

Screening Contretemps: The Real Issue in the Mammogram Guideline Debate

The week of November 16, 2009, the U.S. Preventive Services Task Force (USPSTF) issued updated guidelines on breast cancer screening, with the controversial recommendation that women aged 40 to 49 years no longer undergo screening mammography. Within hours, the web was humming with the news. Newspapers and cable TV shows lined up familiar experts and talking heads to opine on whether this was “good” or “bad.” Major cancer organizations issued formal statements. The American Cancer Society and NCCN, among others, re-iterated standing recommendations in favor of screening. As the hours turned into days, many women rendered their own opinions in chat rooms and media stories, offering heartfelt testimonials to argue that screening mammograms had alternatively saved their lives or contributed to painful, unnecessary procedures and worry. On day 2, a radiology practice reported a doubling of “no shows” for mammograms—3 or 4 a day instead of the usual 1 or 2. The Secretary of Health and Human Services issued a statement encouraging women and clinicians to continue their standing practices.

As a demonstration for debating public health policy, this was dispiriting for a number of reasons, many of which could have been avoided with better planning and greater clarity of presentation.

First, no one should be shocked to discover that screening mammograms for women aged 40 to 49 is controversial. It has long been controversial, as everyone in the field knows. The incidence of breast cancer is lower among women aged 40 to 49; thus Bayes theorem predicts a greater likelihood of false-positive results, leading to more testing and unnecessary procedures. The average greater breast density of younger women also diminishes mammogram sensitivity. Young women are at risk for more virulent breast cancer subsets, often presenting as interval cancers, that have somewhat less successful treatments, arguably reducing the importance of annual screening. These well-established observations have meant that, for a decade or more, experts have written extensively about the controversies in screening young women.

Second, as noted at the back of the USPSTF report, most of the world does not vigorously pursue screening mammograms for women under 50. Guidelines from the World Health Organization, European Union, and British National Health Service all recommend starting biennial mammography at 50. The Canadian Task Force on Preventive Health Care cited insufficient data to either include or exclude mammogram screening for women aged 40 to 50 and argued for informing women of the potential benefits and trade-offs. Right or wrong, the U. S. practice of universal annual screening at 40 is the outlier in global health practices. Acknowledging these international standards would have bolstered arguments for re-thinking standing recommendations.

Third, the USPSTF recommendation centered on sophisticated attempts to gauge the benefits of screening on survival against the burdens of screening on personal health and societal costs, but the task force did a mediocre job of discussing this in the media. If the argument is that there are trade-



Harold J. Burstein, MD, PhD

Harold J. Burstein, MD, PhD, editor-in-chief of *JNCCN*, is an Associate Professor of Medicine at Harvard Medical School and a medical oncologist at Dana-Farber Cancer Institute and Brigham & Women's Hospital. He is a clinician and clinical investigator specializing in breast cancer.

Dr. Burstein attended Harvard College and earned his MD at Harvard Medical School, where he also earned a PhD in immunology. He trained in internal medicine at Massachusetts General Hospital and was a fellow in medical oncology at Dana-Farber before joining the staff.

Dr. Burstein's clinical research interests include novel treatments for early- and advanced-stage breast cancer and studies of quality of life and health behavior among women with breast cancer. He has written widely on breast cancer in both traditional medical journals and on the web, including *New England Journal of Medicine* and *Journal of Clinical Oncology*. International committees focusing on cancer treatments that he has or continues to participate in include the NCCN Clinical Practice Guidelines Breast Cancer Panel, St. Gallen Breast Cancer Panel, CALGB Breast Cancer Committee, ASCO Health Services Research and Clinical Research Committees, the National Quality Forum Breast Cancer Technical Panel, and other ASCO expert panels.

The ideas and viewpoints expressed in this editorial are those of the author and do not necessarily represent any policy, position, or program of the NCCN.

November 2009

offs in screening young women, then it is incumbent on the task force and responsible commentators to articulate those trade-offs in a manner accessible to women and clinicians. Where were the figures that showed the number of lives saved per 1000 women screened or the number of extra imaging tests and biopsies? Where was the scale to weigh the impact of those choices? An ordinary football game between teams at the bottom of the league generates more interactive graphics and charts than recommendations affecting millions of women each year!

Finally, and most importantly, the USPSTF shifted its recommendation based not on new data, but on new prioritizations of old data. That may be a legitimate exercise for policy experts, but it should have been more clearly articulated from the outset that what changed was not data on the efficacy of mammograms but an evolving perspective on the burdens mammography places on women with extra tests and biopsies. Indeed, the USPSTF reaffirmed that mammography saved lives among women of all ages, reducing the risk of breast cancer death by 15% in women aged 40 to 49, by 14% in women aged 50 to 59 and by 32% in women aged 60 to 69. Because of the lower prevalence of breast cancer in young women, these ratios mean screening 1904 women in their 40s to prevent 1 breast cancer death, while screening 1338 women in their 50s or 377 women in their 60s. Consistent with the purview of the task force, it determined that screening yielded moderate net benefits (survival against potential harms of false-positive results) for women over age 50, but only small net benefits among women aged 40 to 49.

It is this subtle shift in focus that fomented, I believe, such confusion and consternation, and represents the real challenge posed by the guideline revision. Those who rallied to the defense of screening mammography noted that mammograms saved lives. The task force didn't disagree; it said that the gains weren't sufficient to be *worthwhile*. That is a very different argument, but the point was lost in the rush to push the debate to a "for or against" mammograms moment. What should have transpired is that the task force said: "Mammograms save lives, but too few relative to the trade-offs to endorse universal screening. Women should consider the potential risks and benefits of mammograms carefully between the ages of 40 and 49. In our opinion, the net benefits are too small to recommend routine screening among younger women."

The evolving guidelines on mammography screening among younger women bring to the forefront a key issue in emerging health policy. The hallmark of comparative effectiveness and outcomes analysis centers on 2 related but different questions: 1) does a medical technology or treatment work; and 2) is that technology worthwhile? One question is of efficacy, the other of worthiness, which are not the same. The decision of worthiness is far more difficult. It requires judgment to balance the clinical benefits against the "costs" in terms of patient experience and societal resources. If guidelines panels begin to tackle these "worthiness" questions routinely, then more clearly transparent, defined, and well-articulated documentation and description will be essential. Otherwise, the confusion and backpedaling that quickly emerged from this week's mammography panel will be replayed, over and over again.