Community health center patients' response to and beliefs about outreach promoting clinical preventive services

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ABSTRACT

We sought community health center (CHC) patients' feedback regarding an outreach intervention promoting primary prevention of cardiovascular disease to patients at increased risk. We performed a telephone survey that assessed whether patients recalled receiving the intervention, what actions occurred in response to the intervention, and patient attitudes regarding receipt of preventive service messages from their CHC. Participants ($n = 80$) were 89% male, and 59% were black. Among the 88% of respondents who reported a healthcare visit, 84% reported a discussion about cholesterol or heart disease risk with their provider, of these 44% reported a statin was recommended and 89% reported currently taking it. Participants reported high acceptability of receiving preventive service messages, but were less likely to agree that they wanted to receive preventive service messages via text or email compared to other modes of contact. Our results show that outreach programs to promote indicated preventive services were viewed positively by this patient group. We also identified areas where the CVD prevention program may have lost effectiveness.

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1. Introduction

Cardiovascular disease (CVD) is the leading cause of disparities in years of life lost by race and low socioeconomic status (Wong et al., 2002; Anon, 2004). Community health centers (CHCs) often serve racial and ethnic minority populations and individuals with low socioeconomic status. One potential strategy to reduce national CVD disparities is to deliver outreach promoting the primary prevention of cardiovascular disease to CHC patients. We recently reported the results of a randomized controlled trial within three CHC networks evaluating the effect of an individualized outreach intervention aimed at improving the appropriate use of statins for primary prevention of CVD among high risk patients (Persell et al., 2015). The intervention consisted of mailed and telephone outreach by a care manager that informed the patient that (1) they were at higher than average risk of CVD and estimated the patient's global CVD risk and (2) recommended actions to discuss with their clinician which included the use of medication to lower cholesterol. All patients were encouraged to schedule a visit to discuss the information with their clinician. Chart reviews following outreach showed that the intervention increased the proportion of patients with face-to-face encounters with a clinician at which cholesterol treatment was addressed, however the vast majority of these documented discussions did not result in a statin prescription.

As part of the original study protocol, we surveyed patients in the outreach intervention group by phone to identify barriers and facilitators to statin uptake and to evaluate patients' perceptions of the intervention. Additionally, we assessed patients' general attitudes and preferences about receiving outreach promoting clinical preventive services from their CHC.

2. Methods

2.1. Study setting

Three CHC networks—two in Chicago, IL and one in Northern Arizona—participated in the previous randomized controlled trial, and all three sites recruited patients for this survey. Recruitment took place between November 2013 and October 2014 after patients had completed a 1-year follow-up period. Interested patients provided verbal informed consent prior to completing the survey. The study was approved by the Institutional Review Board of Northwestern University and by internal review processes at the three participating CHCs.

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2.2. Participant eligibility

Eligibility criteria for the randomized trial have been reported previously (Persell et al., 2015). Briefly, criteria included men ≥35 and women ≥45 years old with a 10-year risk of coronary death or myocardial infarction (based on Framingham risk score) of at least 10%, English or Spanish listed as preferred language, and a visit to the participating CHC within 6 months prior to randomization. All eligible patients, identified by EHR query, were randomized resulting in 328 patients assigned to the intervention arm. Primary care providers (PCPs) could mark intervention patients as excluded from outreach. To be eligible for survey recruitment, a patient must have been sent intervention outreach and have a telephone number listed within the EHR (Fig. 1). When reached by a care manager during initial intervention outreach, some patients refused all further contact regarding CVD prevention and were thus excluded from survey recruitment.

2.3. Survey instrument

The survey was developed by study team and included the following domains: (1) Receipt of intervention (2) Response to intervention (3) Outcome of CVD prevention discussions with providers and (4) Patient attitudes and preferences regarding receipt of preventive service messages from their CHC. We asked whether the patient received outreach and what actions they took following the outreach (including visit with provider, lifestyle or medication changes). Among patients who had a CVD primary prevention discussion with their PCP we asked what recommendations were provided to the patient and what actions were taken. Patients who reported receiving a prescription for a statin medication were asked whether they started it and, if not, the reasons for non-initiation. Patients who initiated a stain were asked whether they were still taking it at the time of the interview, their current level of adherence to it, and if they stopped taking it, the reasons why. Finally, patients were asked if they thought it was a good idea for the health center to let them know when they were due for three preventive service needs: (1) flu shot, (2) cancer screenings, and (3) things to do to lower their risk of developing CVD and how they preferred to receive such preventive health messages. Participants responded on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). Demographic items were also included.

