The USPSTF Breast Cancer Screening Guidelines: Current and Future Implications

June 04, 2010
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Several months have passed since the publication of the latest US Preventive Services Task Force (USPSTF) breast cancer screening guidelines. The initial, sharp outcry, mainly over the task force’s recommendation against routine screening mammography for women aged 40 to 49 years, has somewhat subsided, but the overall significance of the group’s decision remains undetermined.

“About changes in practice, I think it is too soon,” said Dr Mary L. Gemignani, an associate attending surgeon of the Breast Service at Memorial Sloan-Kettering Cancer Center. She went on to say that there would not be any change in her service, which favors annual screening for women in this age-group, and that she did not agree with the recommendations “because they are not based on new data and it’s really their value judgment . . . risk versus benefit.”

On November 17, 2009, Annals of Internal Medicine published the USPSTF’s updated recommendations on mammography screening.1 The USPSTF, which was established in 1984, is an independent expert panel on prevention and primary care that provides guidance to doctors, insurance companies, and lawmakers. Although the group does not represent the government, it is appointed by the Department of Health and Human Services. The new recommendations, previously updated in 2002, were based on a systematic review by Dr Heidi D. Nelson and colleagues2 and a modeling study by Dr Jeanne S. Mandelblatt and associates for the Breast Cancer Working Group of the Cancer Intervention and Surveillance Modeling Network.3

“We use a risk-benefit ratio for many decisions we make, medical or not,” said Judy Ockene, who was a member of the USPSTF when the group voted on its recommendations in June 2008. Ockene is a University of Massachusetts scientist whose mother received a diagnosis of breast cancer at the age of 44. She also has 2 daughters in their 40s. “Questions we ask to make a decision include: What is the risk of what I am doing? What is the benefit? If the benefits outweigh the risks, then it is ‘Do’ (USPSTF A and B recommendations). If the risks outweigh the benefits then it is ‘No do’ (USPSTF D recommendation). If the risks and benefits are the same, then it is C (Discuss). If there is not enough consistent or sufficient evidence, it is ‘I’ (Insufficient evidence).”

The USPSTF recommended against routine mammography for women in their 40s. Instead, the group favored starting biennial screenings at 50, and stated that the decision to start screening before 50 “should be an individual one and take into account patient context, including the patient’s values regarding specific benefits and harms” (grade C recommendation [from grade B in 2002]).1 “If you tried to make a risk assessment for the average person who comes into your office, it would be time-consuming, and given the current risk assessment tools available, limited,” said Gemignani. “The USPSTF wants to tailor the recommendations for screening, but for the average-risk woman, we might not have the best tools available to do so.”

The USPSTF’s change in recommendation grade is largely attributed to a new randomized controlled trial included in the Nelson review. The study found that it would take 1904 screening invites to prevent 1 cancer death in women aged 40 to 49 compared with 1339 screening invites to prevent 1 death in women aged 50 to 59, and 377 screening invites to prevent 1 death in women aged 60 to 69.1,2

Although the relative risk reduction rates associated with routine mammography in women aged 40 to 49 and 50 to 59 are similar (15% vs 14%, respectively), the USPSTF indicated that the absolute risk reduction is greater for women in the latter age-group; therefore, they concluded that for women in the younger age-group, the benefits did not outweigh the harms. The harms indicated by the task force included increased anxiety, radiation exposure, and inconvenience due to false positives.
According to Nelson and colleagues, the cumulative risk for false-positive mammography results is 21% to 49% after 10 mammography examinations for all women, and up to 56% for women in their 40s. As for radiation exposure, a 2005 study published by the British Journal of Cancer showed that the rate of radiation-induced breast cancer mortality associated with a decade of annual screening starting at age 40 years was 0.50 per 1000 women screened.

The task force also acknowledged the benefits of mammography. They found that breast cancer deaths declined by 2.3% per year since 1990 and by 3.3% for women aged 40 to 50; they attributed that decrease to mammography and improved treatment. They also reported that screening between the ages of 50 and 69 was associated with a 17% reduction in mortality compared with no screening, but that extending the age range to 40 years of age only led to “minor improvements”—an additional 3% reduction in mortality.

“Even a couple of lives saved is very important,” said Gemignani, who was also a member of an American Congress of Obstetricians and Gynecologists (ACOG) panel that opposed the USPSTF’s recommendations. “When the risk reduction is the same for someone who is in their 50s as someone who is in their 40s, it’s a value judgment. If you asked a woman ‘If you have this test you have a 15% less chance of dying but you have a high probability of needing a biopsy for a finding that is not cancer, do you want to have the test?’ For the great majority of women, the answer would be yes.” The ACOG as well as the American Cancer Society, the American College of Radiology, and several other groups disagreed with the recommendations. According to the ACOG, approximately 45,492 American women in their 40s will die of breast cancer over 10 years. With a risk reduction of 15% in women in this age-group screened by mammography, there would be approximately 6800 fewer deaths than expected with the 10-year death rate. This seems to be the crux of the opposition’s argument against the task force’s recommendation—how many lives saved are enough to outweigh the potential harms? Why the change in the recommendation? Why now? Where do we go from here?

“I did not expect such backlash,” said Ockene, whose term on the USPSTF ended in December 2008. “Some of the problem was that the article was released in the middle of the health care debate. The USPSTF has no control over when an article is released. It is up to the journal. The article was accepted over a year and a half ago but was not released until fall 2009.” The task force voted on the new recommendations in June 2008, several months before the presidential election in November, and after the recommendations were released, the United States Senate passed legislation that required insurers to provide free preventive services, including breast cancer screening, for women. Yet those against the recommendations find it hard to believe that health care reform had nothing to do with it.

“Even though the USPSTF said they didn’t factor cost in their new recommendations and only focused on the potential harms to the patient, there is likely to be unintended consequences resulting from these recommendations,” said Gemignani. It also prompted fears that with the health care reform movement and scrutiny over health care spending, these recommendations may be adopted by health care payers.
The new health care bill requires insurance companies to cover USPSTF A and B recommendations. “However that does not say a C recommendation is not covered,” said Ockene.

The next USPSTF breast cancer review will likely begin in 2012 in order for the new recommendations to be released in 2014. Gemignani believes that there should be a greater focus on the limitations of mammography, which has a 10% to 15% false-negative rate, and further research on how to decrease the false positives obtained on mammography and the need for biopsy. The process of breast cancer screening, like most screening methods, has its flaws. For now, most clinicians are simply ignoring the USPSTF’s recommendations, opting instead to continue with routine mammography—a screening test most say is not perfect but the “best we have.” It is likely that any decrease in insurance coverage for preventive services linked in any way to these recommendations will prompt a new wave of backlash, but that remains to be seen because health care reform has only just begun.

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