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Mammography Use after the 2009 Debate

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In November 2009, the United States Preventive Services Task Force (USPSTF) updated their guidelines to recommend against routine screening mammography for women aged 40 to 49 years and recommended biennial instead of annual mammography for women aged 50 to 74 years for women of average risk.^{1,2} The Task Force also concluded that “current evidence is insufficient to assess the additional benefits and harms of screening mammography in women aged 75 years or older (p.716).”¹

The guideline update invoked many medical societies to release their own guidelines to support annual mammogram in women age 40 years and older.³ Most private and public insurers continued to cover annual mammography for women age 40 years and older.⁴⁻⁷ Moreover, breast cancer screening is the only preventive procedure that the Patient Protection and Affordable Care Act (ACA) coverage did not match the 2009 USPSTF recommendations and instead, covers annual mammography without co-pay or co-insurance for women starting at age 40 years of average risk.⁸ The National Breast and Cervical Cancer Early Detection Program continues to pay for annual mammography for underserved women aged 40 to 64 years of average risk.⁹

We used the Medical Expenditure Panel Survey-National Health Interview Survey (MEPS-NHIS) linked data to identify women aged 41 years and older. We obtained person-level data covering three calendar years (2008-2010). Women aged 41 years or older were asked about mammography use in the past year three times during the study period. We stratified women into three age groups: 41 to 49, 51 to 74, and 76 years and older. We reported trends of the percentage of women who reported a mammogram in the past year by age group. We estimated logistic multivariate regression models with person-specific fixed effects to compare self-reported mammography screening in each of the three years. Variables in the

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Conflict of interest

None

regression analyses include survey year, household income compared to federal poverty line, insurance status, whether the respondent has a usual source of care, and self-rated health status measure. Because we stratify by age, we do not further control for it in the regression models. Insurance status was not controlled in the analyses of the age group 75 years of older because they are by and large Medicare beneficiaries. The model included person-specific fixed effects to account for unobservable characteristics that could bias estimates of mammography utilization.

In the 41 to 49 age group, the percentage of women reporting a past-year mammogram rose from 46% in 2008 to 56% in 2010 ($p<0.05$). We have observed The mammography rates in older women were virtually unchanged (Figure 1). Table 1 confirms the patterns observed. Women aged 41 to 49 years (odds ratio=2.00, 95% CI: 1.26-3.17) were more likely to report a past-year mammogram in 2010 than in 2008. For women aged 51 to 74 and 76 or older, the past-year mammograms were unchanged from 2008 to 2010 in the multivariate analyses. Women aged 51 to 74 years who had a usual source of care were more likely to report mammography in the past year (odds ratio =2.84, 95% CI: 1.60-5.04).

By following a cohort of women from 2008 to 2010, we found that mammography screening rates did not decrease in any age group after the 2009 issuance of guideline changes. Contrasting to a downward trend in mammography rates between 2000 and 2008,¹⁰ the percentage of women who reported a past-year mammogram was higher in 2010 than in 2008 in women aged 41 to 49 years. Although aging may explain some of the increase in mammography use in this age group, it probably safe to conclude that there was very little response to the new USPSTF guideline recommendations for younger women. Mammography rates were unchanged over time in other age groups. The vigorous debate following the USPTF new guidelines may have raised the awareness of breast cancer screening. Continued analysis of mammography rates with more years of longitudinal data will inform whether there is a long-term impact of the 2009 guidelines on screening rates. The next USPSTF breast cancer screening recommendations are due in the near future. We should be prepared for an ongoing debate about balance of benefit and harms, the age at which screening should begin and end, and issues of over-diagnosis/over-treatment.

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Figure 1. Percentage of women reporting a past-year mammogram

Medical Expenditure Panel Survey (2009-2010) and National Health Interview Survey (2008)

Note: Women aged 41-49 (N=388); age 51-74 (N=790); age 76+ (N=193)

Table 1
The Odds Ratio (95% CI)

Medical Expenditure Panel Survey (2009-2010) and National Health Interview Survey (2008)

Age group	41-49	51-74	76+
N	388	790	193
Survey wave ^a			
2008	1.00 (reference)	1.00 (reference)	1.00 (reference)
2009/2010	1.67 (1.08-2.60)	1.20 (0.91-1.58)	0.65 (0.33-1.25)
2010	2.00 (1.26-3.17)	1.25 (0.95-1.65)	0.63 (0.33-1.22)
Income/Poverty Ratio			
<100 % of FPL	1.00 (reference)	1.00 (reference)	1.00 (reference)
100-199 % FPL	1.06 (0.46-2.48)	1.13 (0.68-1.88)	0.59 (0.22-1.59)
>=200 % of FP	2.22 (0.75-6.58)	1.02 (0.60-1.75)	0.43 (0.14-1.30)
Unknown	2.09 (0.48-9.00)	0.60 (0.25-1.44)	0.35 (0.08-1.48)
Self-reported health			
Excellent/very good	1.00 (reference)	1.00 (reference)	1.00 (reference)
Good	0.80 (0.43-1.48)	0.83 (0.56-1.23)	1.33 (0.57-3.09)
Fair/poor	0.88 (0.33-2.40)	0.96 (0.58-1.60)	1.61 (0.59-4.39)
Usual Source of Care			
Yes	1.25 (0.64-2.45)	2.84 (1.60-5.04)	1.77 (0.42-7.53)
No	1.00 (reference)	1.00 (reference)	1.00 (reference)
Insurance ^b			
Private	2.00 (0.72-5.58)	1.25 (0.61-2.55)	
Public	1.00 (0.22-4.55)	1.65 (0.78-3.47)	
Uninsured	1.00 (reference)	1.00 (reference)	

NOTES:

^aWomen were first surveyed from January to October of 2008 in NHIS. They were later surveyed in the Panel 14 of MEPS, and mammography questions were asked in the round 3 and 5 from August 2009 to May 2010 and from September to December of 2010.

^bInsurance status was not controlled in the analyses of the age group 76 years of older because most of them were Medicare beneficiaries during the study period.