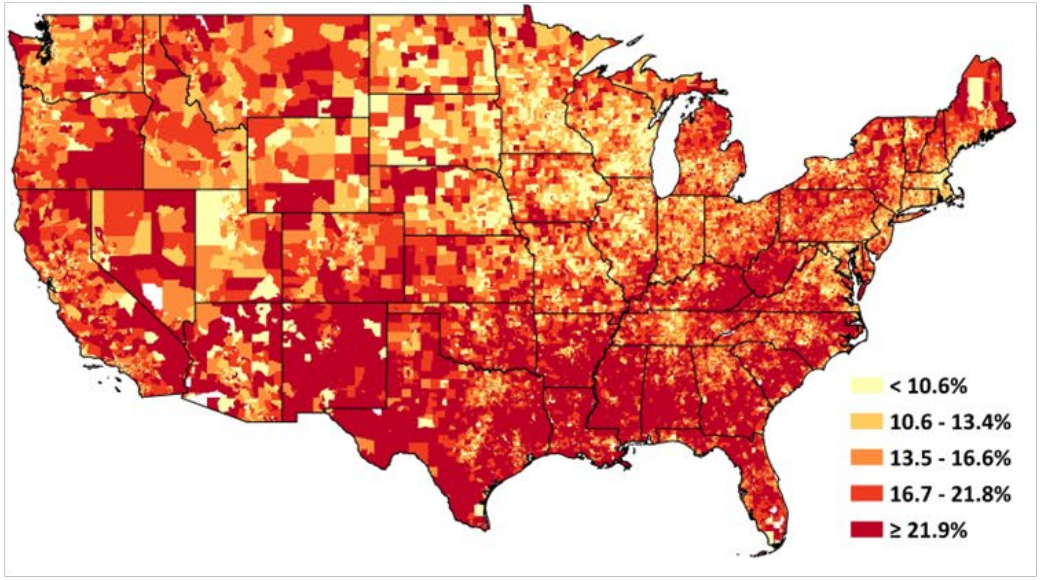
- **Statistical Analysis**
  - Beta Generalized Linear Mixed Models for longitudinal data

Results

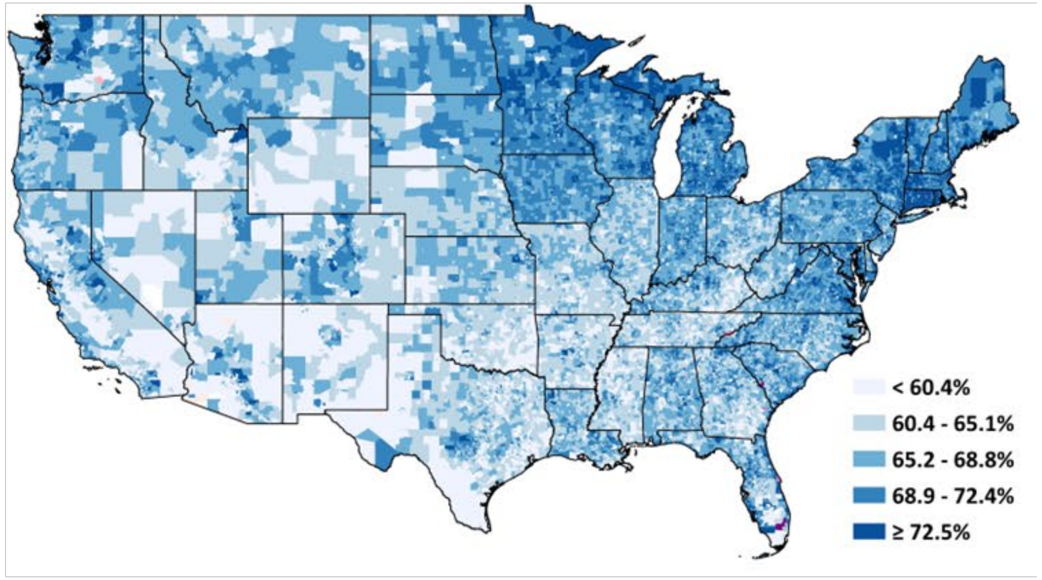
	Home Loan Denial Rate (HLDR), 2021 - 2022				
	<10.6% (N = 15,985)	**10.6 - 13.4%** (N = 16,526)	**13.5 - 16.6%** (N = 16,710)	**16.7 - 21.8%** (N = 16,902)	**≥21.9%** (N = 16,184)
Cancer Screening (%)					
Colorectal Cancer	**68** (64, 71)	**67** (62, 70)	**66** (60, 69)	**64** (59, 68)	**62** (57, 66)
Breast Cancer	**78** (75, 81)	**77** (74, 80)	**76** (73, 79)	**75** (72, 78)	**74** (71, 77)
Cervical Cancer	**84** (81, 86)	**83** (80, 85)	**82** (80, 84)	**81** (79, 84)	**80** (77, 83)

