



Improving communication to increase uptake of high-risk breast cancer prevention appointments: Building a better letter

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ARTICLE INFO

Keywords:

Breast cancer
Prevention
Communication
Letter
Mailing
Health communication

ABSTRACT

Objective: Mailed letters to women identified as being at high-risk for developing breast cancer were not having the desired effect for encouraging appointments with prevention-focused providers at a large Midwest healthcare system. A partnership with communication scholars sought to revise the letter to increase awareness, intentions, and appointments.

Methods: Guided by the Extended Parallel Process Model, survey responses were collected from letter recipients over the course of two years, both pre and post letter revision. Appointments attributed to letters were also tracked.

Results: Recipients of the revised letter had increased knowledge regarding the length of prevention appointments and indicated greater self-efficacy and intentions to make and attend appointments compared to those who received the non-revised letter. A greater percentage who received the revised letter also made appointments.

Conclusion: Partnering with communication scholars helped with improving a letter mailed to thousands of patients each year. Finding ways to increase response-efficacy of breast cancer prevention activities within communications may assist in increasing appointments.

Innovation: Cross-disciplinary partnerships across the medical and social sciences – while not quick or simple – are essential for finding ways to improve patient wellbeing and hopefully reducing the prevalence of preventable diseases in the future.

1. Introduction

The American Cancer Society estimates that approximately 1-in-8 women will develop breast cancer at some point in their lives, with half of women being diagnosed before the age of 62 [1]. However, evidence continues to accumulate that there are steps women can take to reduce their risk of developing breast cancer, including lifestyle modifications (e.g., limiting alcohol consumption, increasing physical activity), or risk reducing medications [2]. As a result, the CDC continues to advocate finding ways to prevent breast cancer, not only to save lives but also reduce the estimated \$29 billion spent each year in treatment costs [3,4].

Medical centers across the country have also been dedicating efforts toward surveillance and prevention programs [e.g., [5-7]]. Common among these programs is assisting women in developing personalized surveillance and risk-reduction care plans tailored to their unique life

histories. However, these prevention programs can only be of use to patients if they are aware of their existence and subsequently make an appointment. Boosting awareness is becoming more challenging in a continually increasing media saturated environment. A recent cross-sectional survey of people from six countries found the daily average time spent in front of a screen ranged from 7.6 to 10.2 h [8]. As a result, direct mail has seen a resurgence, as it can “deliver a personal and tangible alternative for [people] suffering from screen overload” [9]. However, as the price of postage continues to rise [10] it becomes even more important than ever to assess and improve the efficacy of these mailing attempts.

Therefore, the current study sought to assess a letter mailed to patients identified as being at increased risk for breast cancer using validated risk calculators from a large Midwestern health system’s breast cancer prevention program encouraging them to make an appointment with a physician affiliated with the program. The Extended Parallel

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<https://doi.org/10.1016/j.pecinn.2024.100354>

Received 8 November 2023; Received in revised form 10 July 2024; Accepted 3 November 2024

Available online 6 November 2024

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Process Model was utilized as the theoretical framework for evaluating the letter's efficacy over time, with actual appointments attributed to the letter tracked before and after improvements to the letter were implemented.

1.1. Difficulties in promoting prevention

Research on the ability to reduce risk of breast cancer is often contradictory. For example, there is a well-established link between breast cancer and alcohol intake [11]. Similarly, breast cancer is associated with consumption of some foods [12], yet other behavioral and nutritional indices are less clear [12]. Much scholarship stresses the need of risk assessment communication between clinicians and patients that detail personalized risk factors and educate patients about behavioral modifications such as increased exercise and changing diet [13,14]. However, individuals' motivations to engage in prevention are influenced by a variety of factors including health literacy, prevention beliefs, and race [15,16]. For example, individuals can differ to the degree to which they understand their personal risk or believe that cancer can be prevented or avoided. Similarly, individuals differ in their abilities to attend to their personal risk while managing daily responsibilities [16]. Thus, patients are not uniformly motivated to engage in or learn about cancer prevention efforts.

