

Increasing Patient Engagement in Telephonic Diabetes Support

Pia Iribarren, MPH; Jill Linnell, MPH; Hang Pham-Singer, PharmD

Primary Care Information Project, New York City Department of Health & Mental Hygiene

Background

Engaging patients for diabetes self-management can be challenging, especially among low-income or minority populations.¹ Small primary care practices (PCPs), especially those in medically underserved areas, have limited resources to provide in-house self-management support to patients with diabetes.² Telephonic interventions are a potentially cost effective solution to these limited resources.³

The NYC Department of Health & Mental Hygiene (DOHMH) and the Einstein Diabetes Research Center developed a telephonic diabetes self-management program that improved glycemic control through a randomized controlled trial (RCT) conducted with patients from the New York City A1C Registry.⁴ However, staff were only able to enroll 10% of all patients outreached using a protocol that consisted of phone calls and mailing. DOHMH and Einstein adapted the program, now called NYC Care Calls, to engage patients from PCPs using EHR registries. DOHMH developed an outreach protocol for NYC Care Calls that addressed the barriers of patient distrust and PCP telephone resource needs.^{2,5} NYC Care Calls allows PCPs that are unable to support their own outreach staff to benefit from a centralized call center at the DOHMH. We hypothesized that recruiting patients through PCPs would increase the number of people engaged.

Aim

Our aim was to increase the engagement of patients engaged in diabetes self-management support.

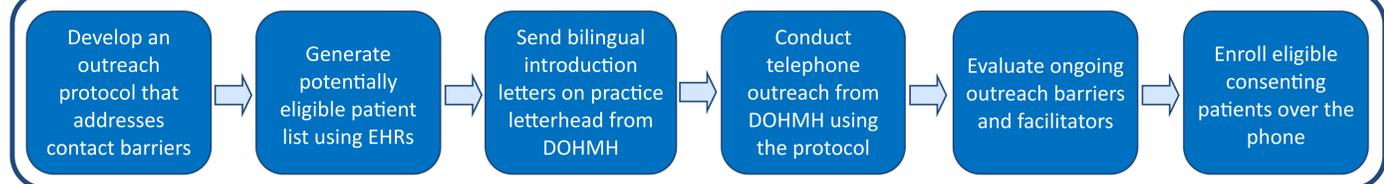
Program Description

NYC Care Calls is being evaluated as part of an NIH-funded RCT to assess the effectiveness of the program to lower A1C levels. The target population is English or Spanish speaking patients with Type 2 Diabetes and an A1C of 7.5 or above at participating PCPs. Intervention participants receive 6-12 calls over 1 year depending on A1C and diabetes distress levels. Enrollees must consent to randomization to receive either diabetes education calls (intervention) or print materials by mail (control), and to participate in surveys over the phone.

Bachelor's level health educators received training in diabetes self-management support techniques to conduct the intervention, including goal setting and problem-solving. Topics addressed in the intervention include the A1C test, medication adherence, healthy eating, physical activity, and stress management. The health educators also received training in the outreach, follow up, and intervention protocols. The outreach protocol included outreach letters and a phone script that could be tailored to fit the patients' responses as well as targeted questions to identify barriers that would help guide the conversation.

Staff met periodically to evaluate ongoing barriers and modify the protocol. Minimum and maximum call attempts were refined to ensure interested patients had a reasonable chance to enroll. Eligible patients who did not enroll or refuse received outreach for a maximum of two additional A1C results ≥ 7.5 . New patients were given priority and received more outreach calls. Calls were made on evenings and Saturdays in addition to regular business hours.

Process



Results

- 4,349 patients received mailing and phone outreach from Dec 2014 to Oct 2017. (See Figure 1)
 - 3,640 patients (84%) had valid phone number confirmed through contact with the patient or a household member.
 - 2,854 patients (65%) discussed opportunity to enroll with health educator.
 - 1,582 patients (36%) completed eligibility screening.
 - 445 patients (10%) were ineligible most commonly for possible cognitive impairment
 - 812 patients (19%) consented and completed the rest of the enrollment process.
- On average, staff spent 105 minutes to recruit one patient:
 - 39 minutes for outreach to those that did not enroll
 - 66 minutes to complete one enrollment including surveys
- Though female and middle-aged patients were slightly more likely to enroll, generally enrollees were similar to those outreached with regard to age, language, A1C level. (See Table 1)