Census tracts within the highest HLDR had lower percentages of White (non-Hispanic) residents, higher percentages of female residents, and lower median incomes

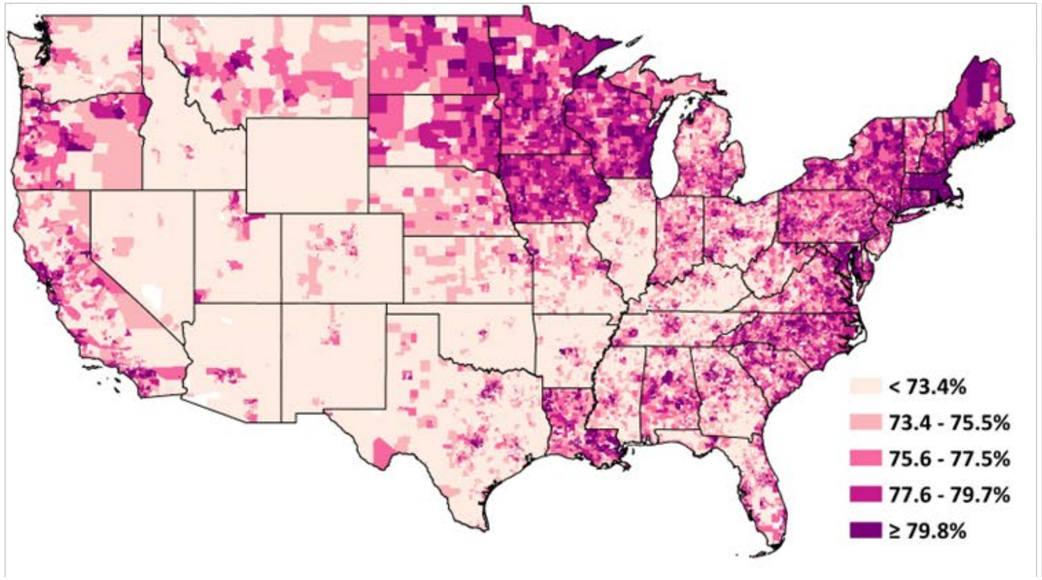
Home Loan Denial Rates [b] (2021-2022)



