Increasing Cancer Screening Rates in Primary Care: No Easy Solutions

Ruffin MT 4th, Gorenflo DW. Interventions fail to increase cancer screening rates in community-based primary care practices. Prev Med 2004;39:435–40.

Study Overview

Objective. To determine if 2 simple office interventions can increase and maintain screening rates for breast, cervical, and colorectal cancer among adults aged 50 years and older in community-based primary care practices.

Design. Randomized controlled trial.

Setting and participants. 88 community-based primary care practices were recruited from the Michigan Research Network. Practices were eligible to participate if they provided medical care not restricted to a specific disease, organ system, or sex and the practice served adults (over age 18 years). Practices were excluded if they provided primarily acute or urgent care, excluded patients because of older age or race, saw fewer than 10 patients/day more than 4 days/week, or if less than 50% of the practice physicians agreed to participate. Individual patients were eligible to participate if they were aged 50 years and older, not previously diagnosed with cancer, and had been seen at least twice in the previous 2 years.

Intervention. The study had 4 arms: control, practice-based intervention, patient-based intervention, and both interventions combined. The control arm included practices that maintained their usual practice for cancer screening. The practice-based intervention presented the patients' provider with documentation detailing the patients' past cancer screening and current screening recommendations. The most common method for delivery of the practice-based intervention was through prevention flow sheet with reminders, which were prepared by the research staff and presented to providers at every patient encounter. The patient-based intervention involved the creation of a durable, wallet-sized cancer screening guide tailored for the patients' age and gender. During encounters, the provider could mark on the cancer screening guide to indicate how up-to-date the patient was in their cancer screening recommendations.

Main outcome measures. Screening rates for mammogram, Papanicolaou smear, fecal occult blood test, and flexible sigmoidoscopy. For each practice, approximately 200 eligible charts were randomly selected (100 men and 100 women). If a practice had fewer than 100 charts for either gender, all eligible charts were audited. Charts were audited between 1994 and 1998. Data were abstracted from medical charts for each cancer screening procedure. Colonoscopies and air-contrast barium enemas were grouped as flexible sigmoidoscopies.

Main results. Of the practices recruited, 22 practices (25%) were eligible, agreed to participate, and completed the study. The practices were equally distributed between urban and rural and small and large practices. 17,215 charts were audited, and no significant association existed between baseline characteristics of the study groups. Despite randomization, there were several statistically significant differences in baseline screening rates between the study arms. Outcomes were calculated as the percent change from baseline to account for these differences. For each cancer screening procedure, there was no significant main effect of the intervention on repeat measures analysis of variance (ANOVA) testing. A transient increase in cancer screening rates was observed at 1 year; however, this was a significant ($P < 0.02$) main effect of time and not related to the study intervention. After 3 years of follow-up, cancer screening rates were either at baseline or below baseline.

Conclusion. Neither the practice-based nor patient-based study intervention had a significant impact on cancer screening rates in adults older than age 50 years.

Commentary

As data emerges supporting the potential life-saving advantages of breast [1], cervical [2], and colorectal cancer screening [3], improving the lackluster current rates of cancer screening [4] remains a high priority. Yet, changing patient and provider behavior is a challenging task. Numerous studies have evaluated different strategies to increase cancer screening rates and have had at best modest levels of success [5]. The study by Ruffin and Gorenflo is an important contribution to the cancer screening literature because it focuses specifically on community-based practices (as opposed to

academic settings) and evaluates different strategies of targeting the intervention. Furthermore, the study is unique in that patients were followed for a 3-year period to determine the sustainability of the study interventions. Unfortunately, neither intervention appeared to significantly impact screening rates.

Several potential reasons may explain the lack of a sustained effect. Although both interventions have been demonstrated in previous studies to increase screening rates, prior studies have focused on short-term changes. Thus, the long-term effectiveness of these interventions may be questionable. The study also may have been underpowered. With the practice as the unit of analysis, the study only had modest power to detect a meaningful effect of the intervention. Additionally, due to the broad range of different community practice settings, the intervention may have been significantly altered at the different practice settings to facilitate its integration into clinical practice.

What do these results tell us? For one, changing patient screening behavior is difficult and simple strategies may not work. In addition, the finding that rates appeared to increase in the first year yet returned to baseline after 3 years tells us that we should approach with caution studies of intervention to increase cancer screening rates that include only short-term follow-up.

Applications for Clinical Practice

Providing providers and/or patients with a cancer screening flow sheet including past screening history and recommedations for current cancer screening appeared not to impact cancer screening rates in adult primary care patients. Additional methods to increase cancer screening rates, particularly in community-based practices, need to be developed and evaluated.

–Review by Harvey J. Murff, MD, MPH

References

1. Fletcher SW, Black W, Harris R, et al. Report of the International Workshop on Screening for Breast Cancer. J Natl Cancer Inst 1993;85:1644–56.
2. U.S. Preventive Services Task Force. Guide to preventive services: report of the U.S. Preventive Services Task Force. 2nd ed. Washington (DC): Department of Health and Human Services; 1996.
3. Mandel JS, Bond JH, Church TR, et al. Reducing mortality from colorectal cancer by screening for fecal occult blood. Minnesota Colon Cancer Control Study [published erratum appears in N Engl J Med 1993;329:672]. N Engl J Med 1993; 328:1365–71.
4. Breen N, Wagener DK, Brown ML, et al. Progress in cancer screening over a decade: results of cancer screening from the 1987, 1992, and 1998 National Health Interview Surveys. J Natl Cancer Inst 2001;93:1704–13.
5. Stone EG, Morton SC, Hulscher ME, et al. Interventions that increase use of adult immunization and cancer screening services: a meta-analysis. Ann Intern Med 2002;136:641–51.