

Likelihood That a Woman With Screen-Detected Breast Cancer Has Had Her "Life Saved" by That Screening

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Background Perhaps the most persuasive messages promoting screening mammography come from women who argue that the test "saved my life." Because other possibilities exist, we sought to determine how often lives were actually saved by mammography screening.

Methods We created a simple method to estimate the probability that a woman with screen-detected breast cancer has had her life saved because of screening. We used DevCan, the National Cancer Institute's software for analyzing Surveillance Epidemiology and End Results (SEER) data, to estimate the 10-year risk of diagnosis and the 20-year risk of death—a time horizon long enough to capture the downstream benefits of screening. Using a range of estimates on the ability of screening mammography to reduce breast cancer mortality (relative risk reduction [RRR], 5%-25%), we estimated the risk of dying from breast cancer in the presence and absence of mammography in women of various ages (ages 40, 50, 60, and 70 years).

Results We found that for a 50-year-old woman, the estimated risk of having a screen-detected breast cancer in the next 10 years is 1910 per 100 000. Her observed 20-year risk of breast cancer death is 990 per 100 000. Assuming that mammography has already reduced this risk by 20%, the risk of death in the absence of screening would be 1240 per 100 000, which suggests that the mortality benefit accrued to 250 per 100 000. Thus, the probability that a woman with screen-detected breast cancer avoids a breast cancer death because of mammography is 13% (250/1910). This number falls to 3% if screening mammography reduces breast cancer mortality by 5%. Similar analyses of women of different ages all yield probability estimates below 25%.

Conclusions Most women with screen-detected breast cancer have not had their life saved by screening. They are instead either diagnosed early (with no effect on their mortality) or overdiagnosed.

Website Source:

<http://archinte.ama-assn.org/cgi/content/abstract/archinternmed.2011.476>