1.2. Extended parallel process model

The Extended Parallel Process Model (EPPM), is a frequently used framework to motivate behavior change [23], and was used as the theoretical guidance for this project. The model states that persuasion is a two-step process, where first individuals have to perceive a threat in their lives. This threat perception is a combination of *perceived susceptibility* (i.e., the belief that the individual is at risk and is vulnerable to a particular illness or disease) and *perceived severity* (i.e., the evaluation that the potential illness or disease has serious physical or emotional consequences) [24]. With regards to cancer screenings, prior research has found that both perceived susceptibility [25,26] and severity [27] were significant predictors for colorectal cancer screening intention and cervical cancer pap smear screening, respectively. Once individuals perceive a heightened threat, they will then determine the efficacy with which the recommended response can avert that threat [24]. This efficacy component also consists of two dimensions: *self-efficacy* (i.e., the degree of confidence that they can engage in a behavior and achieve their desired outcome) and *response efficacy* (i.e., the belief that the recommended action can effectively mitigate the threat) [24]. Research has also found these efficacy perceptions play significant roles in various cancer screening intentions [25,28].

1.3. Importance of interdisciplinary collaboration

While effective communication among medical professionals is seen as vital to patient care [17], with collaboration among medical professionals of differing specialties found to improve patient outcomes [18], collaborations between medicine and those in the social science discipline of health communication remain exceptions rather than the norm. For example, medical students often participate in interprofessional education (IPE) events, where students from many disciplines (e.g., pharmacy, nursing, medicine) come together to complete case studies. A core competency these IPE activities seek to achieve is to develop communication "with patients, families, communities, and other health professionals in a responsive and responsible manner" [19, p. 47]. Yet, in a review of IPE activities within U.S. medical schools, none of those reviewed indicated collaborations with partners within the discipline of communication [19]. Unfortunately, "the result is that many complex healthcare and health promotion efforts that might benefit from relevant health communication research are guided more by good intentions, precedent, and expedience than by strong evidence"

[20], [p. 6]. Health communicators can often complement the medical expertise doctors can provide in developing communications by assisting in theoretically-driven formative and summative evaluation of messaging attempts [21], ultimately helping to refine and improve efforts over time [22].

1.3.1. Clinic/appointment background

The first step toward increasing the number of appointments at the breast cancer prevention program (BCPP) was evaluating the current communication that was being mailed to high-risk patients through the lens of the EPPM. Patients seen for screening mammography undergo validated breast cancer risk assessment using the Gail and Tyrer-Cuzick version 8 models [32,33]. When patients are mailed their mammogram results, those who are deemed high-risk (defined as a lifetime risk over 20%) have additional language included informing them of this risk and encouraging them to make contact for an appointment with the BCPP. Once patients connect with the program, risk factors identified in the additional screening are confirmed and patients are navigated to an initial appointment with a medical oncologist or advanced practice provider. In these visits, enhanced surveillance options such as breast MRI and automated breast ultrasound, and risk reduction options such as chemoprevention, lifestyle changes, and risk reducing surgery are discussed, when appropriate. When the current project was conceived in late 2018, very few patients who received the letters ever contacted the program. Given the high costs of mailing letters and the importance of patients receiving personalized breast cancer prevention care, the clinic was seeking ways to convert more of these direct-to-patient letters into actual patients. Therefore, the first phase of this project was formative in nature – seeking to understand recipients' perceptions related to the letter they were receiving. The project then sought to revise and improve this letter to ultimately answer our overarching research question:

RQ: What impact does a theory-based, revised letter have on high-risk patients' knowledge, beliefs, intentions, and behaviors toward a breast cancer prevention appointment?

2. Methods

A questionnaire was developed to assess letter recipients' knowledge, perceived susceptibility, perceived severity, response efficacy, self-efficacy, and behavioral intentions toward making and attending an appointment. This survey was approved by the Purdue University Institutional Review Board. Additionally, actual appointments to the clinic attributed to the letter over time were tracked.

