



## Commentary

Assessing and increasing breast cancer screening<sup>☆</sup>Noel T. Brewer<sup>\*</sup>, Paul L. Reiter

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Ryerson et al. (2008) return to the topic of whether breast cancer screening rates are dropping (Centers for Disease Control and Prevention, 2007; Breen et al., 2007; Feldstein et al., 2006), a finding that attracted media attention and caused concern in the public health community. It is both timely and responsible that they are reporting these latest findings that the drop has largely reversed itself, except for a few demographic sub-groups.

**What ages is mammography screening recommended for?**

These findings should be interpreted in the context that the benefits of mammography are small. Furthermore, substantial disagreement remains about the recommendations for women age 40–49 and over 70 (referred to hereafter as younger and older women, respectively). Younger women have very low rates of breast cancer, making false positive results much more common (Brewer et al., 2007a), and when they get breast cancer it is more often an especially quick growing and deadly form that evades screening because even one year intervals can be too long. Older women experience the largest proportion of breast cancers, but no randomized controlled trial has demonstrated effectiveness of screening mammography for older women (Mandelblatt, 2007). Screening older women for breast cancer has uncertain cost effectiveness and may lead to treatments that harm quality of life without prolonging life in those with multiple comorbidities or low life expectancy (Smith et al., 2003; Kerlikowski et al., 1999). However, recent observational studies suggest a survival benefit for screening or surveillance in older women may exist (Badgwell et al., 2008; Lash et al., 2007).

Though screening women outside the 50–69 year age range is recommended in the U.S., only three of 19 countries surveyed in 2002 started breast cancer screening at age 40, and none had the open-ended upper age limit the U.S. now adopts (International Cancer Screening Network 2002).

These issues are worth mentioning because many of Ryerson et al.'s findings of changes over time are in these younger and older age ranges where recommendations are most controversial and have the least evidence. Breast cancer screening behavior of adult women aged 50–69 has clear public health importance. Ryerson et al. report comparable age-standardized proportions for this age group in 2000

and 2006 (with a small but statistically significant increase from 2004 to 2006 that compensated for a previous drop). Consequently, the feared decreases in mammography rates do not seem to be greatly affecting the age groups where mammography is known to be most effective. While the proportions vary a little more in the lower and higher age ranges, especially in the youngest age group, the observed decreases may not be as concerning as they initially seem given the lack of consensus about best practices for screening in these age groups. More interesting are the lower overall rates at all time periods for these younger and older women.

**What is the real screening rate?**

The current study defined recent mammography utilization as any woman aged 40 or older who reported a mammogram in the 2 years prior to the survey, a relaxed criterion. Among U.S. groups that have made recommendations for routine screening, a consensus recommendation does not exist about the ideal screening interval, though it is generally between 1 and 2 years. The National Cancer Institute and the U.S. Preventive Services Task Force recommend mammography screening every 1 to 2 years for women 40 and older (National Cancer Institute 2007; U.S. Preventive Services Task Force 2002). However, the American Cancer Society (ACS) recommends yearly mammograms starting at age 40 and continuing at this rate in presence of good health (American Cancer Society, 2008). Using the ACS recommendation, the adherence definition used in Ryerson et al.'s analyses may have incorrectly classified some potentially non-adherent women as being within mammography screening guidelines. An interesting approach may have been to conduct a sensitivity analysis using different definitions of adherence to clarify trends in mammography use. It would have been worthwhile to see if the reported trends remained when using stricter adherence definitions of 12 months or even 18 months for the younger age group.

Other forms of bias may be present in the reported adherence rates. As the authors state, their findings are based on self-reports collected via telephone and not medical records, which may result in overestimation of compliance because women often recall mammograms as more recent than they were. However, the source of error may not be socially desirable responding as the authors speculate, but instead a memory error. People easily recall serious or memorable events when interviewed by telephone, but they tend to forget or elide less serious or unmemorable events in the time-pressured setting of a telephone interview (Brewer et al., 2004).

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Lastly, known breast cancer risk factors, such as smoking and family history of breast cancer, were not addressed in the study. Family history of breast cancer increases women's risk of developing breast cancer (Colditz et al. 1993) and can affect her recommended screening interval. Data on family history of breast cancer were not collected in the study, precluding such analyses, but other risk factor data may be available.

### How should we increase screening rates?

Policy can have large effects on rates of screening. If policy makers and public health advocates believe that screening mammograms save lives and are the standard of care, the U.S. should quickly move to a more coherent policy of universal coverage for breast cancer screening. Novel and potent approaches – and not just more health education – are critically needed. Defaults can powerfully affect behavior as shown by the radically higher rates of organ donation in countries that make it the default as compared to countries that require one to opt into the donation system (Johnson and Goldstein, 2003). In many European countries where nationally implemented programs automatically schedule women for their mammograms, screening rates are much higher than those in the U.S. (Brewer, Salz, and Lillie, 2007b). It's time for mammography to be the default in the U.S.

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