

Mixed success and persistent disparities in outcomes related to breast density legislation: A national survey

Nancy R. Kressin, PhD¹, Tracy A. Battaglia, MD, MPH¹, Jolie B. Wormwood, PhD², Priscilla J. Slanetz, MD, MPH³, Christine M. Gunn, PhD¹

BACKGROUND

- Most US states have laws requiring **dense breast notification (DBN)** after mammograms
- Little is known about the impact of DBNs, or whether disparities are impacted by sociodemographic characteristics

OBJECTIVE

Determine whether **knowledge, awareness of personal breast density, and discussions with providers** varied by states' DBN status or women's socio-demographic characteristics, including **health literacy**

METHODS

- Cross-sectional, national telephone survey, weighted to population demographics
- Eligible women: aged 40 - 74, mammogram in ≤ 2 years, no prior breast cancer, heard the term 'breast density'
- Self-reported outcomes aligned with DBN intent:
 - **Awareness** of personal breast density
 - **Knowledge** of masking effect (dense breasts make it harder to find cancer) and association with increased breast cancer risk
 - Prompting **discussions** with providers

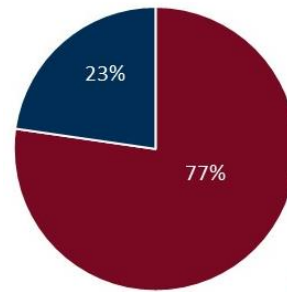
ANALYSIS

- **Multivariable, binary logistic regressions** predicted each outcome using DBN status, age, race, ethnicity, income, health literacy, prior biopsy, and family history of cancer as simultaneous predictors

RESULTS

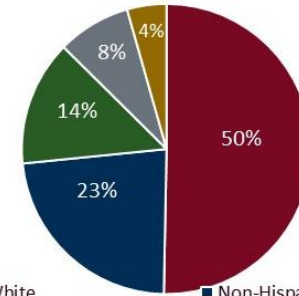
Sample Size = 2,306

DBN vs. Non-DBN state



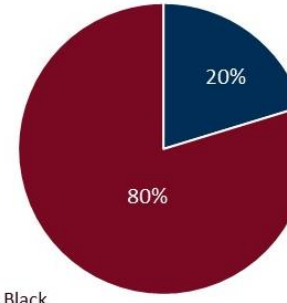
■ DBN state residence
■ Non-DBN state residence

Race/Ethnicity



■ White
■ Non-Hispanic Black
■ Hispanic
■ Asian
■ Other

Health Literacy Status



■ Low
■ High

Main Findings

Women in DBN states were more likely to have:



Received personal breast density information

(OR: 1.5, 95% CI: 1.19, 1.96)

Discussed breast density with a provider

(OR: 1.75, 95% CI: 1.35, 2.27)

There were no differences in knowledge outcomes by DBN status.

Lower Health Literacy was associated with:



Less knowledge about masking effects

(OR: 0.6, 95% CI: 0.5, 0.8)

Greater knowledge about the increased risk of cancer

(OR: 1.7, 95% CI: 1.4, 2.2)

More discussions with providers that occurred

(OR: 1.4, 95% CI: 1.1, 1.7) or were planned

(OR: 1.9, 95% CI: 1.4, 2.6)

CONCLUSIONS

- Mandated DBNs appear to have had **partial success** informing women about their personal breast density
- No indication that women in DBN states had greater knowledge
- Health literacy was independently associated with more discussions with providers, but mixed results on knowledge elements

Knowledge about the implications of having dense breasts is important for women's decision making, but we found that DBN status did not impact knowledge outcomes

¹ Section of General Internal Medicine, Department of Medicine, Boston University School of Medicine

² Department of Psychology, University of New Hampshire

³ Department of Radiology, Boston University School of Medicine