2.1. Measures

2.1.1. Knowledge

Knowledge was assessed by asking participants to indicate via an open-ended response how long in minutes they would expect an appointment at the BCPP clinic to last. Responses that indicated 30 min (the time provided by the clinic) were assessed as "correct." Given that this was an open-ended response, participants could have provided a range within their response (e.g., 20–30 min, 30–60 min) and not solely one discrete number. If a participant's response included 30 min within any range the person provided, it was also counted as "correct."

2.1.2. EPPM constructs

All EPPM constructs (perceived susceptibility, perceived severity, response efficacy, self efficacy, and behavioral intentions) were measured utilizing 7-point Likert-scale items [1 = strongly disagree; 7 = strongly agree] adapted from Witte et al. [24].

2.1.2.1. Perceived susceptibility. Perceived susceptibility was assessed with three items including: It is likely I will get breast cancer at some point in my lifetime; I am at risk for getting breast cancer at some point

in my lifetime; It is possible that I will get breast cancer at some point in my lifetime ($\alpha = 0.790$).

2.1.2.2. *Perceived severity.* Perceived severity was assessed with three items including: Getting breast cancer is severe; I believe that breast cancer is significant; Breast cancer is a serious threat to me ($\alpha = 0.692$).

2.1.2.3. *Response efficacy.* Response efficacy was measured with three items including: Having an office visit to talk about breast cancer prevention with a Breast Cancer Prevention Program doctor will work in preventing me from getting breast cancer; Speaking with a doctor at the Breast Cancer Prevention Program is effective for me to prevent getting breast cancer; If I have an appointment with a doctor at the Breast Cancer Prevention Program to talk about breast cancer prevention, I am less likely to get breast cancer ($\alpha = 0.828$).

2.1.2.4. *Self-efficacy.* Self-efficacy was measured with four items including: I am able to schedule an appointment to go to the Breast Cancer Prevention Program clinic to talk to a doctor to learn more information about how I can prevent getting breast cancer; I am able to attend an appointment at the Breast Cancer Prevention Program clinic and to talk to a doctor to learn more information about how I can prevent getting breast cancer; It is easy to make an appointment with the Breast Cancer Prevention Program to learn more information about how I can prevent getting breast cancer in the future; It is convenient to visit a doctor about the Breast Cancer Prevention Program to learn more information about how I can prevent getting breast cancer ($\alpha = 0.846$).

2.1.3. *Behavioral intentions*

Three 7-point single-items sought to assess behavioral intentions related to the information the letter contained: their intentions to *make* an appointment in the next 6 months; to *attend* an appointment in the next 6 months; and *talk with their primary care provider* to get their opinion about making an appointment with the BCPP in the next 6 months.

2.1.4. *Appointments to the BCPP attributed to the letters*

When a patient calls to make an appointment with the Breast Cancer Prevention Program, the program coordinator asks where they heard about the program or what prompted them to make an appointment.

2.2. *Process for collecting responses*

Survey responses were collected at two time points: during the mailing of the “baseline” letter (March 2020–October 2020), and then again after the letter was revised (January 2022–November 2022). These ranges of survey collection were determined based on the amount of time it took to obtain approximately 130 participants at each time point, which is what our funding for this project could support (participants were each provided a \$10 Amazon.com gift card). During these times an additional note printed on cardstock (~3”x 9”) with a survey recruitment prompt, and link to the survey, was included within the envelopes that were mailed with mammogram results (i.e., the letter) to high-risk patients. This note asked the participants to take a brief survey in order to help improve communication about breast cancer prevention.

2.3. *Participants*

A total of 255 women without a prior breast cancer diagnosis, but who had been identified as high risk, completed the survey (baseline letter = 132; revised letter = 123). The average age of participants was 56.86 ($SD = 10.23$). The majority of participants identified as White/Caucasian ($n = 210$) followed by Black/African American ($n = 30$), Asian ($n = 3$), Hispanic/Latino ($n = 1$), Native American ($n = 1$) and

other ($n = 5$). Most participants indicated having post-secondary education as their highest level of education completed: graduate degree ($n = 89$), 4-year degree ($n = 85$), 2-year degree ($n = 37$), high school diploma/GED ($n = 39$), never completing high school ($n = 1$).

