

## Skipping Mammogram Increases Risk of Death from Breast Cancer

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At A Glance

- Regular mammography screening substantially reduces the risk of dying from breast cancer.
- Data from almost 550,000 women eligible for mammography screening in nine Swedish counties between 1992 and 2016 was analyzed.
- Analysis showed that participation in the two most recent screening appointments before diagnosis provided a higher protection against breast cancer death.

OAK BROOK, Ill. — Attendance at regular mammography screening substantially reduces the risk of dying from breast cancer, according to a large study of over half a million women, published in the journal *Radiology*. Researchers said women who skip even one scheduled mammography screening before a breast cancer diagnosis face a significantly higher risk of dying from the cancer.

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Stephen W. Duffy, M.Sc.

Breast cancer screening with mammography has helped reduce disease-related deaths by enabling detection of cancer at earlier, more treatable stages. Despite mammography's well-established effectiveness, many women don't participate in recommended screening examinations.

In the new study, led by László Tabár, M.D., from Falun Central Hospital in Falun, Sweden, and funded by the American Cancer Society, a multinational team of researchers took a more detailed look at screening attendance patterns to further refine mortality risk estimates. They analyzed data from almost 550,000 women eligible for mammography screening in nine Swedish counties between 1992 and 2016. The women were divided into groups based on their participation in the two most recent scheduled screening exams prior to cancer diagnosis. Women who participated in both screening sessions prior to diagnosis were identified as serial participants, while those who did not attend either screening opportunity were categorized as serial nonparticipants.

Analysis showed that participation in the two most recent mammography screening appointments before a breast cancer diagnosis provides a higher protection against breast cancer death than participation in neither or only one examination.

The incidence of breast cancers proving fatal within 10 years of diagnosis was 50% lower for serial participants than for serial nonparticipants. Compared to women who attended only one of the two previous screens, women who attended both had a 29% reduction in breast cancer mortality.

"Regular participation in all scheduled screens confers the greatest reduction in your risk of dying from breast cancer," said the study's lead author, Stephen W. Duffy, M.Sc., professor of cancer screening at Queen Mary University of London.

Duffy said the results add further evidence to support regular screening with mammography as a means for reducing breast cancer-related deaths.

"While we suspected that regular participation would confer a reduction greater than that with irregular participation, I think it is fair to say that we were slightly surprised by the size of the effect," Duffy said. "The findings support the hypothesis that regular attendance reduces the opportunity for the cancer to grow before it is detected."

The researchers are continuing to study mammography data to develop a more comprehensive picture of screening benefits, including the impact on interval cancers that arise between screening mammography examinations.

"We are planning further prognostic research into the mechanism of this effect," Duffy said. "For example, we plan to investigate whether and—if so—to what extent regular attendance improves the prognosis of interval cancers as well as screen-detected cancers. Estimation of this by time since last screen may have implications for policy on screening frequency."

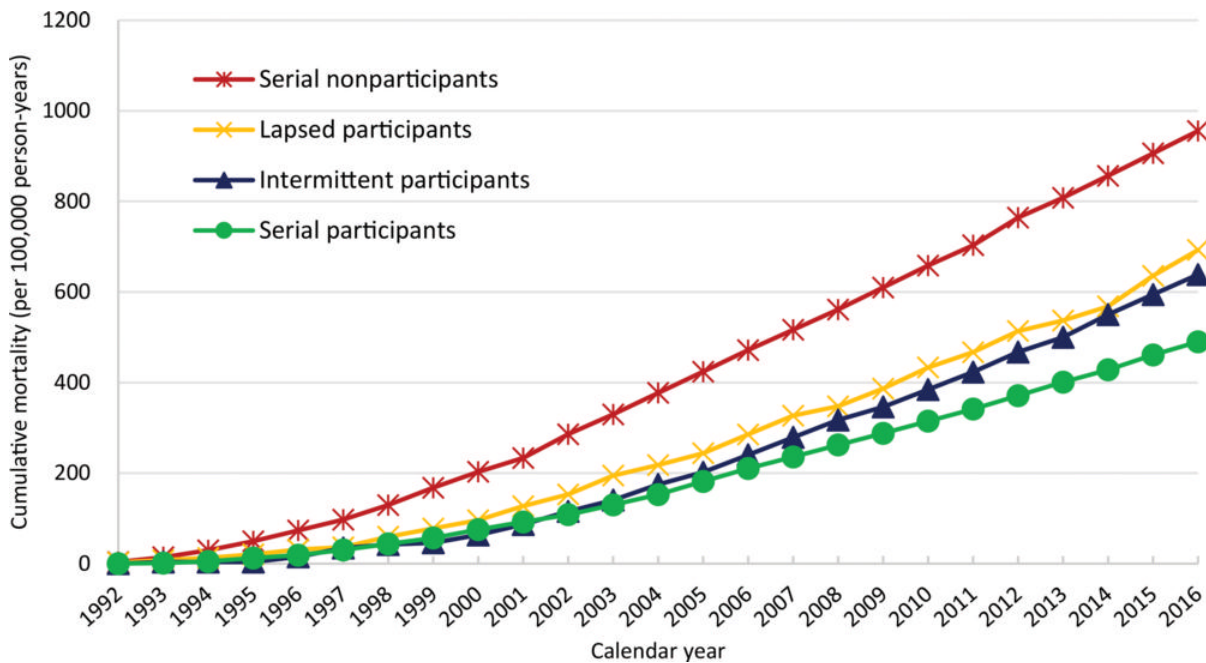
"Beneficial Effect of Consecutive Screening Mammography Examinations on Mortality from Breast Cancer: A Prospective Study." Collaborating with Dr. Tabár and Professor Duffy were Amy Ming-Fang Yen, Ph.D., Peter B. Dean, M.D., Robert A. Smith, Ph.D., Håkan Jonsson, Ph.D., Sven Törnberg, M.D., Sherry Yueh-Hsia Chiu, Ph.D., Sam Li-Sheng Chen, Ph.D., Grace Hsiao-Hsuan Jen, Ph.D., May Mei-Sheng Ku, Ph.D., Chen-Yang Hsu, Ph.D., Johan Ahlgren, M.D., Roberta Maroni, M.Sc., Lars Holmberg, M.D., and Tony Hsiu-Hsi Chen, Ph.D.

