

Supplementary Online Content

Lee JM, Arao RF, Sprague BL, et al. Performance of screening ultrasonography as an adjunct to screening mammography in women across the spectrum of breast cancer risk. *JAMA Intern Med.* Published online March 18, 2019. doi:10.1001/jamainternmed.2018.8372

eAppendix. Supplemental Appendix

eFigure 1. Distribution of Propensity Scores Before and After Propensity Score Matching for the Full Cohort of Women Receiving Mammography and Ultrasound Screening

eFigure 2A. Distribution of Propensity Scores Before and After Propensity Score Matching for Examinations Associated With Breast Cancer Diagnosis Within 1 Year

eFigure 2B. Distribution of Propensity Scores Plots Before and After Propensity Score Matching for Examinations With No Breast Cancer Diagnosis Within 1 Year

eFigure 2C. Distribution of Propensity Scores Before and After Propensity Score Matching for Examinations Associated With Biopsy Recommendations

eTable. Distribution of BI-RADS Breast Density by BCSC 5-Year Risk in 5392 Mammography Plus Ultrasound Examinations

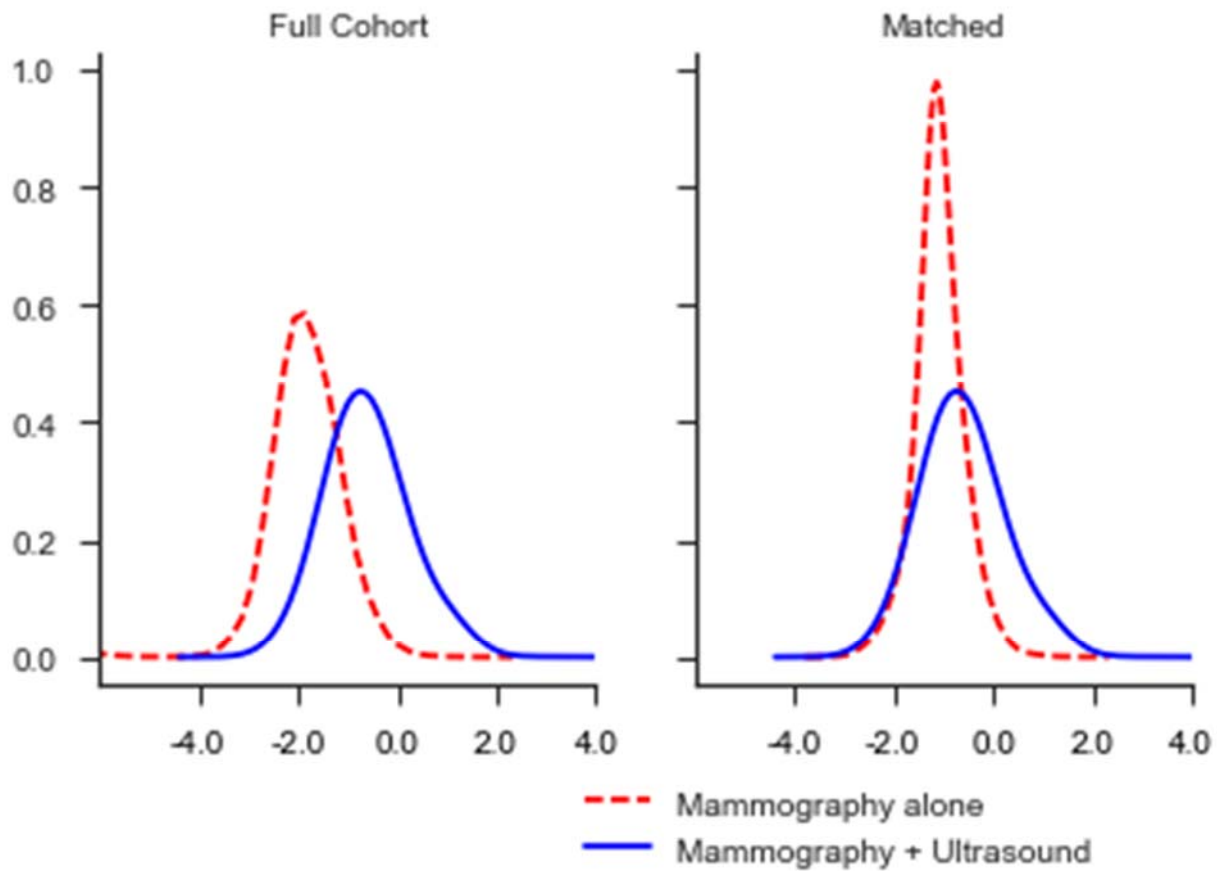
This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix. Supplemental Appendix