2.4. Survey administration

We collected current patient contact information from the EHR. Eligible participants were mailed a recruitment opt-out letter. Within two weeks of the letter, study staff called all patients that did not opt-out. Up to six contact attempts were made at varying times of day, evening, and weekend to maximize our ability to reach patients. Once verbal consent was obtained, the interviewer read each item aloud to participants and directly recorded responses in SNAP survey software that allowed for appropriate skip patterns based on previous responses (SNAP v10 Mercator Research Group, Ltd., Boston). The survey took between 10 and 15 min to complete, and participants were mailed a $25 gift card as a thank you for their participation.

2.5. Analysis

Descriptive statistics were used to describe participant characteristics and to report summary measures for quantitative items. All analyses were done using SAS v 9.4 (SAS Institute Inc., NC) Missing data ranged from 1 to 13%. Responses about patient preferences for how they would like to receive messages about preventive health services were compared using the Wilcoxon signed rank sum test which is a non-parametric version of a paired samples t-test. Due to multiple comparisons, we applied the Bonferroni correction. P values < 0.0033 were considered statistically significant.

3. Results

3.1. Population studied

We attempted to survey 254 patients; 191 patients had working telephone numbers, and we completed interviews with 80 participants (response rate: 31.5%) (Fig. 1). Participants were 89% male, 59% black, and 58% reported a high school level of education or less. The sample of interviewed patients was not different from the whole outreach intervention population on the distribution of CHC site, gender, or race. Most participants thought their 10-year risk of developing CVD was average (43%) or low (28%) (Table 1).

3.2. Receipt of intervention and actions taken in response to the intervention

The majority of participants (55 of 80) reported receipt of at least one component of the intervention. This included 25 (31%) who recalled receiving both the mailing and a telephone call, and 30 (38%) who recalled receiving only one or the other. There were 25 (31%) who did not recall receiving any of the intervention components. Among the 55 who reported receipt of at least one component of the intervention, 42 (76%) reported making a visit to a clinician at their CHC to discuss CVD prevention and 12 (25%) reported a visit to a different healthcare provider. Table 2 presents other self-reported behaviors taken following the intervention.

3.3. Barriers to having a CVD prevention discussion

Among the 13 patients who reported receipt of at least one component of intervention who did not schedule a visit to see a doctor or nurse, 10 patients responded to items asking about barriers. On a scale of 1 'strongly disagree' to 5 'strongly agree' participants generally did not agree that traditional barriers were applicable for them: scheduling difficulties (mean [M] = 2.3, standard deviation [SD] 1.89), transportation difficulties (M = 2.0, SD = 1.63), work or family responsibilities (M = 2.3, SD = 1.89), cost of visit (M = 2.0, SD = 1.49), concern
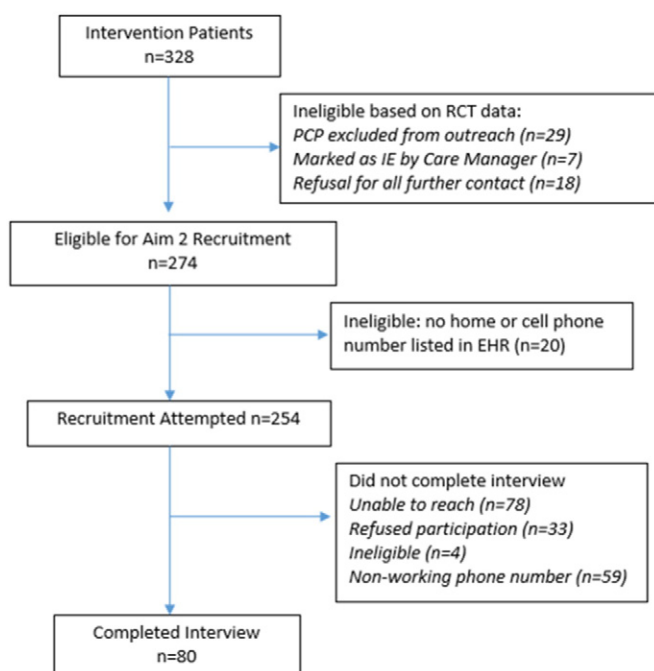

Fig. 1. Participant flow diagram. RCT: randomized controlled trial; PCP: primary care provider; IE ineligible; EHR: electronic health record.