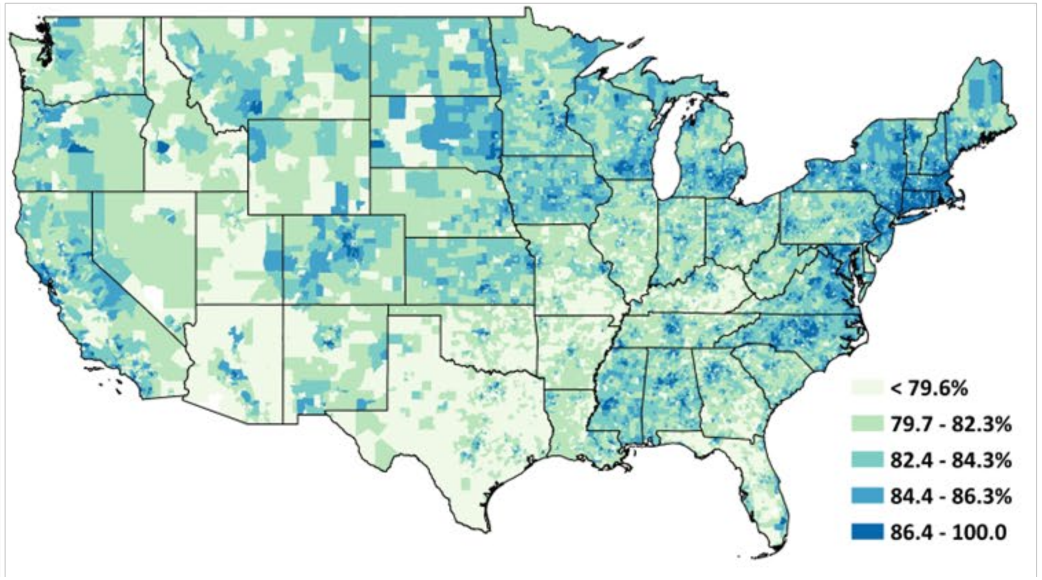
Colorectal Cancer Screening [c] (2021-2022)



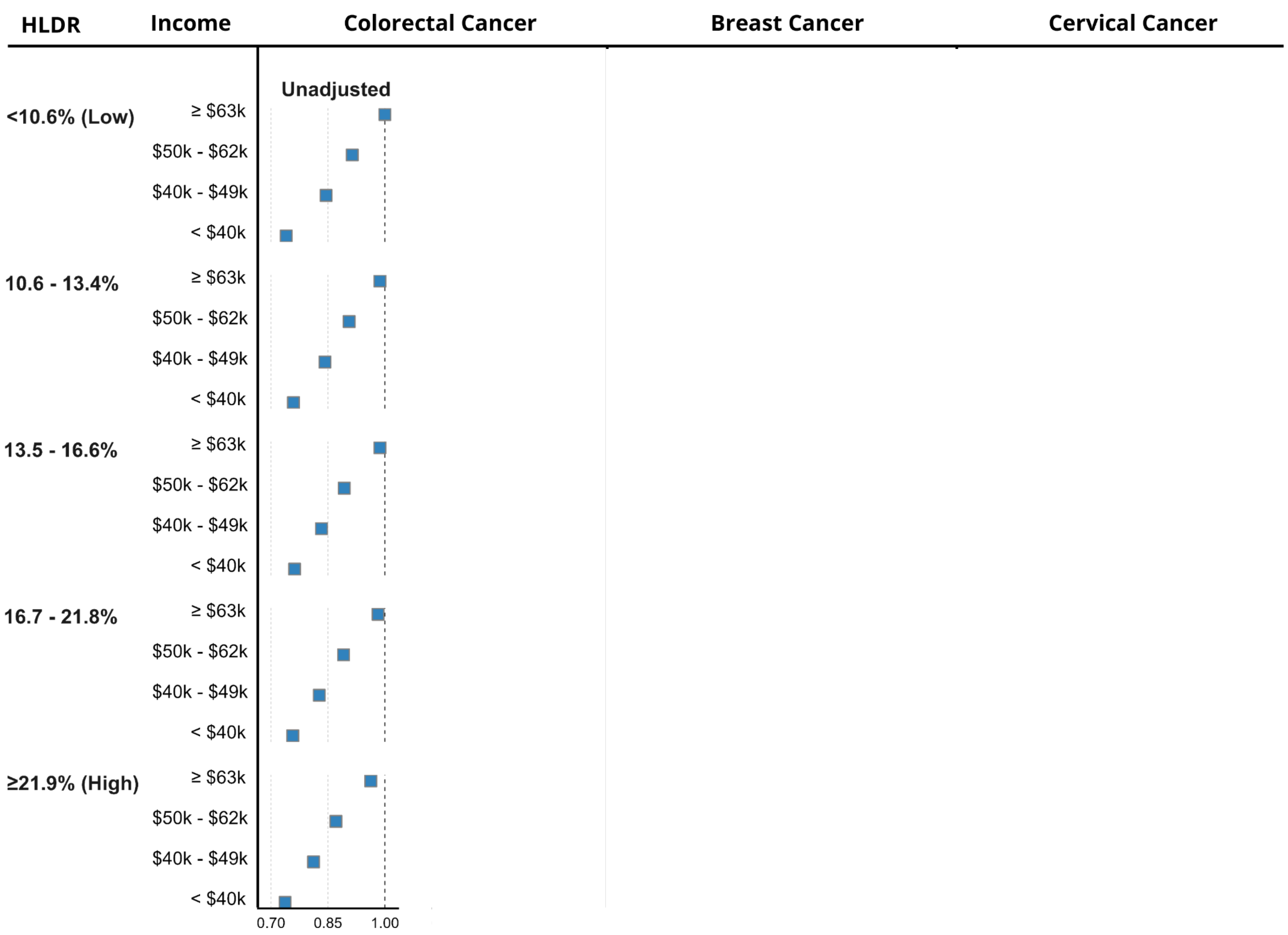
Breast Cancer Screening [d] (2021-2022)