In our observational study, women who received mammography plus ultrasound screening were different from women who received mammography alone, based on comparison of characteristics summarized in Table 1. To provide a more “apples to apples” comparison of the two screening strategies, we selected examinations from the mammography alone cohort for matching with mammography plus ultrasound examinations, based on the probability of receiving screening ultrasound (propensity score-based matching) with a 5:1 ratio of mammography alone to mammography plus ultrasound examinations. We compared the distributions of characteristics (Table 1) and also compared kernel density plots of propensity score distributions both before and after matching.

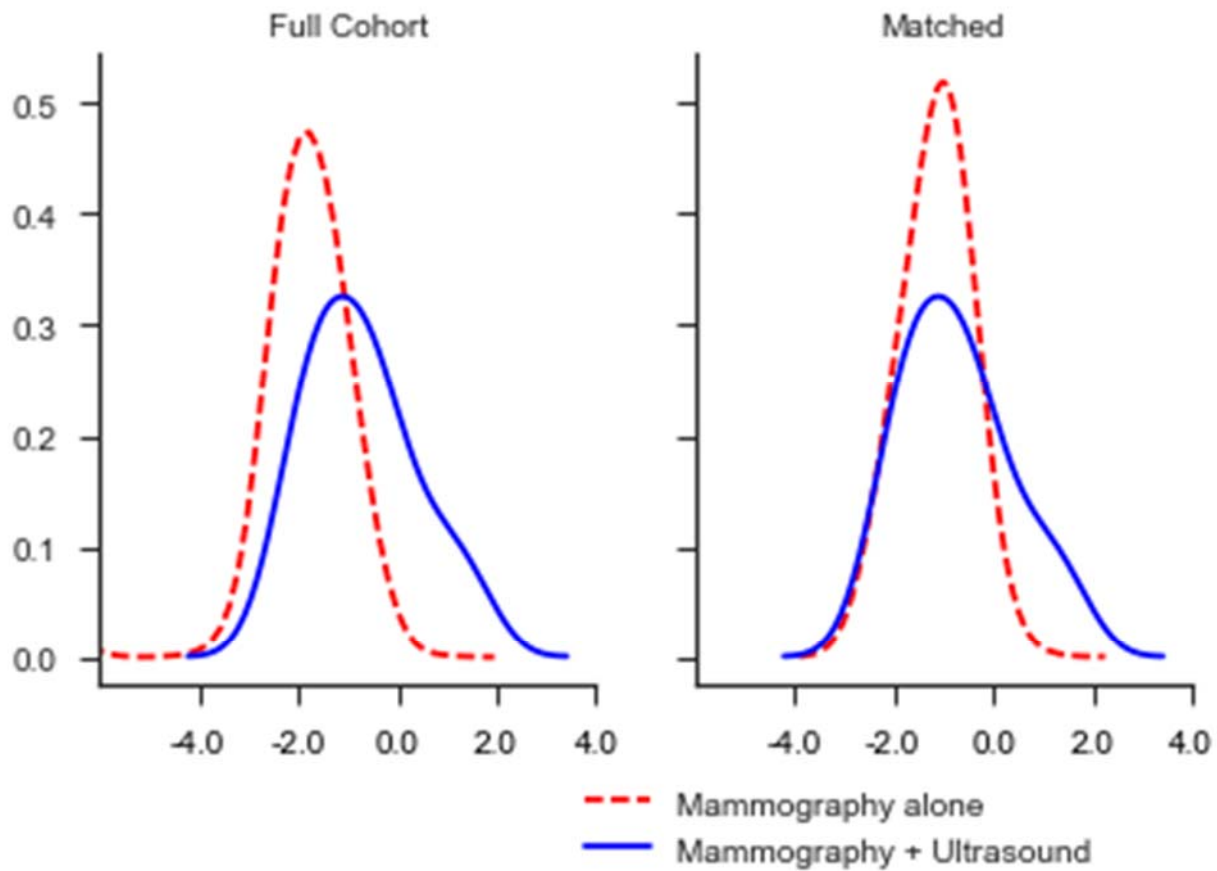
Kernel density plots were used to present a visual summary of the distribution of the propensity scores, summed into an overall density plot. They present probability density rather than frequency, enabling comparison of the propensity score distributions in the two cohorts of differing size on the same y-axis scale. The x-axis scale uses the logit (log-odds) of the propensity score. As an example, an examination with a propensity score of 0.5, indicating a 50% probability of receiving mammography plus ultrasound screening would have a logit (p) value of 0.0. An examination with a propensity score of 0.1 would have a logit(p) value of -1. After matching, there is greater overlap of the areas under each curve.