3. Results

3.1. *Baseline letter*

Descriptive data were analyzed; means and standard deviations for all baseline letter variables (as well as revised letter variables) are available in Table 3. The baseline letter data contributed to recommendations to the clinical team regarding revisions that might be theoretically relevant in improving the letter (see appendix A for the text of this initial letter). For example, fewer than half of participants (42 %) knew that an initial appointment would be quick, averaging only 30 min. To determine which variables were most likely to influence behavior change and increase patients’ scheduling of BCPP appointments in the next six months, we conducted a multiple regression analysis. Perceived susceptibility, perceived severity, self-efficacy, and response efficacy were entered into the model, and the regression was significant, $F(4, 127) = 8.39, p < .001, \text{adjusted } R^2 = 0.184$. The two strongest significant predictors of behavioral intention to make a BCPP appointment were self-efficacy and response efficacy (see Tables 1 & 2 for regression results and correlations). These results suggested that efficacy needed to be highlighted in the revised letter (e.g., discussing how convenient and quick an appointment could be, and how the prevention strategies would be tailored to the individual).

During the calendar year of survey data collection, appointments attributed to the letter were tracked. In 2020, 1947 letters to high-risk patients were mailed. Zero patient appointments during that time were attributed to the letters. Obviously, the COVID-19 pandemic also may have played a role in the lack of appointments. Therefore, we also are reporting appointments attributed to the letters the full calendar year prior to the pandemic as a more realistic comparison (see Table 4). In 2019, 2256 letters to high-risk patients were mailed, resulting in 12 attributed appointments that year (0.53 % conversion rate).

3.2. *Revised letter*

As noted in the previous section, analyses of the data from the baseline letter demonstrated that modifications of the language to target self- and response efficacy might be beneficial in increasing intentions to make an appointment with the BCPP. For example, to assist in increasing self-efficacy, we adapted the text to indicate that an appointment would be convenient (e.g., only 30 min), and could be completed virtually. We also sought to increase response efficacy by highlighting the individually-tailored approach the BCPP would take to assist in reducing a patient’s risk (see Appendix B for the revised letter). Once this revised letter was mailed in 2022, data were again collected to determine if knowledge, perceived susceptibility, perceived severity, self-efficacy, response efficacy or behavioral intentions shifted.

Table 1
Baseline letter regression results.

| | Behavioral Intention to make an appointment (DV) | B | SE | β | t |
|--|--|--------|-------|---------|--------|
| Model 1 | Susceptibility | 0.335 | 0.163 | 0.178 | 2.05 |
| | Severity | -0.148 | 0.186 | -0.071 | -0.797 |
| | Self-Efficacy | 0.520 | 0.154 | 0.273 | 3.38* |
| | Response Efficacy | 0.479 | 0.135 | 0.288 | 3.55* |
| $F(4, 127) = 8.38, p < .001, \text{adj. } R^2 = 0.184$ | | | | | |

Note:* $p < .001$.

Table 2

Reliabilities, correlations, means, and standard deviations of variables for baseline letter.

| | BI | SEV | SUSC | SE | RE |
|-----------|--------|--------|--------|--------|--------|
| BI | | | | | |
| SEV | 0.11 | | | | |
| SUSC | 0.21* | 0.40** | | | |
| SE | 0.33** | 0.17* | 0.17 | | |
| RE | 0.31** | 0.21* | 0.05 | 0.12 | |
| <i>M</i> | 3.73 | 5.85 | 4.77 | 5.22 | 4.02 |
| <i>SD</i> | (2.06) | (0.98) | (1.09) | (1.08) | (1.23) |

Note: * $p < .05$; ** $p < .01$.

BI = Behavioral Intention to Make Appt, SEV=Severity, SUSC=Susceptibility, SE = Self Efficacy, RE = Response Efficacy.

3.2.1. Knowledge

A chi-square analysis was conducted to determine if the revised letter was related to an increase in knowledge regarding how long an initial appointment would take. The analysis revealed a significant finding: $X^2(1) = 4.18, p = .04, \Phi = 0.128$, reflecting that a larger percentage of people receiving the revised letter (67 of 123, or 54.5 %) correctly knew how long an initial appointment would take (i.e., 30 min) compared to those receiving the baseline letter (55 of 132, or 41.7 %).

