Barriers to Adherence to Preventive Services Reminder Letters: The Patient's Perspective

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Background. Despite an emerging consensus as to which preventive services are appropriate, a minority of patients receive them. Although adherence to recommendations for some interventions has increased, research studies have shown that adherence rates can be further improved through a better understanding of patient attitudes and motivations regarding preventive services.
Methods. Using components of the Patient Path Model, this study examined the response to patient reminder letters for cholesterol screening sent to 1077 adult patients between August and October 1990. The research strategy incorporated both quantitative and qualitative methods, including a telephone survey and focus group interviews of nonresponders to the reminder letter.
Results. Three hundred seven patients were surveyed by telephone to ascertain their reasons for nonresponse. One hundred fifty-four (50.2%) did not recall receiving the reminder letter, 84 (27.4%) recalled receiving the letter but did not recall its content, and 69 (22.5%) recalled both receiving the letter and its content. No consistent reason for nonadherence emerged among the 69 nonresponders who recalled the reminder. Twenty-seven of the nonresponders who did not recall receiving the cholesterol reminder participated in the focus groups. The participants stressed the importance of distinguishing the reminder letter from a bill, conveying a personally relevant message, and addressing logistical barriers to preventive services.
Conclusions. Careful attention to the format and content of patient reminder letters is necessary to improve adherence to preventive services recommendations.
Key words. Preventive health services; reminder systems, patient participation; computers; focus groups.
J Fam Pract 1993; 36:195-200.

In recent years, health care professionals have acknowledged the importance of disease prevention and explored ways to improve compliance with recommendations for preventive services. Health promotion checklists[1] or flow sheets,[2] nurse-initiated reminders,[3,4] mailed reminders,[5] computer-generated reminders,[6–15] physician counseling,[16] and administrative changes[17] have all been shown to enhance adherence in particular settings. Improvement is relative, however, and actual rates of adherence vary widely.[18] Indeed, in our experience, despite dramatic improvements in adherence to recommendations for cholesterol measurements, fecal occult blood testing, mammography, and tetanus immunization using a combination of physician education, flow sheets, and computer-generated physician and patient reminders, a minority of patients are up to date with these services.[6,19]

Increasingly, theory and research related to health behavior and adherence emphasize the importance of understanding these issues from patients' perspectives.[20] It is likely that preventive services reminder systems that are designed after obtaining input and guidance from patients will produce greater adherence than ones that ignore the patient's perspective.

The Patient Path Model[21] provides a conceptual framework for understanding the process involved in adherence to preventive services. Put simply, this model holds that behavioral outcomes are a result of a series of sequentially ordered stages. In terms of patient reminder letters for preventive services, the model suggests that a positive response depends, in part, on the patient's completion of a series of steps. These steps include opening the letter, reading it, understanding its contents, and deciding to act on its recommendations. Each step in this process constitutes a potential barrier to adherence. We assessed the salience of each of these potential barriers in

Submitted, revised, July 14, 1992.

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ISSN 0094-3509

a telephone survey of nonadhering patients to a cholesterol screening reminder letter. In addition, focus groups were used to explore how the form and content of reminders can be improved from the patient's point of view. This triangulation of quantitative and qualitative methods by medical researchers has generated much interest in recent years,[22,23] and the value of the qualitative paradigm has been demonstrated in several recent preventive services studies.[24–27]

Methods

The study was conducted at the family medicine center at the Medical University of South Carolina in Charleston, where, as part of an ongoing preventive health program, all eligible adult patients in the practice who are not up to date with specific preventive services receive computer-generated reminder letters, sent just before their birthdays. The letters are printed on letterhead stationery and signed by the patient's primary care physician. They contain a brief description of each of the indicated preventive services and suggested that the patient make an appointment with his or her primary care physician to receive the recommended services.