Cervical Cancer Screening [e] (2019-2020)

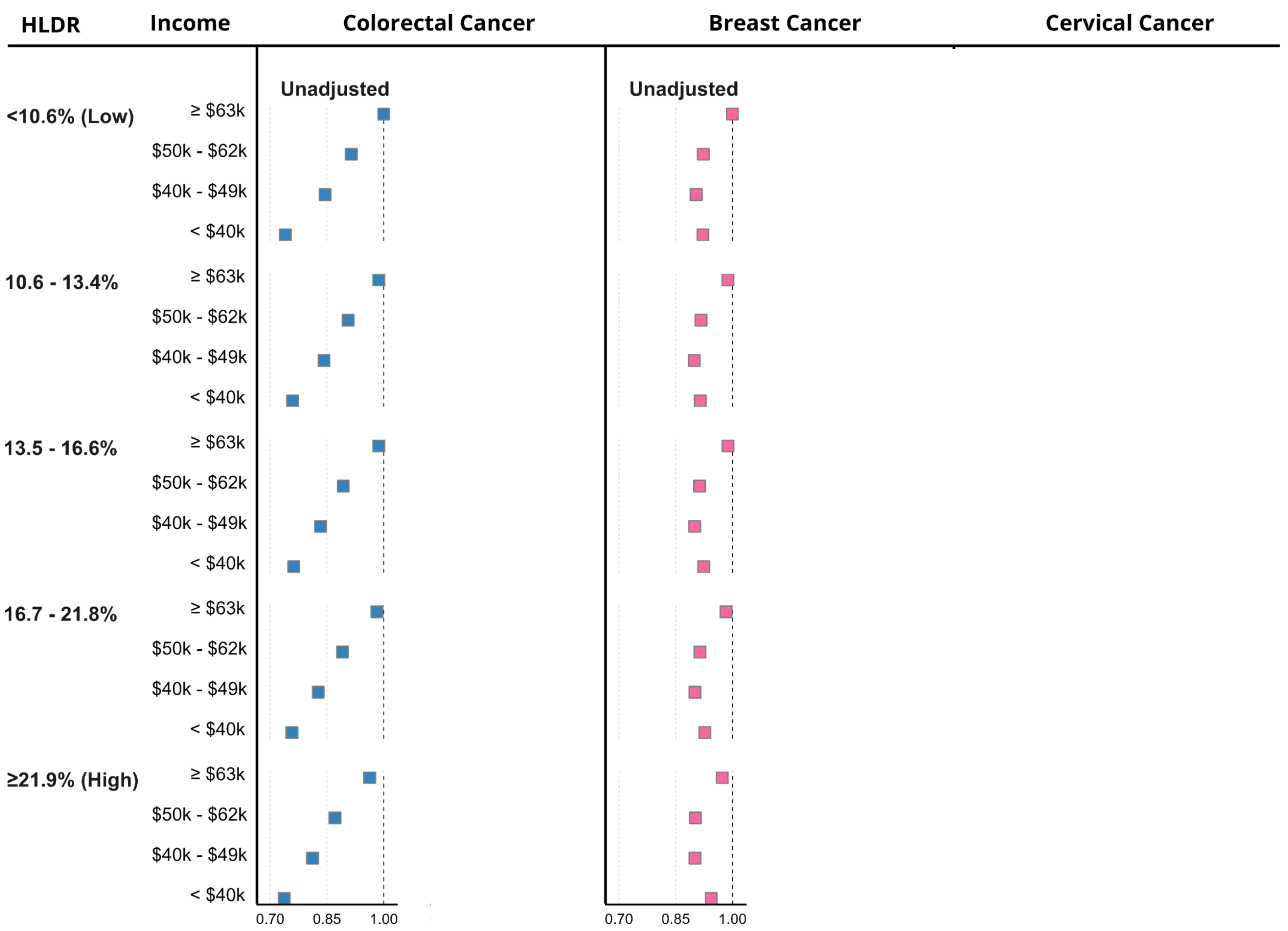


Results



HLDR
Income
Colorectal Cancer
Breast Cancer
Cervical Cancer
Unadjusted
<10.6% (Low)
10.6 - 13.4%
13.5 - 16.6%
16.7 - 21.8%
≥21.9% (High)
≥ $63k
$50k - $62k
$40k - $49k
< $40k
0.70
0.85
1.00