Table 1
Participant characteristics.

	n = 80
CHC site, n (%)	
CHC 1 (Chicago, IL)	26 (32.5)
CHC 2 (Chicago, IL)	36 (45.0)
CHC 3 (Flagstaff, AZ)	18 (22.5)
Male, n (%)	71 (88.8)
Insured, n (%)	62 (79.5)
Self-rated health, n (%)	
Excellent/very good	21 (26.9)
Good	34 (43.6)
Fair/poor	23 (29.5)
Race, ethnicity	
Black	47 (58.8)
White	25 (31.3)
Hispanic	8 (10.0)
Education	
8th grade or less	3 (4.0)
Grades 9–11	14 (18.4)
Grade 12/GED	29 (38.2)
Some college	19 (25.0)
College graduate	11 (14.5)
Perceived 10-yr CVD risk	
Low risk	22 (27.9)
Average risk	34 (43.0)
High risk	12 (15.2)
Don't know	11 (13.9)
Clinic visits during intervention year, median (IQR)	3 (1, 5)

CHC: community health center; GED: General Educational Development; CVD: cardiovascular disease; IQR: interquartile range.

about costs of medications (M = 2.6, SD = 1.90), or not wanting to take medications (M = 2.8, M = 1.75).

3.4. Outcome of provider discussions

There were 70 (88%) respondents who reported any healthcare visit in the prior year. Among them, 59 (84%) reported a discussion about cholesterol or heart disease risk. Among these 59 patients, many reported that clinicians gave recommendations for exercise and dietary change, 49 (83%) and 43 (73%) respectively. Whereas 26 (44%) reported receiving advice to use drug treatment to lower cholesterol (Table 3). Among these 26 patients who reported advice for drug treatment to lower cholesterol, 19 (73%) reported picking up the prescription, 18 (69%) started taking it, and 16 (62%) were taking the statin at the time of the interview.

3.5. Barriers to initiating statin therapy

Of the 8 patients who received a statin prescription but never started it, cost was not reported as a barrier (M = 1.63, SD = 1.19). Patients were neutral towards concern about side effects (M = 2.86, SD = 1.86) and not feeling it was necessary because they felt healthy (M = 3.63, SD = 1.30).

Table 2
Self-reported behaviors in response to receiving the intervention among the subgroup of participants who recalled receipt of intervention (at least 1 component).

	N = 55 *n* (%)
See a provider at CHC	42 (76.4)
See provider another location	12 (25.0)
Changed diet	30 (57.7)
Increased exercise	26 (51.0)
Started new medication	13 (24.5)
Started new vitamin or supplement	12 (22.6)

CHC: community health center.

Table 3
Self-reported provider discussions within 1 year of randomization among the subgroup of participants who reported discussing cholesterol or risk of heart disease with a clinician.

	N = 59[a] *N* (%)
Provider recommended exercising	49 (83.1)
Provider recommended losing weight	33 (55.9)
Provider recommended diet change	43 (72.9)
Provider recommended stopping smoking	29 (49.2)
Provider recommended blood pressure medicine	34 (57.6)
Provider recommended statin	26 (44.1)

[a] Of 80 subjects, 10 reported no visit to a clinician and 11 reported a visit but no discussion about cholesterol or risk for heart disease. These subjects were not asked these items.

3.6. Patient attitudes and preferences about receiving preventive service messages

Patients agreed that it was a good idea for the health center to let them know when they were due for a flu shot (M: 4.30; SD: 1.19), overdue for other preventive services like cancer screenings (M: 4.59; SD: 0.87), and if there were things they could do to lower their risk of developing cardiovascular disease (M: 4.63; SD: 0.83). Participants were less likely to agree that they wanted to receive preventive service messages via text or email compared to other modes of contact (Table 4).

4. Discussion

Our results indicate that an outreach program to promote the primary prevention of CVD was viewed positively by this group of CHC patients with elevated CVD risk. In addition, they held generally favorable views towards CHCs performing outreach to them about preventive services that might be of benefit. However, we also identified different areas where this CVD prevention program that aimed at increasing the uptake of statin medication among primary prevention patients with increased CVD risk may have lost some of its effectiveness.

The initial drop pertains to receipt of the intervention itself. Among patients that were sent messages about primary prevention of CVD, 25 (31%) did not recall receipt of at least one component of the intervention. This suggests either that some patients did not receive the repeated phone or mail messages, or that these messages did not leave a lasting impression. Second, all patients in our sample were informed that they were at higher than average risk for CVD, but only 15% of patients correctly labeled themselves as high risk when asked one year later. Third, of the patients who reported that they received intervention, only about half scheduled a visit with a clinician to discuss CVD prevention. Fourth, among respondents who said that they had a clinical visit at which a discussion about cholesterol or CVD primary

Table 4
Patient notification preferences for preventive health messages from CHC (*n* = 80).