Figure 1. Flow Diagram of Outreach Efforts by Centralized Call Center at DOHMH

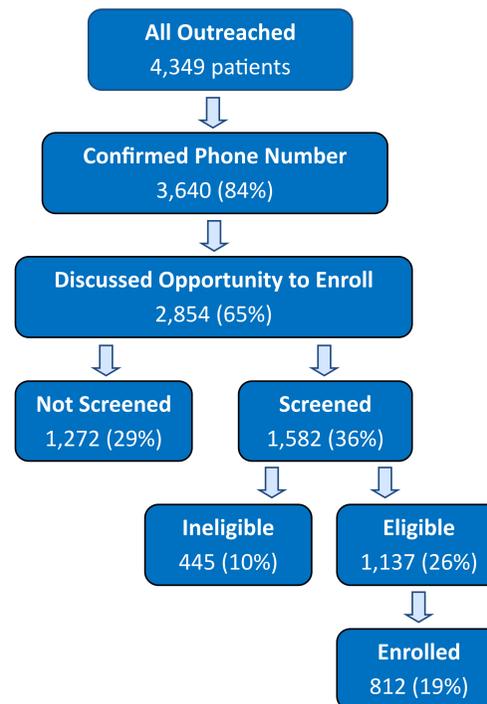


Table 1. Comparison Of Patient Demographic Characteristics

	All Outreached		All Enrolled	
	N	(%)	n	(%)
	4349	100.00	812	18.67
Sex				
Female	2252	51.78	462	56.90
Male	2097	48.22	350	43.10
Age				
21-44	396	9.11	68	8.37
45-64	2172	49.94	488	60.10
65+	1781	40.95	256	31.53
Language				
Spanish	3338	76.75	633	77.96
English	1011	23.24	179	22.04
Practice				
1	320	7.36	91	11.21
2	308	7.08	70	8.62
3	333	7.66	37	4.56
4	869	19.98	197	24.26
5	425	9.77	103	12.68
6	259	5.96	58	7.14
7	324	7.45	68	8.37
8	294	6.76	35	4.31
9	460	10.58	44	5.42
10	536	12.32	75	9.24
11	221	5.08	34	4.19
A1C				
7.5 - <9	2405	55.30	435	53.57
9 - <11	1205	27.71	227	27.96
11 - <13	535	12.30	107	13.18
13+	204	4.69	43	5.30

Lessons Learned

The adapted outreach protocol led to the recruitment of 19% of all patients outreached, a 9% increase compared to the original outreach protocol. Patients were receptive to phone DOHMH outreach on behalf of their doctor. Leveraging the patient-provider relationship may have increased trust and motivation to engage in telephonic self-management support. For example, many patients brought the introduction letter to discuss the program with their provider before enrolling. Recruitment rates varied for individual PCPs and were as high as 24%. Staff observed that higher rates correlated with PCPs where patients were more likely to have built long-time relationships with individual providers.

DOHMH was able to enroll a cohort of patients that was representative of the outreached population. Importantly no disparities were seen in the A1C levels of those who enrolled. Because it was telephone-based, the program was able to engage patients with challenges such as demanding work schedules, child-care responsibilities, or limited mobility.

The centralized call center was able to address the resource limitations of PCPs to provide self-management support. Many PCPs chose to grant DOHMH access to run patient lists via WebEx. Many patients who did not enroll were educated about their A1C value during outreach calls and prompted to follow up with their PCP.

Recruiting patients via PCPs successfully increased the number of patients engaged in telephonic management support while addressing a number of barriers for patients and PCPs. Future analyses will assess ongoing engagement and the impact on A1C control.

Citations

1. Adjei Boakye E, Varble A, Rojas R, et al. Sociodemographic Factors Associated With Engagement in Diabetes Self-management Education Among People With Diabetes in the United States. *Public Health Reports*. 2018;2018(1):1-7. doi:10.1177/0033314718794955.
2. Lau R, Stevenson F, Ong BN, et al. Achieving change in primary care—causes of the evidence to practice gap: systematic reviews of reviews. *Implementation Science*. 2016;11:40. doi:10.1186/s13012-016-0396-4.
3. Boekhorst RL, Shannon CW, Smith BR, Woodward MA. The Empirical Evidence for the Telemedicine Intervention in Diabetes Management. *Telemedicine Journal and e-Health*. 2015;21(5):321-354. doi:10.1089/tmj.2015.0209.
4. Charnany S, Walker EA, Schechter CB, et al. Telephone Intervention to Improve Diabetes Control: A Randomized Trial in the New York City A1C Registry. *American Journal of Preventive Medicine*. 2015;49(10):832-841. doi:10.1016/j.amepre.2015.08.016.
5. George S, Durán N, Norris K. A Systematic Review of Barriers and Facilitators to Minority Research Participation Among African Americans, Latinos, Asian Americans, and Pacific Islanders. *American Journal of Public Health*. 2014;104(2):e16-e31. doi:10.2105/AJPH.2013.301706.

Acknowledgements

This project is supported by the National Institute of Diabetes And Digestive And Kidney Diseases of the National Institutes of Health under Award Number R18DK098742. The contents of this product are solely the responsibility of the authors and do not necessarily represent the official views of the National Institutes of Health.