3.2.2. EPPM constructs

In order to determine if the revised letter generated increases in perceived susceptibility, severity, self-efficacy, and response efficacy, a one-way MANOVA was performed with the letter received (baseline/ revised) as the independent factor, and the four constructs of the EPPM as the dependent variables. The analysis revealed a significant effect, $F(4, 250) = 5.75, p < .001$; Wilkes' $\Lambda = 0.916$, partial $\eta^2 = 0.084$. Given the significance of the overall test, univariate effects were examined for each of the dependent variables. A significant finding was revealed only for self-efficacy, where women who received the revised letter perceived a significantly greater level of ease in making a future appointment ($M = 5.78, SD = 0.98$), compared to those who received the baseline letter ($M = 5.22, SD = 1.08$) (see Table 3).

3.2.3. Behavioral intentions

Three independent samples *t*-tests were performed with the single-item measures of behavioral intentions to determine if the revised letter had any impact on intentions to make an appointment, attend an appointment, or talk with their PCP about making an appointment. Results demonstrated significant findings for both intentions to make and attend a future appointment. Participants who received the revised letter indicated a greater intention to make an appointment with the BCPP ($M = 4.58, SD = 2.17$) compared with those who received the baseline letter ($M = 3.73, SD = 2.06$), $t(253) = 3.18, p = .002$. Those who received the revised letter also indicated a greater intention to attend an appointment with the BCPP ($M = 4.70, SD = 2.23$) compared

Table 3

Results by letter condition.

| Dependent Variables | Letter Received | |
|--|-------------------------------|------------------------------|
| | <i>M(SD)</i> | |
| | Baseline (<i>n</i> = 132) | Revised (<i>n</i> = 123) |
| Susceptibility | 4.77 (1.09) | 4.89 (1.24) |
| Severity | 5.85 (0.98) | 5.71 (1.10) |
| Self-Efficacy | 5.22 _a (1.08) | 5.78 _b (0.98) |
| Response Efficacy | 4.02 (1.24) | 4.28 (1.29) |
| Intend to Make Appt | 3.73 _a (2.06) | 4.58 _b (2.17) |
| Intend to Attend Appt | 3.76 _a (2.12) | 4.70 _b (2.23) |
| Intend to talk with PCP about making an appt | 4.02 (2.11) | 4.41 (2.07) |

Note: Row means with different subscripts indicate a significant difference at $p < .01$.

with those who received the baseline letter ($M = 3.76, SD = 2.12$), $t(253) = 3.46, p < .001$. See Table 3 for all mean values.

3.2.4. Appointments made attributed to the letters

During 2022, when the revised letter began being mailed, a total of 2375 letters were mailed to high-risk patients. Of those mailed, 36 appointments were attributed to the letter (~1.5 % conversion rate). A Z-test of proportions also revealed that this percentage was greater than the conversion rate in 2019 (0.53 %), the year prior to the COVID pandemic – See Table 4.

4. Discussion and conclusion

4.1. Discussion

This research examined the process of modifying an existing letter that requests patients who do not have a breast cancer diagnosis, but are at high-risk for developing breast cancer, to schedule an appointment with the BCPP team. Letter modifications were theoretically grounded in the EPPM, and led to increases in self-efficacy, as well as a slight increase in patient appointments attributed to the letter. The following describes some lessons the researchers learned throughout this process, as well as implications for future innovative projects of this type.

4.1.1. Innovation implications

The most unexpected element of embarking on this multi-year endeavor was the extensive waiting for responses from the medical system and the time necessary to see recommended changes to the letter eventually incorporated into the revised letter mailed to patients - approximately 12 months. The environment and structure of a large healthcare system makes innovations of this type quite slow, and something that requires a large amount of patience on the part of the team seeking to improve efforts. For example, after formative evaluation on the initial letter was conducted, analyzed, and turned into actionable recommendations, more than a year passed before revisions were adopted in the letter and then mailed to patients. However, as Parrott and Steiner [29] note regarding partnerships between healthcare organizations and health communicators, “there are...many faster roads to publication and tenure. There are few, however, with as many opportunities to contribute to society” (p. 642–643).

