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Study: Mammography Has Not Reduced Breast Cancer Death

PHILADELPHIA -- (September 2, 2002) The third report from the Canadian National Breast Cancer Screening Study after 11 to 16 years of follow-up found that 40 to 49 year-old women who had annual mammographies for five years had no fewer breast cancer deaths than a group of women who did not have the screening. The study appears in the September 3, 2002, issue of *Annals of Internal Medicine*.

The Canadian study, a large, randomized, controlled trial, has followed 50,430 women who were between ages 40 and 49 when initially enrolled between 1980 and 1985. The women in the treatment group received annual mammography along with breast physical examination and instruction on breast self-examination.

By the end of 1996, 105 women in the mammography screening group and 108 in the usual-care group had died from breast cancer. A total of 592 cases of invasive breast cancer and 71 cases of in situ breast cancer were diagnosed in the mammography group, compared with 552 and 29 cases, respectively, in the usual-care group.

The earlier seven- and 10-year results of the Canadian study also showed no reduction in breast cancer mortality after breast cancer screening with mammography, but some scientists withheld judgment, feeling that a longer follow-up period might reveal benefits. Thus, the results of this third status report have been eagerly awaited.

A complementary article in the same September 3 *Annals of Internal Medicine* summarizes data from several studies of breast cancer screening for the U.S. Preventive Services Task Force (USPSTF). USPSTF recommends breast cancer screening mammography every one to two years for women, beginning at age 40. The Task Force released these recommendations in February 2002, after much public discussion stimulated by an analysis that was highly critical of existing data on the benefits of mammography. The background analysis on which the USPSTF's recommendations were based appears for the first time in this issue of *Annals*, along with the Task Force's February recommendations.

The USPSTF study, a meta-analysis of eight randomized, controlled trials found that mammography reduced breast cancer mortality rates among women aged 40 to 74, with the greatest risk reduction among older women. The Task Force rated the evidence in these trials as "fair" (intermediate between "good" or "poor") based on its grading system for evaluating the strength of clinical evidence.

Two editorials in the September 3 *Annals of Internal Medicine* comment on the seemingly contradictory findings of the Canadian and USPSTF studies.

Steven Goodman, MD, in "The Mammography Dilemma: A Crisis for Evidence-Based Medicine?," evaluated the methods that the Task Force used to form the body of evidence on which they based their conclusions on benefits of mammography. The Task Force came to different conclusions than Danish investigators whose skepticism about the evidence triggered a major public response. The differing conclusions, Dr. Goodman feels, are due to different ways of deciding which evidence to count as valid. "The reasons for these decisions are far from explicit; each group merely asserts that its approach brings us closer to the truth."

The bottom line, Dr. Goodman says, is, "Even under the most optimistic assumptions, mammography still cannot prevent the vast majority of breast cancer deaths." Improving methods of predicting the risk of breast cancer and better ways to detect and treat it will probably yield more public health benefit than continued debate about mammography.

Harold Sox, MD, Editor of *Annals of Internal Medicine*, in his editorial, "Screening

Mammography for Younger Women: Back to Basics," comments on the Canadian study results in light of a recent report in which scientists combined the results of several Swedish trials. When the Swedish scientists counted breast cancer deaths the same way that the Canadian study did, the Swedish and Canadian studies had similar results, showing an effect that was quite small and statistically compatible. He says future meta-analyses and comparisons should use the same method of counting breast cancer deaths.

"The many successes of science have encouraged the public to expect more from scientists and their methods than they can always deliver," said Sox. "In the case of mammography, the public has had a ringside seat as scientists have struggled to apply the scientific method to a very difficult problem. Science is a human endeavor that doesn't always give crisp answers the first time, a lesson that is always worth re-learning. Eventually, we will understand the contribution of mammography to reducing deaths from breast cancer."

Annals of Internal Medicine is published by the American College of Physicians-American Society of Internal Medicine (ACP-ASIM), the nation's largest medical specialty organization and second-largest physician group. ACP-ASIM's membership includes more than 115,000 internal medicine physicians, related subspecialists, and medical students. Internists are specialists in the prevention, detection and treatment of illnesses that primarily affect adults.

Notes to Editor:

This September 3 tip sheet is posted earlier than usual to give reporters time before the Labor Day hiatus.

To contact Cornelia Baines, MD, a researcher in the Canadian National Breast Cancer Screening Study, call Janet Wong in the University of Toronto public affairs office, 416-978-5949. Dr. Baines will not be available for interview until Aug. 29.

To contact researchers of the USPSTF study, a Summary of Evidence on Breast Cancer Screening, and on the USPSTF screening recommendations, call Farah Englert, in the Agency for Healthcare Quality and Research office of health care information, 301-594-6372.

To contact Steven N. Goodman, MD, Associate Professor of Oncology, Pediatrics, Epidemiology and Biostatistics at the Johns Hopkins School of Medicine, call 410-955-4596.

To contact Harold Sox, MD, Editor, *Annals of Internal Medicine*, call ACP-ASIM Communications Dept. 215-351-2653 or 800-523-1546, ext. 2653 or 2656.

Copies of the two studies, the USPSTF screening recommendations, and the two editorials on breast cancer screening can be obtained by calling the ACP-ASIM Communications Department at 1-800-523-1546, ext. 2656.

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