Results



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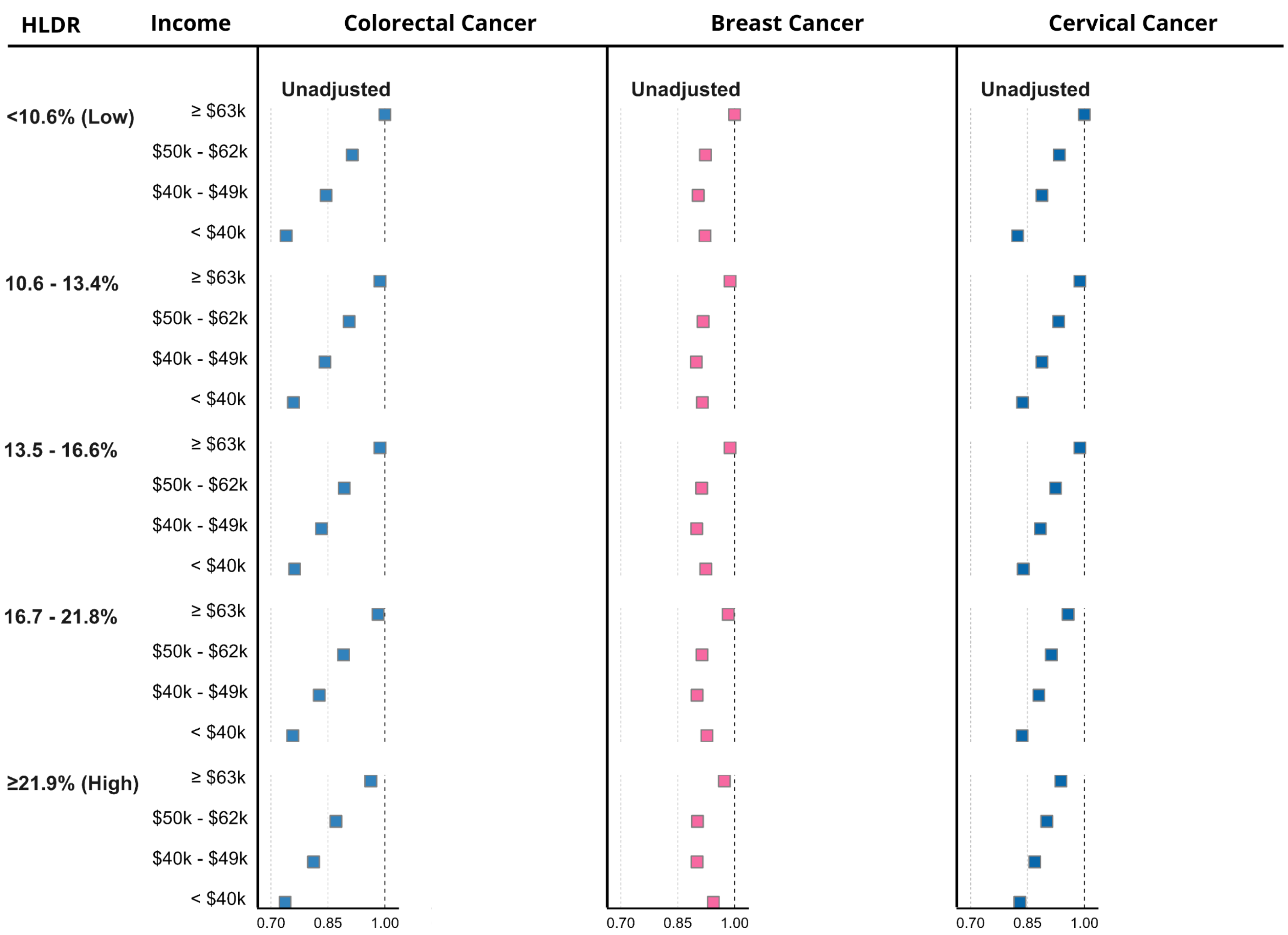
