Researchers call attention to "overdiagnosis" risk in cancer screening.

(Photo: Dan MacMedan,)

Story Highlights

- Researchers found that mammograms led 1 in 5 women to be overdiagnosed
- Overdiagnosis occurs when a screening exam finds a slow-growing, basically harmless cancer
- Women should consider the risks vs. the benefits of mammograms

New results from a long-running Canadian mammogram study are renewing the debate over the "overdiagnosis" of breast cancer, an issue that's often discussed by doctors but unfamiliar to many women, including some who get mammograms faithfully every year.

The study finds that 22% of women whose cancers were detected by mammograms were overdiagnosed — and subjected to unnecessary treatment — because their breast screenings found slow-growing cancers that would not have harmed them. In other words, without mammograms, one in five of these women would never have known they had breast cancer. They would not have gone through treatment, and they would have been just fine, authors say.

STORY: Double mastectomies can benefit some patients

The study is the latest paper from the Canadian National Breast Screening Study, which has followed 89,000 women ages 40 to 59 since 1980. While research suggests that mammograms reduce the risk of dying from breast cancer by 15% to 25%, the Canadian study has never found a benefit to the exams.

Doctors have debated the value of mammograms for years. The issue exploded in 2009, when a government advisory panel, the U.S. Preventive Services Task Force, recommended against routinely screening women in their 40s. While the task force didn't rule out mammograms in this age group, it did find that the risks could outweigh the benefits for many younger women, who have a lower risk of developing breast cancer.

Authors of the new paper, published in *BMJ,* formerly the British Medical Journal, calculated the rate of overdiagnosis statistically by comparing the number of cancers among screened and unscreened women over time.

Screening aims to detect breast cancers at earlier stages. So, in the early years of a study like this, doctors would expect to find many more breast cancers among screened women. With a perfect test, the unscreened group of women would eventually "catch up," so that the total number of cancers detected in each group — whether early or advanced — would be about the same, says Steven Woloshin, a professor at the Dartmouth Institute for Health Policy & Clinical Practice, who wasn't involved in the new study.

In this study, however, after following women for 25 years, authors still found far more cancers in women getting mammograms, suggesting women were being diagnosed and treated unnecessarily, Woloshin says.

While researchers can calculate the rate of overdiagnosis, doctors can't tell if individual patients have been overdiagnosed, Woloshin says.

That's the dilemma," he says. "The only way to know if you've been overdiagnosed is to get diagnosed, not get treated, then die of something else. You'd need a time machine."

Doctors today are better than ever at individualizing cancer treatment, and spotting which women need aggressive breast cancer therapy. But they don't yet know which women could skip treatment altogether, Woloshin says. So virtually all women with breast cancer are treated.

But women can make choices before they are screened, Woloshin says. Before women have a mammogram, they should consider both the benefits and the risks, including the chance that they will undergo unnecessary treatment.

Authors of the Canadian study say their findings suggest that policymakers should reassess the value of mammograms. In an accompanying editorial called "Too Much Mammography," Norwegian researchers from the University of Oslo and other medical centers agree, arguing that the new study doesn't support screening women before age 60.

Yet Barbara Monsees, a radiologist with the American College of Radiology, says the Canadian study is fundamentally flawed and useless for drawing conclusions. Women in the study received very poor-quality mammograms, she says. Authors also made basic mistakes when assigning women to receive either mammograms or usual care. Those problems skew the study's results, making it completely unreliable.

While Monsees agrees that it's possible for women to be overdiagnosed, the true rate is much lower. More reliable studies estimate that rate to be below 10%, she says.

Yet Woloshin says the Canadian study may actually underestimate the risks of mammograms, because authors didn't include a type of tumor called ductal carcinoma in situ, or DCIS. Experts disagree about whether these small tumors should be considered breast cancers or simply precancerous. Yet because DCIS sometimes develops into full-blown cancer, women are generally treated with surgery, radiation and sometimes hormonal therapy.

More than 232,000 American women are diagnosed with breast cancer each year, with an additional 60,000 diagnosed with DCIS.

Although women at high risk usually benefit from early detection, there are also "real and legitimate harms" from cancer screening for the average woman, says Eric Winer, director of the breast oncology center at Boston's Dana-Farber Cancer Institute.

"We have a very real issue facing us as a country about the best screening for average-risk women," Winer says. "This needs to be part of the conversation that doctors and health policymakers have in the next several years."