Participants in this study were a random sample of nonresponders to a reminder letter containing a recommendation for cholesterol screening sent during August, September, and October, 1990. A total of 1077 patients were sent such a letter during this time. Of these, 977 (91%) had not received a cholesterol determination as of December 15, 1990, and were deemed nonresponders. A sufficient number of subjects was randomly selected to provide a final sample of approximately 300 participants for the telephone survey.

Telephone Survey

The telephone survey was conducted between December 28, 1990, and February 7, 1991. The interviewing procedure included two to three callbacks as well as attempts to contact subjects during evening and weekend hours. A trained interviewer (L.D.Z.) administered the survey. Each interview took approximately 4 to 5 minutes to complete.

The survey instrument (available from the authors) first assessed the subject's recollection of receipt of the birthday letter. Subjects who did not recall receiving the letter, or remembered receiving it but did not recall its contents, were not interviewed further. Those who did not specifically recall the reminder for cholesterol screening but mentioned something about the letter's general content were prompted about the cholesterol reminder. Those who remembered the reminder for cholesterol determination, either spontaneously or after prompting, were asked why they did not adhere to the recommendation. Demographic data were compared between those eligible for the telephone survey and those interviewed, to assess the possibility of response bias.

Interviewed patients were classified into three groups: those who did not recall receiving the reminder letter, those who recalled the letter but not the reminder for cholesterol screening, and those who recalled the cholesterol reminder. Demographic data were also compared between these three groups. Self-reported reasons for nonadherence to cholesterol screening among those who recalled the reminder were tabulated and grouped into categories.

Focus Groups

In May 1991, four focus group interviews were held. The groups were moderated by one of the coauthors (C.M.), who has extensive training and 6 years of experience in the technique. The participants were selected randomly from the four following groups: (1) male patients who did not recall receiving the reminder letter, (2) male patients who recalled the reminder letter but not the reminder for cholesterol, (3) female patients who did not recall receiving the reminder letter, and (4) female patients who recalled the reminder letter but not the reminder for cholesterol.

A projective exercise was developed to stimulate discussion about preventive services communications, to introduce the specific reminder letter used by the family medicine center and to elicit feedback. The use of projective techniques in qualitative research has been discussed by Naroll and Cohen[28] and Pelto and Pelto.[29]

The projective exercise required focus group participants to complete two different cartoons. The first drawing depicted a male or female (ie, same sex as the participant) holding an envelope and looking at it. The participant was asked to complete the drawing by writing in a "thought bubble" above the character's head what the character was thinking or feeling about the envelope. Participants were given an envelope identical to that in which family medicine center reminder letters were sent and were told that this was the envelope that the cartoon character was holding. This envelope had the medical university letterhead and a window with a name and address, plus the words "Happy Birthday, [recipient's name]."

The second drawing depicted the same character holding a letter, and this time, participants were given the version of the preventive service reminder letter that included preventive service recommendations appropriate to the respondent's sex. Participants were asked once again to complete the drawing by writing in the "bubble"

what they imagined the character to be thinking or feeling as he or she looked at the reminder letter.

The projective exercise was of particular value in this study for two reasons. First, it allowed group participants to express their reactions before knowing how other group members responded, thus decreasing group bias. Second, by asking participants to react to the reminder materials at the time of the interview rather than trying to remember how they reacted when they actually received the letter, recall bias was reduced.

Discussion on how participants responded to the cartoon followed completion of each projective exercise. Later the moderator led the group in a more personal discussion of how they themselves might have reacted to such a letter, and if they recalled receiving one, what their reaction was at the time. They were then asked what could be done to improve the envelope and letter, with emphasis on identifying specific modifications that would enhance the likelihood that the letter would be opened and read, and the recommendations followed.

Data from the focus group interviews were analyzed in the following manner. Written responses for both the envelope and the letter projective exercises were coded and tabulated by three of the coauthors (C.M., S.O., and L.Z.). In addition, written transcripts of the discussion were analyzed and representative verbatim statements selected.