Fortunately, taking a communication science approach to this project (i.e., initial theoretically-driven formative assessment, revision, evaluation of the effort) led to an improved product that increased knowledge, perceptions, and a slight increase in appointments. While we would have liked to have seen a greater number of patients who received the revised letter make an appointment, the small increase we observed is better than the lack of appointments attributed to the letter prior to our revisions.

Additionally, this research highlights the importance of moving beyond self-report and “shallow data” in seeking to evaluate the efficacy of communication attempts [34,p. 1456]. Self-reports indicated

Table 4

Appointments attributed to letters by year.

| Year | Total letters mailed | Total appointments made attributed to letter | % Conversion |
|------------------------|----------------------|--|----------------------|
| Baseline Letter | | | |
| 2019 | 2256 | 12 | 0.53 % _a |
| 2020 | 1947 | 0 | 0.00 % _b |
| 2021 | 2281 | 6 | 0.26 % _{ab} |
| Revised Letter | | | |
| 2022 | 2375 | 36 | 1.52 % _c |

Note: Percentages with different subscripts indicate a significant difference at $p < .01$ utilizing a Z-test of proportions. Appointments were not tracked in March–April 2020 because the program was shuttered due to COVID-19.

increased self-efficacy and intentions from the baseline to the revised letter. Had we stopped there, one could conclude the revised letter was a tremendous success. However, it is important to identify if there are more objective data that could be collected to further support or assess the communication that is being evaluated. In this case we were able to look at years of data collected by the program coordinator asking patients where they heard about the clinic, and seeing if they mentioned the letter they received. This behavioral outcome could be seen as disappointing to some (only a 1.5 % conversion rate for the revised letter) – and possibly even jettisoned from the results of a paper of this type by some researchers looking to only publish and highlight large findings. But, it is vital researchers are brave enough to look at these outcomes, and report on them, even when the results might not be as consequential as they would like. At a minimum these data indicate that the revised letter did help to increase appointments, but there is still significant room for growth.

Another key area this project highlighted is just how tough it is to promote risk reduction and personalized cancer surveillance when, at least today, it is difficult to “prove” that a behavior in the present day can prevent breast cancer or improve breast cancer outcomes years and decades into the future. Our formative survey results indicated that response efficacy plays a significant role in intentions to make an appointment. However, many prevention-focused behaviors today are still in their infancy – thereby not allowing communicators and providers to state that a certain behavior today will definitively eradicate the risk of breast cancer in the future. These findings continue to highlight the struggle that cancer prevention researchers have in trying to communicate to patients the effectiveness of risk-reducing strategies. While women want more hard evidence and scientific certainty when discussing future breast cancer risk [31], there is no therapeutic or strategy with 100 % efficacy for everyone in reducing that risk. It is important for medical researchers to continue to conduct studies of cancer mitigation behaviors to assist future communicators in being able to highlight evidence that can increase perceptions of response efficacy. For example, in the coming decades, we hope there will be a significant number of case/control studies that will be able to highlight the preventive impact various therapeutics can have on reducing or eliminating breast cancer risk. When that day comes, we hope to stress these findings in future iterations of prevention-focused letters.

4.1.2. Limitations

Due to the lengthy amount of time it took to complete this project and the timeframe in which it occurred, it is impossible to rule out history effects. For example, in order to get a sufficiently large number of women to complete our surveys, data collection had to occur for almost an entire year at each phase (i.e., we averaged about 13 survey responses each month that data collection was open), despite mailing out thousands of letters with recruitment postcards during this time. In order to ensure anonymity, we were unable to know identifying or contact information of the women who received the letter, which would have allowed us to follow-up with them to try and increase survey participation in a more expedited way. A lack of appointments attributed to the letter might also be related to the COVID-19 pandemic, as cancer screenings were significantly impacted during this time [30]. However, when comparing appointments prior to the pandemic (2019) to the most current year (2022), we do see a significant difference in appointments attributed to the revised letter.

