

Commentary Daniel Kopans, MD on USPSTF

The US Preventive Services Task Force (USPSTF) used the lowest possible decrease in deaths from mammography in their estimates of how many women would need mammograms to save one life. They also ignored direct data that would have provided them with a more accurate measure of benefit. A truly scientific analysis would have explained the following and provided a range.

The USPSTF used a 15% decrease in breast cancer deaths in their calculations of how many women would need to be screened to save one life. This is, in fact, the lowest possible estimate of benefit which they derived from the randomized, controlled trials (RCT). It is clear that the members are unfamiliar with RCT and how the data are analyzed. In the RCT, women were “invited” to be screened (they obviously cannot be forced to participate). This means that the RCT underestimate the benefit of screening since women who are allocated to the screening arm who refuse the invitation to be screened (noncompliance) and die of breast cancer are still counted as deaths in the screened group. Similarly, women allocated to the “unscreened” control group were free to have mammograms on their own outside the trials. Despite the fact that these mammograms may have prevented them from dying of breast cancer, they are still counted as unscreened controls (contamination). It is clear that the members of the USPSTF actually did not understand that the trials underestimate the benefit. If they did, then they were negligent in not explaining this to the public.

A more accurate measure of how much the death rate will go down in true population screening is obtained by actually measuring the decrease in deaths when the population is screened. The USPSTF admits that the death rate from breast cancer, in the United States, has decreased since the onset of national screening by 30%. They furthermore point out (p 720) that the decrease in deaths was even higher among women ages 40-49. In Sweden and the Netherlands direct data show that the vast majority of the benefit is due to screening and not due to improved therapies (although therapy is clearly more successful when the cancers are very small). In Sweden the death rate has decreased by 40% since women have been offered screening beginning at age 40 and among women in their forties. Using these direct measures of benefit (30-40%) the number needed to screen, using the USPSTF algorithm, to save one life among women in their forties drops from their estimate (using a 15% decrease in deaths) of 1900 down to 850 (using a 30% benefit), and if the decrease is 40% then the number needed to screen is 703 (both of which are well below their estimate of 1300 for women ages 50-59 which they have decided makes saving lives worthwhile.

These numbers are based on the USPSTF analysis. They used the lowest possible estimate of benefit. They ignored the true measures of benefit. At the very least, they should have provided the range of likely benefit rather than deny women in their forties access to screening based on an underestimate of the benefit.

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