Overall



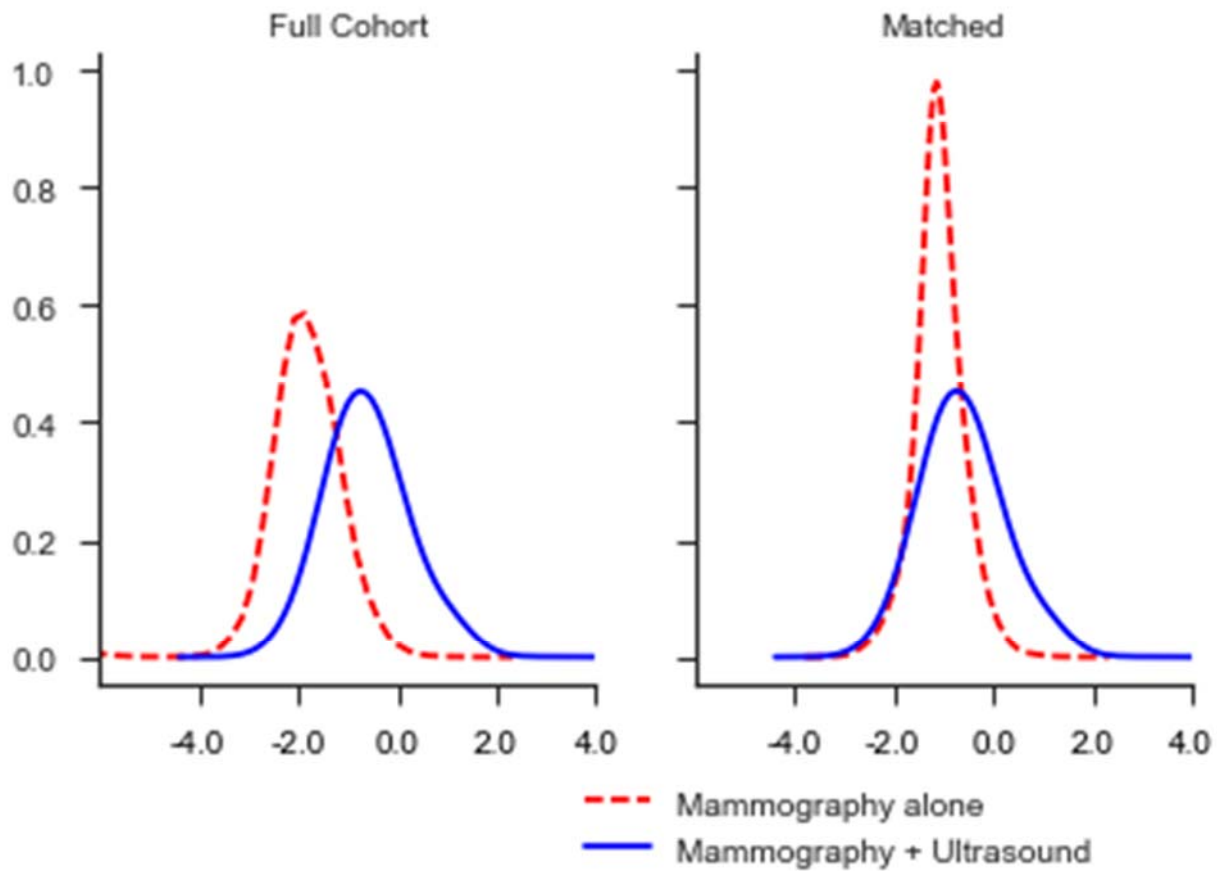
eFigure 1. Distribution of Propensity Scores Before and After Propensity Score Matching for the Full Cohort of Women Receiving Mammography and Ultrasound Screening. X-axis shows propensity score as the logit of the probability (p) of receiving screening ultrasound. Y-axis shows the probability density.