Results

Telephone Survey

Nine hundred seventy-seven patients were eligible for the telephone survey. Fifty-three percent of the patients were women, 47% were men; 64% were black, 35% were white, and 1% were other races. The age range was from 19 to 71 years, and the median age was 32 years. Fifty-one percent of the patients had third-party medical insurance, 29% were uninsured, 10% had Medicare or Medicaid coverage, 6% had HMO coverage, and the insurance status of 4% was unknown.

Five hundred two patients were randomly selected for the telephone survey. Interviews were completed with 307 patients, yielding a response rate of 61.2%. The interviewer was unable to contact the households of 114 patients (22.7%). Eighty-one other people in the sample (16.1%) were unavailable for interview, because they either had moved from the Charleston area or were away for a prolonged period. Of the 502 patients randomly selected, interviews were completed with 66% of women and 56% of men ($P = .02$, chi-square); 67% of whites and 57% of blacks ($P = .07$, chi-square); 75% of those with HMO coverage, 70% of those with third-party coverage, 66% of those with Medicare or Medicaid coverage, and 47% of uninsured patients ($P < .0001$, chi-square).

Self-Reported Reasons for Not Obtaining a Cholesterol Determination Among Those Who Recalled the Reminder Letter (N = 69).

Reason	Number
No specific reason	14
Too busy	14
Done elsewhere	13
Could not get appointment	5
Forgot	5
Believes test had already been done	4
Plans to have it done soon	3
Procrastination	3
Other	8

Of the 307 subjects interviewed, 154 (50.2%) did not recall receiving the reminder letter, 84 (27.4%) recalled the letter but not the reminder for cholesterol screening, and 69 (22.5%) recalled the cholesterol reminder. Demographic differences among these three groups were not statistically significant.

Self-reported reasons for nonadherence to cholesterol screening among the 69 subjects who recalled the reminder are presented in the table. No predominant explanation existed, and most of the reasons given were nonspecific ("no specific reason," "too busy," "plans to have it soon"). A small number had received the screening elsewhere or believed that their physician had performed the screening as part of a recent visit. Few indicated lack of access as a reason. There was little indication that financial constraints or disagreement with cholesterol screening was a reason for nonadherence.

Focus Groups

A total of 27 respondents (16 women and 11 men) participated in the four focus groups.

PROJECTIVE EXERCISES

Participants had three types of reactions to the envelopes. All but four of them made an assumption or guess about the envelope's contents; two thirds expressed some feeling about the contents, and a small minority (four) indicated an intended action. The predominant assumption (made by nearly one half of the participants) was that the envelope contained a bill, although several who noticed the birthday message revised this assumption.

Three participants assumed that the envelope contained a reminder of some sort; two speculated that it might be bad news concerning a previous test. Despite the prevailing assumption that the envelope contained a bill, the most common feeling expressed was one of

hopeful curiosity. One participant wrote: "What could this be about? It says happy birthday on it. I hope it's something good—like a reduction in my bill."

Concerning the letter itself, the most common response (made by one third of participants) was one of appreciation, for example: "This is a very nice way to remind me of my checkup. I really forgot."

Nearly one quarter of all participants had a negative reaction to the letter. Four expressed mild apprehension about its meaning. One man wrote: "It's time again for a checkup. Old [physician's name] really cares at times. Hope he don't know something I don't."

Two other participants voiced cynicism about the family medicine center's motive in sending the letter. One of them observed: "I'm in good health. There's nothing wrong with me. This is just another way of getting me to see the doctor."

Based on their initial reactions to the reminder letter, only one participant said she would ignore the recommendations altogether. At the same time, however, only two participants indicated they would schedule an appointment for the recommended tests, and two others said they might call for an appointment or try to "find time." Data from the focus group discussions provide more specific insight into patients' reactions to the reminder letters and the envelopes.