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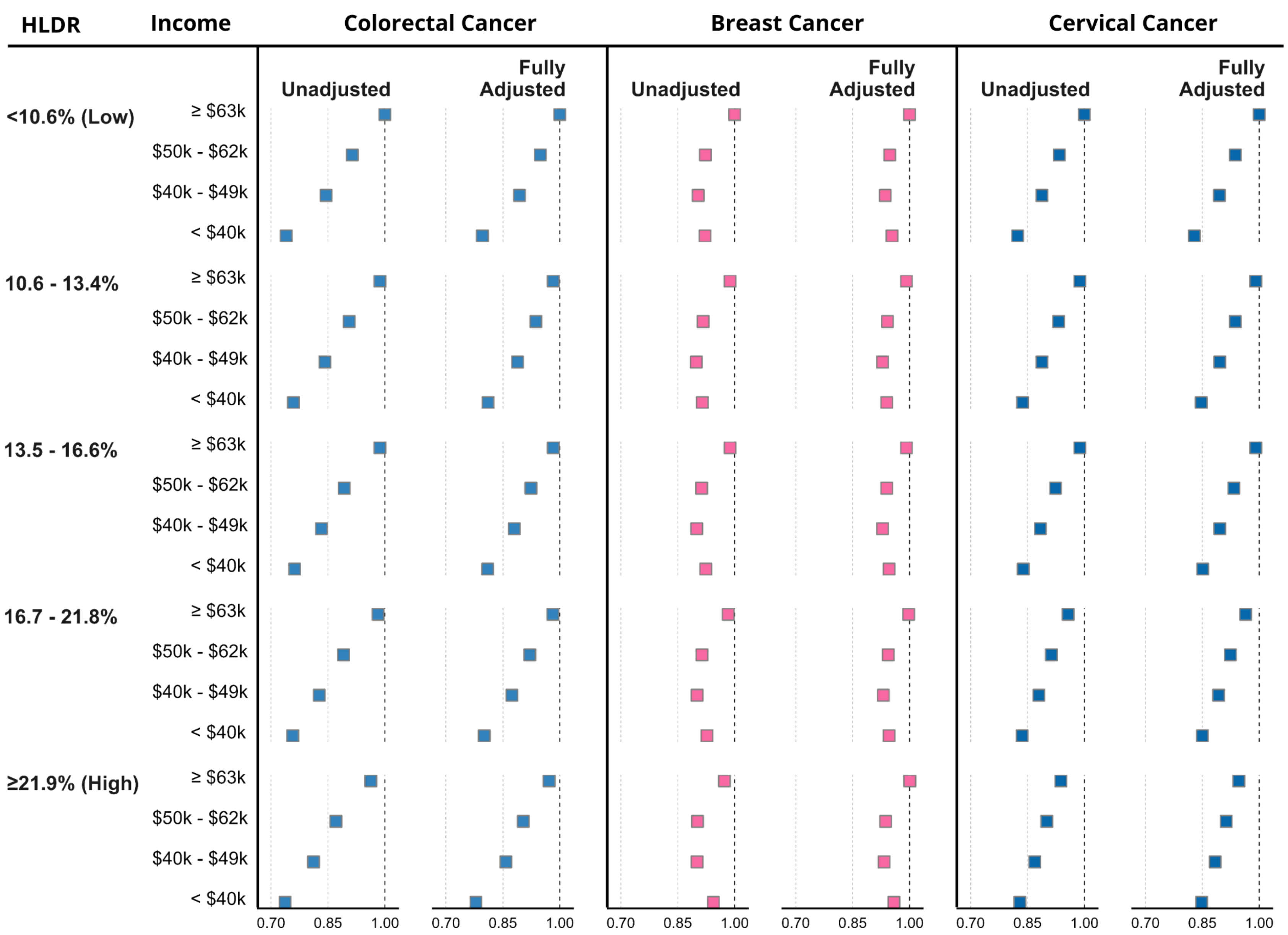

