

# Material Hardship and Multi-Cancer Screening Adherence: Implications Beyond Insurance Status

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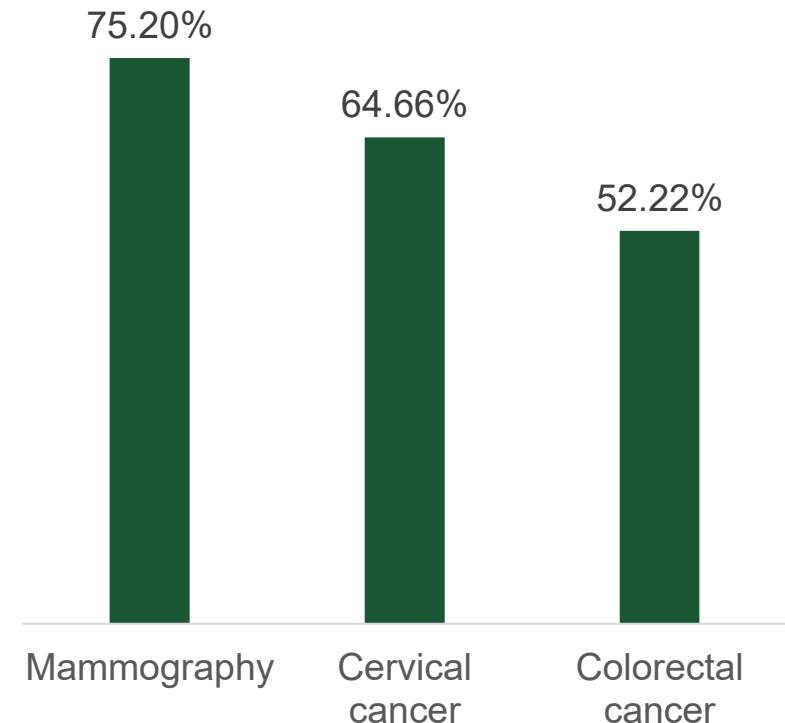
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# Background

- **Breast, colorectal, and cervical** cancers remain a major health burden among women aged 45-64.
  - Breast and colorectal cancers account for approximately 39% of new cancer cases and 23% of cancer-related deaths in this age group.
  - Women aged 45–64 accounted for approximately 42.9% of all cervical cancer deaths in the U.S
  - Approximately 1 in 4 adults are not up to date with colorectal cancer screening, 1 in 5 women are not up to date with breast cancer screening, and 1 in 4 women are not up to date with cervical cancer screening.

Screening Adherence  
Women 45-64



# Background

- Women aged 45–64, face ***concurrent eligibility*** for breast, cervical, and colorectal cancer screenings.
- Limited evidence on adherence to all three recommended screenings (**multi-screening adherence**) and how material hardship shapes that adherence.
- ***Material hardship*** defined as difficulty in meeting basic daily needs, may be one of such barriers

# Aim

- To examine the association between material hardship and adherence to multi-cancer screening according to USPSTF recommendations among eligible U.S. women aged 45–64.
- We **hypothesize that** material hardship is inversely associated with multi-cancer screening adherence even after adjusting for insurance status, income, and other sociodemographic characteristics.

# Methods

- **Study Design**

- Cross-sectional study design
- 2022 and 2024 Behavioral Risk Factor Surveillance System (BRFSS) data

- **Population**

- N ~ 49,000, representing a weighted population of ~ 13 million U.S women 45-64yrs
- 45 U.S states and the District of Columbia
- Excluded: History of Cancer or Hysterectomy

# Variables

- ***Multi-cancer screening adherence (up-to-date with all three):***
  - Mammography within 2 years
  - Cervical screening: Pap ( $\leq 3$  years) or HPV/co-testing ( $\leq 5$  years)
  - Colorectal screening: test-specific intervals (1-10 years)
- ***Material hardship:***
  - Seven domains covering food insecurity, inability to pay bills and utilities, employment loss, unreliable transportation and medical cost burden.
  - Hardship categorized as 0, 1, or  $\geq 2$

# Variables

- ***Covariates***

- Age
- Race/ethnicity
- Urban residence
- Education
- Marital status
- Household annual income
- # Children
- General health status
- Chronic illness
- Insurance status
- Personal doctor
- Checkup within 1 year
- Psychosocial distress

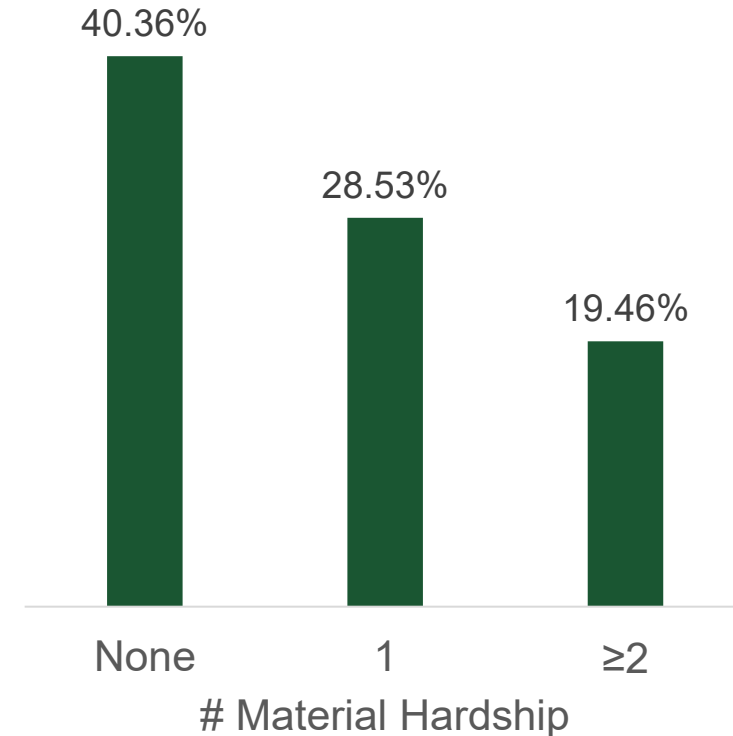
# Statistical Analysis

- Survey weighted multivariable linear probability model (LPM)
- Included state and year fixed effects
- Adjusted for covariates
- Stata version 19.

# Findings

- Approximately 34.6% were adherent to all three screenings while 12.1% completed none.
- Around one-third (34.2%) reported  $\geq 1$  material hardship
- 93.6% had health insurance.

Multi-screening Adherence  
Women 45-64



# Findings

- In the full sample, one material hardship was associated with a 5-percentage point lower probability of adherence, and two or more with a 7-percentage point lower probability.
- These associations persisted unchanged in the insured-only subsample.
- Having a recent checkup (+18pp) and a personal doctor (+8pp) were the strongest positive predictors of adherence.
- Non-adherent women had significantly higher rates across all hardship types — including food insecurity, medical cost burden, transportation barriers, and utility and bill hardships.

# Conclusions

- Only ~35% of eligible women aged 45–64 were adherent to all three recommended screenings, highlighting a substantial gap in preventive care.
- Material hardship is independently associated with lower multi-cancer screening adherence, even after adjusting for insurance status, income, and other sociodemographic factors.
- Interventions to improve multi-cancer screening adherence must address upstream social determinants of health beyond coverage expansion
- Regular checkups and having a personal doctor were among the strongest positive predictors of adherence, pointing to actionable targets for healthcare systems.

# References

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Thank you