INTERVIEW FINDINGS

The focus group discussions provided additional information about the various barriers to adherence identified in the projective exercise data. We found that the two primary cues for the bill interpretation were the address window in the envelope and the medical university letterhead. One respondent expressed succinctly what many others implied: "Windows on the envelope say bill . . . this is a bill."

For several other respondents, the medical university letterhead reinforced this impression: "It's the name [medical university] that made me think this was a bill—not just the window."

The "bill" perception decreased receptivity to the reminder letter in two ways. First, we found that some focus group participants tend not to open letters that resemble bills. Second, some participants opened the envelope thinking it might contain a bill and then discarded the mailing with relief when they realized it did not.

Despite the appearance of a bill conveyed by the address window and the letterhead, most participants responded favorably to the envelope specifically because of the birthday message. In fact, several respondents revised their assumption that the envelope contained a bill based on this message. One of them said: "First I thought it was a bill. And then I said, 'No, it's not.' They wouldn't tell me happy birthday if it was a bill."

Others were favorably impressed by the implied thoughtfulness of the message and were curious about the envelope's contents: "I think it is thoughtful of them [to say happy birthday] because some people don't even remember about your birthday. To me, it's wonderful for them to say it, and I have to open it to find out what it is . . . . 'Happy birthday' makes me feel good."

Some respondents, however, perceived a mixed message in what they saw as a "happy birthday bill" and expressed suspicion about its intent. One of them dismissed the envelope as "more junk mail." Another observed cynically: "It was nice of them to remember my birthday, but it is probably just a bill with a good headline."

In discussing the reminder letter itself, over one third of focus group participants expressed acceptance of preventive services and appreciated receiving the reminders. The most frequent favorable comment was gratitude for being informed about the need for regular preventive services. One respondent commented: "Everyday situations, you just don't think about that kind of stuff. It could be years before you get a checkup."

Several others mentioned their appreciation of the concern for their well-being demonstrated by the letters. One said: "I like the idea of their concern for my health by mentioning these tests."

Another appreciated the letter because: "It was just so personal, talking about the time to get a checkup and keep healthy."

Several other respondents implied that, while they recognized the value of preventive services, they sometimes needed to be "pushed" to seek them out: "Well, there are certain tests out there that [women] should have, like Pap smears. Even if you're in good shape, something might change. I think we really need to be reminded, and some people need to be pushed to have these things done, including me sometimes."

Overall, we surmise that acceptance of the prevention concept is high among our respondents. Over one third of them explicitly stated their belief in the value of preventive services, and no one flatly denied the benefits. However, much of the discussion in the focus groups centered on potential barriers to adherence. Barriers mentioned fell into two broad categories: general barriers to adherence that could be addressed in the reminder letter, and specific characteristics of the reminder letter that respondents believed could be improved.

Even among people who responded favorably to the reminder letter, some expressed ambivalence about having the recommended tests done. Four of them mentioned that it was easy to ignore recommendations, particularly when they were feeling well. One of them

remarked: "Sometimes you say 'I feel bad' so you might make an appointment. Then you feel better so there's no sense going to the doctor. Then it happens again, then you neglect yourself. You take some aspirin. It can lead to something bad."

Another mentioned the inconvenience of scheduling and keeping an appointment: "I don't really mind a checkup so much, you know, it's getting the appointment. It seems that sometimes the doctor is having trouble setting up all of these for you. It takes time to have a thorough checkup, Pap smear, and everything you need."

Three respondents mentioned the cost of services as a barrier. One of them mused: "I wonder if some kind of financial arrangements can be made so that I can afford these tests. I know they are all important, but financially it's hard to pay for. That's the biggest problem. . . . "

Some patients mentioned that the reminder looked like a form letter. They believed that the message was not intended for them specifically, and thus they did not need to take the message seriously: "Once I see something that is a form letter and I realize that it's not personalized, it's not directly to me, I just glance across it, and a lot of times, it goes in the can. . . . "

Others objected to the letter on the grounds that it represented an ill-conceived attempt to "make it look like" their physician had sent the letter personally. One respondent complained: "They are trying to force personalization on these letters that are being generated automatically by the computer, and anybody who gets this letter knows that this thing is coming from a computer printer."