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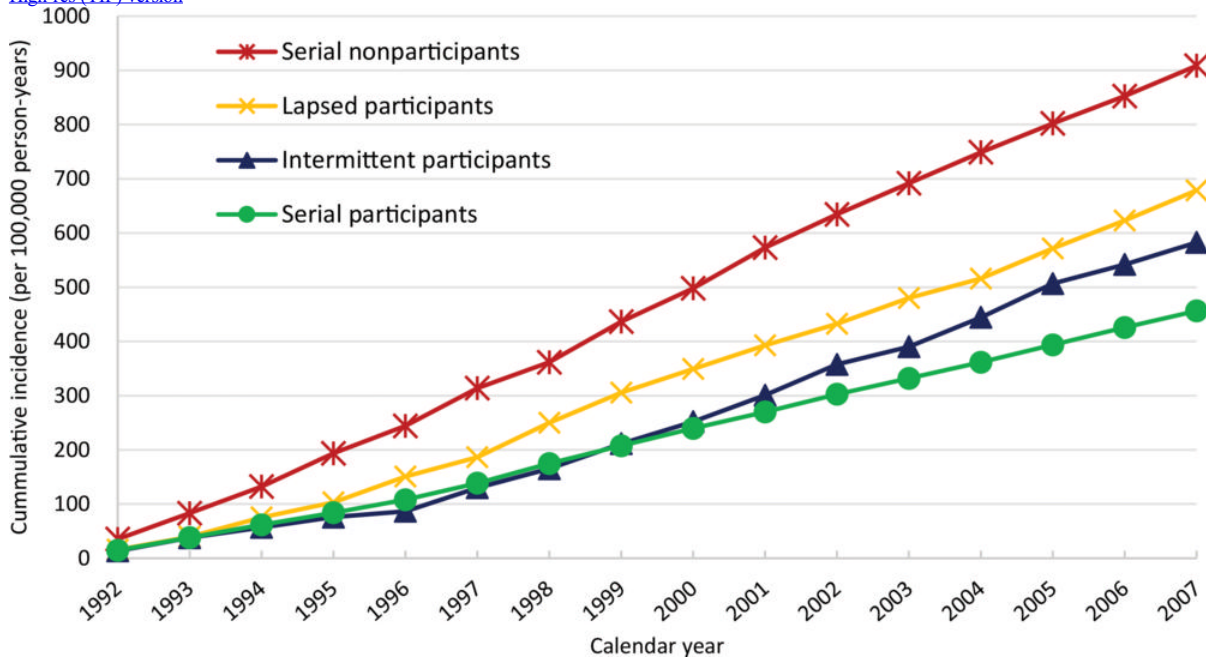
For patient-friendly information on mammography, visit [RadiologyInfo.org](https://www.rsna.org/radiologyinfo).

Images (JPG, TIF):



**Figure 1.** Graph shows cumulative mortality from breast cancer per 100,000 person-years in nine Swedish counties from 1992 to 2016 according to participation status: serial participants, who participated in both of the last two screenings; intermittent participants, who participated in only the most recent screening; lapsed participants, who participated in only the next-to-last screening; and nonparticipants, who participated in neither of the last two screenings. Serial participants experienced the lowest cumulative mortality from breast cancer as follow-up increased.

[High-res \(TIF\) version](#)



**Figure 2.** Graph shows cumulative incidence of breast cancers that were fatal within 10 years of diagnosis per 100,000 person-years in nine Swedish counties from 1992 to 2007 according to participation status: serial participants, who participated in both of the last two screens; intermittent participants, who participated in only the most recent screening; lapsed participants, who participated in only the next-to-last screening; and nonparticipants, who participated in neither of the last two screenings. Serial participants experienced the lowest cumulative incidence of fatal breast cancer within 10 years of diagnosis as follow-up increased.

[High-res \(TIF\) version](#)

Resources:

[Study abstract](#)