Cancer Screening Rates Improved Using Telephone-Based Patient Reminders

Dietrich AJ, Tobin JN, Cassells A, et al. Telephone care management to improve cancer screening among low-income women: a randomized, controlled trial. Ann Intern Med 2006;144:563–71.

Study Overview

Objective. To determine the impact of a telephone-based intervention on screening rates for breast, cervical, and colorectal cancers in low-income and minority women.

Design. Randomized controlled trial with an intention-to-treat analysis.

Setting and participants. Women from 11 community and migrant health centers in New York City were recruited. Women were included if they were aged 50 to 69 years, overdue for ≥ 1 cancer screening procedures, and enrolled in a study community health center for ≥ 6 months and intended to remain at the health center for the next 15 months. Patients were excluded if their primary language was not English, Spanish, or Haitian Creole; if they had acute illness; or if they were undergoing cancer therapy.

Intervention. Women in the usual care group received a single telephone call during which questions were answered and counseling was provided regarding recommended cancer preventive care. Women in the intervention group received an average of 4 telephone calls (range, 1–20) from a trained prevention care manager over the course of the 18-month study. During these calls, women were advised about cancer screening and prevention care managers provided motivational support, addressing patient-specific barriers that could delay or prevent cancer screening.

Main outcome measures. The primary outcome was completion of a mammogram, Papanicolaou (Pap) test, and/or any colorectal cancer screening procedure at follow-up. Outcome data were obtained through medical record review.

Main results. 1413 women were included; 706 were randomized to the intervention and 707 were randomized to usual care. Medical records could not be obtained for 10 patients in the intervention group and 13 in the usual care group; thus, the primary analysis included 696 women allocated to intervention and 694 to usual care. Baseline characteristics were similar between the 2 groups. Compared with the usual care group, women in the intervention group had an increase of 0.12 percentage points (95% confidence interval [CI], 0.06–0.19) in breast cancer screening, an increase of 0.07 percentage points (95% CI, 0.01–0.12) in cervical cancer screening, and an increase of 0.13 percentage points (95% CI, 0.07–0.19) in colorectal cancer screening. For the composite outcome of being up-to-date with all 3 cancer screening procedures, there was a 0.22–percentage point increase (95% CI, 0.18–0.27) at follow-up in the intervention group compared with an 0.08–percentage point increase (95% CI, 0.04–0.12) in the usual care group, for an overall difference of 0.14 percentage points (95% CI, 0.08–0.20).

Conclusion. Telephone-based patient reminders increased cancer screening rates in low-income and minority women.

Commentary

Clinical trials have demonstrated that screening for breast, cervical, and colorectal cancer can reduce cancer-related mortality [1,2]. Unfortunately, preventive services for many cancers are suboptimal. Socioeconomic factors can also negatively impact cancer screening rates [3–5]. Interventions to improve cancer screening rates have shown mixed results and are not always sustained over the long term. Telephone interventions are attractive as they may be potentially sustainable outside of a research setting and many facilities may already have an infrastructure in place to contact patients via telephone. As such, several trials have used telephone-based interventions for cancer screening.

The study by Dietrich et al is unique in that it evaluated multiple cancer screening tests simultaneously. With an average of 4 calls per patient in the intervention group, screening rates significantly improved for breast, cervical, and colorectal cancer. Colorectal cancer screening increased the most, but baseline rates were by far the lowest in this group (39%), while Pap testing had the highest baseline rates (70%) but increased the least. There was a statistically significant increase in the number of women who were up-to-date in all 3 screening interventions, but much of this increase was secondary to increased rates of colorectal cancer screening.

This study suggests telephone reminders might be an effective way to increase cancer screening in low-income women, but several caveats should be noted. First, the

study took place in a single city, and findings may not be generalizable to other settings. Second, the primary outcome measure was based on chart review, which may underestimate screening rates. Participants in the usual care group may have undergone screening at nonstudy facilities, which would not have been documented. Finally, the duration of the study was short and whether this increase in screening would be sustained is unknown. In particular, the duration of the telephone intervention may be important with respect to patient satisfaction. Only 3 patients requested to not be called after receiving a reminder telephone call; however, this number would likely have been greater had the intervention lasted longer.

Applications for Clinical Practice

A telephone-based intervention appears to increase rates of breast, cervical, and colorectal cancer screening in low-income women over an 18-month period. Increases were modest for breast and cervical cancer screening (17% and 10% from baseline, respectively) and sizable for colorectal cancer screening (60% from baseline). These results suggest that telephone reminders can be an effective means of increasing cancer screening rates in low-income women. Practices that would like to improve cancer screening rates of their patients may consider adopting telephone-based reminder protocols if these systems have not already been established.

—Review by Harvey J. Murff, MD, MPH

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