Across HLDR and income stratums, neighborhoods with higher HLDR were consistently associated with lower odds of each cancer screening

Limitations

- HLDR is an aggregate-level measure, estimated for each census tract
  - Limited by population size/loan amounts
  - Solution in development: population weighted HLDRs
- Cervical cancer screening prevalence rates were not published in the 2024 PLACES data release
- This national analysis does not include patient-level covariates or outcomes
  - Future studies including patient data should consider HLDRs as a measure of SDoH

Conclusions

Neighborhood-level financial exclusion, evidenced by HLDRs, offers a valuable summary of a neighborhood's socioeconomic outlook

Federal policy efforts should integrate financial access measures to guide cancer screening outreach and tackle structural cancer disparities

Implications

HLDR data could be integrated into electronic medical records to guide targeted outreach and patient navigation

Financial exclusion metrics should be formally incorporated into public health planning and linked with broader reforms in housing and lending policy.

Lay Summary

- **What did this research tell us?**
  - Mortgage lending bias, measured by neighborhood-level home loan denial rates (HLDRs) are associated with lower neighborhood-level rates of cancer screening. HLDRs are modifiable component of an interconnected social structure shaped by policies and practices that influence an individual's access to and utilization of healthcare services

- **Who does this research impact?**
  - This research can directly inform policy-level changes that address systemic and discriminatory lending practices, and consumer-focused programs designed to enhance the qualifications of loan applicants

- **What does this mean for patients right now?**
  - At the patient and institutional levels: HLDR data could be integrated into electronic medical records to guide targeted outreach and patient navigation
  - At the policy level: financial exclusion metrics should be formally incorporated into public health planning and linked with broader reforms in housing and lending policy.

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