Sensitivity



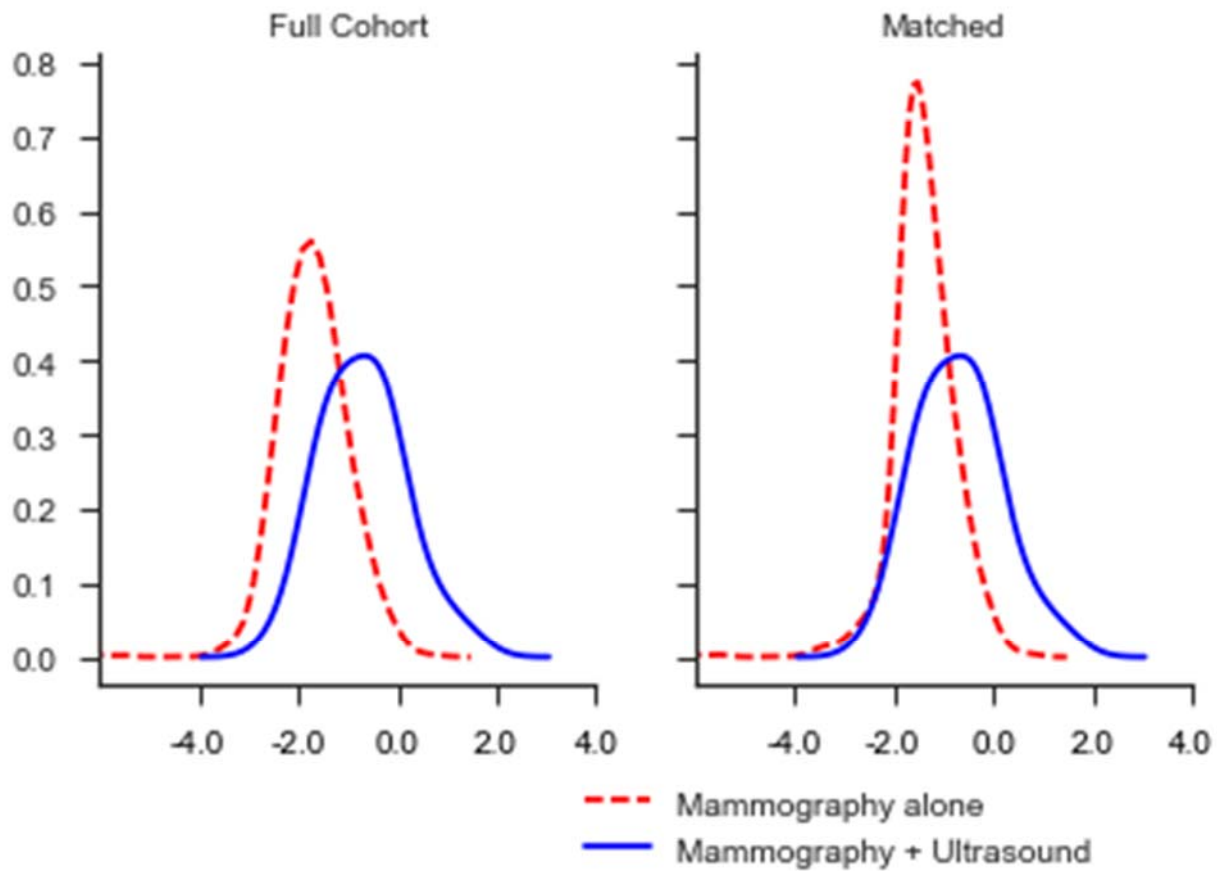
eFigure 2A. Distribution of Propensity Scores Before and After Propensity Score Matching for Examinations Associated With Breast Cancer Diagnosis Within 1 Year

Specificity



eFigure 2B. Distribution of Propensity Scores Plots Before and After Propensity Score Matching for Examinations With No Breast Cancer Diagnosis Within 1 Year

PPV2



eFigure 2C. Distribution of Propensity Scores Before and After Propensity Score Matching for Examinations Associated With Biopsy Recommendations

eTable. Distribution of BI-RADS Breast Density by BCSC 5-Year Risk in 5392 Mammography Plus Ultrasound Examinations

BCSC 5-yr risk	BI-RADS Breast Density				
Low (0%-1.00%)	51	443	591	111	1196
Average (1.00-1.66%)	16	443	1000	234	1693
Intermediate (1.67%-2.49%)	5	240	903	201	1349
High (2.50%-3.99%)	2	134	677	163	976
Very High (≥3.99%)	0	16	141	21	178
Total	74	1276	3312	730	5392