Additionally, due to the lengthy time of the project, it is possible that a woman may have received the letter and recruitment to take the survey more than once over the years. However, a look at email addresses where gift cards were sent revealed no duplicates, providing a high level of confidence that the baseline and revised responses were mutually exclusive and independent of one another.

4.2. Conclusion

Although time consuming, this cross disciplinary partnership was fruitful, and led to changes in a widely distributed letter that assisted in increasing patient knowledge, shifting perceptions regarding breast cancer prevention appointments, and ultimately increasing the number of appointments attributed to the letter.

Funding

This work was supported by a research grant awarded by the Brian Lamb School of Communication – Purdue University.

CRediT authorship contribution statement

Evan K. Perrault: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing. **Maria K. Venetis:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Tarah J. Ballinger:** Conceptualization, Data curation, Investigation, Methodology, Project administration, Resources, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Baseline Letter (bolded text is what we were allowed to revise)

March 1, 2020.
 Maria Jones.
 1234 56th St.
 City, USA.
 Phone: 555-555-5555.
 Dear Ms. Jones,

We are pleased to let you know that the results of your recent mammogram performed on Thursday January 16, 2020 shows no signs of breast cancer. We would like you to have a bilateral screening mammogram in 1 year.

A risk assessment evaluation was performed using the personal and family history you provided and indicates that you may be at higher risk for breast cancer than the general population. Women with an increased risk of breast cancer may benefit from intensified screening in addition to mammogram, or other strategies to lower their risk. Please consult your primary care provider for follow up. For more information, or if would like to schedule an appointment in the [name of program removed], please call 555-555-5555. You can also visit our website at: [website removed].

A report of your results was sent to: James Smith, MD.
 American College of Radiology.
 Recommendations for Breast Cancer Screening for Women of Average Risk.

Even though mammograms are the best method we have for early detection, not all cancers are found with mammograms. If you feel a lump or have any other reasons for concern, you should tell your health care provider. Women age 40 and older (who have not symptoms) should have an annual mammogram. Screening with mammography should continue as long as the woman is in good health and is willing to undergo additional testing (including biopsy) if an abnormality is detected.

Your images will become part of your medical record at [system removed]. Your images will be on file for your ongoing care. If, in the

future, you change health care providers or go to a different location for a mammogram, you should tell them where and when this mammogram was done.

Sincerely,
James Smith, MD.

Appendix B. Revised Letter (bolded text is the revised information)

January 1, 2022.
Maria Jones.
1234 56th St.
City, USA.
Phone: 555-555-5555.

Dear Ms. Jones,

We are pleased to let you know that the results of your recent screening mammogram performed on Monday, December 20, 2021, shows no signs of breast cancer. We would like you to have a bilateral screening mammogram in 1 year.

A report of your results was sent to: James Smith, MD.

However, based on your personal and family history, you have been identified as a person who may be at higher risk than the general population for developing breast cancer. [Clinic removed] offers convenient consultations for high-risk patients with a breast oncologist or advanced practice provider to discuss the following: 1) highly tailored screening strategies beyond “one size fits all” yearly mammograms, 2) your family history and the utility of genetic testing, 3) strategies to reduce your risk of developing breast cancer.

Most women leave these one-time consultations with a new, more intensive plan for breast cancer screening and some even begin a medication to help prevent breast cancer. Initial visits typically require 30 minutes and can be in-person or via telehealth. Insurance coverage is billed as subspecialty care. For more details or to schedule an appointment, please call our clinic coordinator at 555-555-5555 or visit [website removed].

Your images will become part of your medical record at [clinic]. Your images will be on file for your ongoing care. If, in the future, you change health care providers or go to a different location for a mammogram, you should tell them where and when this mammogram was done.

Even though mammograms are the best method we have for early detection, not all cancers are found with mammograms. If you feel a lump or have any other reasons for concern, you should tell your health care provider. Women age 40 and older (who have no symptoms) should have an annual mammogram. Screening with mammography should continue as long as the women is in good health and is willing to undergo additional testing (including biopsy) if an abnormality is detected.

Sincerely,
James Smith, MD.

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