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Contact: Liz Savage

jncimedia@oxfordjournals.org

301-841-1287

[Journal of the National Cancer Institute](#)

Breast cancer screening may lower mortality and disease burden in India

Regular screening of women between the ages of 40 and 59 could substantially reduce breast cancer mortality in India, according to a study in the September 9 online issue of the *Journal of the National Cancer Institute*.

Breast cancer screening programs are regularly used in developed countries where the incidence of breast cancer is highest, and an extensive health care system is in place. The value and practicality of such screening programs in the developing world is less clear. Although the developing world has a lower breast cancer incidence rate, women tend to have more advanced disease at diagnosis and a greater risk of dying from their disease.

To estimate the ability of screening in a developing country to reduce the number of deaths and the stage of disease at diagnosis, Harry J. de Koning, M.D., Ph.D., of Erasmus Medical Center in Rotterdam, The Netherlands, and colleagues used a Microsimulation Screening Analysis model to estimate the impact of screening with clinical breast exams or mammography in India. The researchers estimated the cost-effectiveness, which is the cost of screening per life year gained, for each screening approach in international dollars (Int\$), which are used by the World Health Organization and has the same purchasing power in India as a U.S. dollar does in the United States.

A single clinical breast exam for women at age 50 was estimated to reduce breast cancer mortality by 2 percent at a cost-effectiveness of Int\$793 per life-year gained. If women had clinical breast exams every five years between the ages of 40 and 60, mortality reduction would increase to 8.2 percent and the cost-effectiveness would grow to Int\$1,135 per life-year gained. The investigators estimated that annual screening with clinical breast exams would lead to nearly the same mortality reduction as biennial mammography screening but at half the net cost.

"Our results indicate that every-5-year, biennial, and annual [clinical breast exams] for women aged 40-60 all lead to considerable reductions in mortality and high numbers of life years gained," the authors write. However, India and other developing countries have significant competing demands for their health care resources. Therefore, even though the breast cancer rate is increasing substantially in the developing world, implementation of a screening program is likely to be challenging.

In an accompanying editorial, Sue Moss, Ph.D., of the Institute of Cancer Research in Surrey, UK, cautions that although studies show that mammography screening can reduce breast cancer mortality, no such data exists for clinical breast exams. "Potential barriers to effective screening also include lack of necessary infrastructure and sociocultural influences on compliance," she writes. "For screening to succeed, a high level of compliance is necessary, not only with initial screening but also with referral for further investigation in those screened positive, and with treatment in those with confirmed diagnosis." Trials in the developing world indicate that this may be difficult.

A key benefit of a screening program may be to improve the overall quality of care, according to the editorialist, "but whether screening is the best means of achieving these important aims needs further exploration."

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Contact:

- Article: Ceciel van Hemel, c.vanhemel@erasmusmc.nl, +31 10 703 52 85
- Editorial: Cathy Beveridge, cathy.beveridge@icr.ac.uk, +44- 0207 153 5359 or +44 07721 747 900 (after hours)

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- Editorial: Moss S. Screening for Breast Cancer in India—Is It An Appropriate Strategy? *J Natl Cancer Inst* 2008; 100: 1270-1271

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