

Physician reminders and audit with feedback are effective in increasing breast cancer screening

Mandelblatt J, Kanetsky PA. *Effectiveness of interventions to enhance physician screening for breast cancer.* *J Fam Pract.* 1995 Feb;40:162-71.

Objective

To assess interventions for enhancing physicians' breast cancer screening practices.

Data Sources

A MEDLINE search was done (1980 to 1993) using terms for subspecialties, practice patterns and behavior, and cancer screening and prevention; the bibliographies of retrieved articles were reviewed; and *Current Contents* was searched (November 1992 to April 1993) for recent articles.

Study Selection

Studies were excluded if they did not have a concurrent control group or if they were done outside of the United States. 20 of 195 retrieved articles were eligible for inclusion.

Data Extraction

For each study, 2 reviewers independently recorded data on the intervention, control group, setting, physician

and patient characteristics, follow-up, results, and resources necessary for implementation. Inter-rater reliability was 90% for inclusion criteria and 85% for data abstraction.

Main Results

Study interventions included physician reminders, office systems, audit with feedback, physician education, and patient education or reminders. 7 studies were of single interventions and 13 were of combinations. Most studies (80%) were set in university hospitals; 25% were in community practices. 13 studies included physician-reminder systems. These systems had the greatest effect in academic settings, where increased rates of mammography and clinical breast examination (CBE) ranged from 6% to 28%. The 3 studies of office systems, which may have included physician reminders, were community-based and showed mean increases in mammography rates of 20% and in CBE rates of 15%. 3 studies showed that audit-and-feedback was as effective as physician reminders in increasing mammography screening and CBE (effect size range, 15% to 24%). The

effects of physician education could not be estimated from the raw data except in 1 community-based study that showed a 10% increase in mammography use. Of the 4 studies able to identify the effect of patient education and reminders alone, 2 showed a 20% increase in CBE rates. Computer-based physician-reminder systems were less expensive than audit-and-feedback per additional test ordered (\$18 vs. \$50).

Conclusions

In academic settings, physician reminders and audit with feedback are effective in increasing physician use of mammography and clinical breast examination. The effect of physician education or patient education reminders remains uncertain.

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Commentary

The article by Mandelblatt and Kanetsky highlights the discrepancy in the United States between guidelines and actual clinical practice for breast cancer screening. The reasons for the underuse of breast cancer screening are many. One of the strongest factors influencing a woman's decision to have screening for breast cancer is a recommendation from her physician. The authors comprehensively reviewed clinical trials of interventions designed to increase the rates of physician use of breast cancer screening in academic and community practice settings.

The authors found that the most effective intervention to promote screening consists of including a physician reminder about screening in the patient's medical

record at the time of a visit. The theoretical basis for this intervention is that the physician may forget to recommend preventive screening during a patient visit because attention is focused on more active medical problems. The physician reminder intervention must be given repeatedly if its positive effect on screening rates is to be sustained. This intervention is relatively inexpensive and can be integrated with reminders for other preventive health care measures.

No aspect of any cancer screening strategy has been as extensively studied as the efficacy of the clinical breast examination and mammography in reducing breast cancer mortality. Although the efficacy of breast

cancer screening in women 40 to 49 years of age is controversial, its efficacy in women 50 to 74 years of age is undisputed (1). Despite the strength of the evidence, breast cancer screening is largely underused. Interventions that are found to be effective in increasing the rate of physician recommendation for breast cancer screening should be adopted into medical practice.

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Reference

1. Harris R, Leininger L. Clinical strategies for breast cancer screening: weighing and using the evidence. *Ann Intern Med.* 1995;122:539-47.