Counterproductive Messaging About COVID-19 Safety Measures in Cancer Screening Outreach: Results of a Pragmatic Randomized Trial

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Abstract

COVID-19 has caused patients to defer preventive services. We conducted a pragmatic randomized trial of incorporating a message about COVID-19 safety measures into an automated telephonic outreach program targeting primary care patients overdue for cancer screening. Contrary to our hypothesis, the COVID-19 safety measure messaging resulted in significantly fewer patients in the intervention group requesting scheduling of preventive services (135 of 196 patients reached (68.9%)), compared with the standard call script group (165 of 207 patients (79.7%)), (p=0.01). Messages intended to reassure patients about the safety of obtaining in-person preventive services during the coronavirus pandemic may have unintended consequences.

Introduction: The initial COVID-19 surge in the US resulted in a dramatic decrease in cancer screening due to avoiding non-essential in-person ambulatory visits and deferring elective procedures. Although screening services rebounded by fall 2020, rates continue to lag behind 2019 levels.[1, 2] To encourage patients to obtain timely cancer screening, many health care organizations have implemented strategies to reassure patients about measures being taken to minimize the risk of health care associated SARS CoV2 infection when receiving in-person preventive care services. The effect of such messaging is not known. To measure the effect, we conducted a pragmatic randomized trial of incorporating a message about COVID-19 safety measures into an automated telephonic outreach program targeting patients overdue for cancer screening.

Methods: We conducted a prospective patient-level randomized trial over a 3-week period in December 2020. We enrolled adult patients empaneled at any primary care practice at [redacted] Health who were overdue for breast, cervical, or colorectal cancer screening. We previously reported the effectiveness of using an automated telephone call system in this population to close cancer screening gaps.[3] A registry derived from electronic medical record data generates a list of patients overdue for screening, which interfaces with the Cipher automated call system. The system sequentially goes through the list to generate calls to about 200 unique patients per week. Patients on the list for outreach calls during the study period were randomized 1:1 to receive either the standard outreach call or a modified call that included a 20 second recorded message intended to inform patients about COVID safety measures. The message began, “We want you to know that [redacted] is doing everything we can to stop the spread of COVID-19 and keep everyone who comes to our medical facilities safe,” and proceeded to describe several safety measures (appendix). The primary outcome was whether a patient requested to schedule one or more overdue cancer screening tests at the end of the call. We chose this intermediate outcome because our prior research demonstrated that 79% of patients requesting scheduling assistance followed through and obtained the overdue cancer screening exam.[3] We hypothesized that patients

receiving an automated call with the COVID-19 safety measure message would be more likely to request scheduling of a preventive service. Outcomes were analyzed using Chi square test. Our study was conducted as a quality improvement project using a low-risk intervention to inform immediate operational decisions on patient outreach and was exempt from IRB review.[4]

Results: Automated calls were made to 294 patients in the intervention script group and 303 patients in the standard script group; 196 patients (67%) and 207 patients (68%) in the intervention and standard script groups, respectively, answered the call. Contrary to our hypothesis, the COVID-19 safety measure messaging resulted in significantly fewer patients requesting scheduling of preventive services relative to the standard call script group. In the intervention group, 135 of the 196 patients reached (68.9%) requested scheduling of a preventive service, compared with 165 of 207 patients (79.7%) in the control group (p=0.01) (figure). The result was similar when the denominator was restricted to only those patients contacted who confirmed that they were still an active patient and did not terminate the call before actively entering a response in the automated call system to request or decline scheduling a preventive service. The project team monitored outcomes on a weekly basis and discontinued the intervention as soon as evidence emerged of a significant, negative effect.

Discussion: A communication intended to reassure patients about measures implemented to prevent health care associated exposure to SARS CoV-2 had a counterproductive effect and appears to have deterred patients from scheduling needed cancer screening services. The absolute difference of 11% fewer patients in the intervention group requesting scheduling of cancer screening is clinically meaningful. Our finding is consistent with some studies of other health issues, which demonstrated that reassurance increased, rather than decreased, patient distress.[5, 6] We do not know whether the counterproductive outcome was definitely due to anxiety prompted by the automated call mentioning COVID-19. It is possible that other aspects of the intervention, such as prolonging the length of the initial recorded phone message, may have reduced patient engagement, though the results were similar when

limited to only those patients who did not prematurely terminate the call. We also do not know whether the same effect would occur if the intervention message was delivered through an in-person call rather than an automated call. Despite these limitations, our findings raise cautions about assuming that messages intended to reassure patients about the safety of obtaining in-person preventive or other non-emergency services during the pandemic will necessarily have the desired effect, regardless of the exact method used to deliver the message. Our study also highlights the importance of carefully evaluating communication strategies to detect potential unintended consequences.

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Appendix

COVID-19 safety measures script for intervention group calls: *Before we proceed, we want you to know that [redacted] is doing everything we can to stop the spread of COVID-19 and keep everyone who comes to our medical facilities safe. We avoid mixing patients who may be infected with COVID-19 with those who are receiving other kinds of medical care, such as the preventive services you are due for. We disinfect all materials between patient appointments. All staff, patients and visitors are screened before their appointments for COVID-19 symptoms, and people who do not pass the screening questions are not permitted to enter. All patients, visitors and staff must wear a face mask and follow physical distancing rules. We want to make sure you get the care you need in the safest possible way.*