Two participants felt overwhelmed by the number of tests mentioned and expressed fear about what test results might indicate. One said, "Sometimes it seems like too many tests. Things like that might scare me." The other commented, "Some people just don't like going to the doctor . . . he might find this problem and then that problem . . . maybe it scares them."

Another barrier expressed by some patients who are medical university employees concerned confidentiality. One of them pointed out: "There are certain things that I don't want the people that I work with to know about. That would be my concern about coming here for [tests] rather than coming here for a sinus infection or a cold."

Participants' critical comments suggest that patients would respond more favorably to a reminder that explains the importance of prevention, facilitates appointment scheduling, and perhaps offers information about payment options. Several of these points were echoed in respondents' specific recommendations to improve the letters. Other suggestions included sending the message more frequently, emphasizing the message, and personalizing it.

Discussion

The results from this study support three major conclusions. First, application of the Patient Path Model to the telephone survey results indicates that nonadherence may result from failure to open, read, or understand the reminder letter rather than failure to follow recommendations. Three fourths of the patients who received our reminder letter either did not recall receiving it or did not recall its contents. Second, we learned from the focus groups that the format and content of the reminder letter and the mailing envelope are important variables in motivating patients to read the letter and adhere to its recommendations. Important factors identified included designing the envelope so that the reminder is easily distinguished from a bill, developing a form letter that conveys a personally relevant message, and addressing logistical barriers to the receipt of preventive services. Finally, we learned that patients can be a source of insight and constructive criticism in the development and design of reminder systems.

The results of this study expand on prior studies[6,7–15,19] of the efficacy of computer-based preventive services reminder systems. These earlier studies demonstrated that both physician and patient reminders improve adherence to a variety of preventive services. More limited evidence suggests that the response is better if the reminder is given to a physician,[6,15] and that the combination of patient and physician reminders is most efficacious. The findings from this study suggest that the limited response to patient reminder letters may result from failure of the caregiver to effectively convey the recommendation message to the patient. Given that both format and content of the reminder letter have a direct impact on adherence, improvement of adherence rates might be achieved through patient-directed improvements in reminder letters. We found focus groups to be helpful in eliciting the patient feedback needed to design more effective reminder letters.

Several limitations of this study must be mentioned. First, the response rate of 61.2% to the telephone survey allows the possibility of response bias. In addition, the demographic differences between those contacted and those not contacted limit the ability to generalize the results of the telephone survey to the entire population of nonrespondents to the reminder letter. For example, the absence of cost mentioned as a reason for nonadherence to the reminder may have been a result of the fact that only 47% of the uninsured patients were interviewed. Second, there may have been misclassification, as patients were interviewed 2 to 6 months after receiving the letter. Those not favorably disposed toward its contents might have discarded the letter and reported either that they did

not recall receiving it or did not recall its contents. Third, since the study was conducted in a university-based training program with a large minority patient population, the findings may not be generalizable to other sites. Fourth, only four focus groups were conducted. Other perspectives might have emerged if more groups had been studied. Finally, given that mailed patient reminder letters had been in use for more than 2 years at the site where the study was conducted, it is possible that the nonresponders represent a more resistant group than would be found in other settings. In our experience, the greatest improvement in adherence occurs soon after implementation of a reminder system, with slower improvement over time.[6,19] The early responders may be those most receptive to preventive services reminders.

Conclusions

This study indicates the need for more research concerning patient reminders for preventive services. We believe that future studies should be directed toward optimization of patient preventive service reminders using direct patient input as guidelines for design and content. Clinical trial testing of various types of mailed patient reminders should be conducted both in academic teaching settings and in practice settings. It is likely that a beneficial impact on preventive service adherence rates will occur if patients read, comprehend, and follow the recommendations in mailed preventive service reminders.

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