	Mean (SD)
Like to be called by health center staff member	4.18 (1.36)
Like to receive automated call	3.74 (1.57)[*]
Like to receive information by mail	4.35 (1.22)
Like to receive text message	2.73 (1.64)[†]
Like to receive email message	2.44 (1.63)[†]
Like to come in to discuss recommended services with provider in person	4.43 (1.01)

CHC: community health center. Response options were 1) strongly disagree, 2) slightly disagree, 3) neither agree nor disagree, 4) slightly agree, or 5) strongly agree.

[*] $P < 0.0033$ compared to in-person discussion.

[†] $P < 0.0001$ compared to call by staff member, automated call, receive by mail, or in-person discussion.

prevention took place, fewer than half of these higher risk patients (44%) reported receiving a recommendation to take a cholesterol medication. Advice regarding diet and exercise was much more common. And lastly, 62% of those patients who received a statin prescription reported that they were currently taking a statin. Even though respondents generally did not feel that financial or logistic barriers prevented them from getting care, in the end, only about 1 in 5 patients reported that they were currently taking a medication to lower cholesterol. These survey findings complement and are supportive of the conclusions we observed in the pragmatic randomized controlled trial of this intervention which relied on outcomes measured exclusively from EHR data (Persell et al., 2015).

Patients in our primarily male sample report high acceptability to receiving messages about needed clinical preventive services from their CHC and prefer them to come via telephone call, mail, or request to come in and discuss in person. This finding is in contrast with another study in a safety net setting which found that 71% of patients were interested in using electronic communication with their providers, though this was not specifically about clinical preventive service messages (Schickedanz et al., 2013). More research is needed to understand patients' preferred delivery channel for different types of messages from their CHC.

The intervention we studied does not appear to have improved the accuracy of patients' risk perception. This is discordant from two recent systematic reviews that found that providing risk information to patients likely improves the accuracy of their CVD risk perception (Sheridan et al., 2010; Usher-Smith et al., 2015). However, it is possible that only presenting CVD risk information at one or two time points a year earlier is not a sufficiently strong intervention to produce a lasting change in risk perception (Sheridan et al., 2010).

Our study has several limitations. In order to allow for the follow-up interval to occur in the pragmatic trial, we waited a full year following the delivery of the intervention to administer the survey so recall inaccuracies might be more pronounced than they would have been if we had conducted the survey sooner. We did not have correct contact information for a number of patients who may have changed phone or address information over the course of the year, and our response rate was slightly >30%. This might bias our findings to be more representative of those who have a more continuous relationship with their CHC. Furthermore, we have no way of knowing if patients who refused to participate in the survey held different (and potentially less favorable) views towards the delivery of preventive services than did survey participants. Lastly, our study was conducted exclusively in CHCs in two states. We do not know if these findings are generalizable to other patient populations.

Patient outreach and educational messages are likely an important and necessary component of larger interventions designed to improve rates of clinical preventive services at CHCs, but for topics as complex as cardiovascular disease risk reduction, lay health outreach and patient education alone seems insufficient to reduce all the obstacles to high quality care. Future efforts should explore ways to make patient education messages as actionable and timely as possible such as testing individualized risk education delivered immediately prior to or just following an encounter with a CHC provider (e.g., point-of-care strategies). Since this outreach program coming from CHCs did not make a

lasting impression on a significant subgroup of patients, it may be beneficial to reinforce CVD prevention messages by delivering them via channels that people encounter in the context of their day-to-day lives. Finally, since many discussions between clinicians and patients did not result in cholesterol medication prescriptions, multifaceted interventions that also include clinician-facing strategies may be needed to reduce disparities in the primary prevention of CVD.

Our results indicate that using educational outreach from CHCs to inform and engage patients about their preventive care needs was viewed favorably. Further research is needed to determine the optimal mode and frequency of delivery to achieve optimal preventive health outcomes.

Disclosures

Dr. Persell receives unrelated grant support from Pfizer, Inc.

Conflict of interest statement

Dr. Persell receives grant support from Pfizer, Inc. All other authors report no conflicts of interest. The study sponsor had no role in the study design; collection, analysis or interpretation of data; writing the report; or the decision to submit this report for publication.

Transparency document

The Transparency document associated with this article can be found, in the online version.

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