

A Proactive Outreach Strategy Using a Local Area Code to Refer Unassisted Smokers in a Safety Net Health System to a Quitline: A Pragmatic Randomized Trial

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Abstract

Introduction: Proactive outreach offering tobacco treatment is a promising strategy outside of clinical settings, but little is known about factors for engagement. The study objective is to examine the impact of caller area code in a proactive, phone-based outreach strategy on consenting low-income smokers to a quitline e-referral.

Aims and Methods: This pragmatic randomized trial included unassisted adult smokers ($n = 685$), whose preferred language was English or Spanish, in a Los Angeles safety-net health system. Patients were randomized to receive a call from a local or generic toll-free area code. Log-binomial regression was used to examine the association between area code and consent to a quitline e-referral, adjusted for age, gender, language, and year.

Results: Overall, 52.1% of the patients were contacted and, among those contacted, 30% consented to a referral. The contact rate was higher for the local versus generic area code, although not statistically significant (55.6% vs. 48.7%, $p = .07$). The consent rate was higher in the local versus generic area code group (adjusted prevalence ratio 1.29, 95% CI 1.01–1.65) and also higher for patients under 61 years old than over (adjusted prevalence ratio 1.47, 95% CI 1.07–2.01), and Spanish-speaking than English-speaking patients (adjusted prevalence ratio 1.40, 95% CI 1.05–1.86).

Conclusions: Proactive phone-based outreach to unassisted smokers in a safety net health system increased consent to a quitline referral when local (vs. generic) area codes were used to contact patients. While contact rate did not differ by area code, proactive phone-based outreach was effective for engaging younger and Spanish-speaking smokers.

Implications: Population-based proactive phone-based outreach from a caller with a local area code to unassisted smokers in a safety net health system increases consent to an e-referral for quitline services. Findings suggest that a proactive phone-based outreach, a population-based strategy, is an effective strategy to build on the visit-based model and offer services to tobacco users, regardless of the motivational levels to quit.

Introduction

Health systems play an important role in tobacco treatment.¹ The U.S. Preventative Services Task Force guidelines recommend providers ask, advise and refer patients to tobacco cessation resources.² However, providers cite time constraints and competing priorities as a barrier to referring patients to cessation services during a regular clinical encounter.^{3,4} Further these provider referrals only reach smokers with a clinical encounter. Increasing the reach and use of evidence-based cessation treatments is an important population health goal, especially among low-income diverse populations.

The Electronic Health Record (EHR) has created an opportunity for providers to use electronic referrals to connect patients to evidence-based tobacco treatment services, such

as quitlines. Research shows that quitline services alone can double long-term quit rates in one year.⁵ While there is growing momentum to integrate quitlines within EHRs to increase the likelihood of patients connecting with the quitline, safety net providers may have limited time and resources to prioritize tobacco treatment counseling in their clinical practice.⁶

Proactive phone-based outreach to patients for tobacco treatment services outside of the clinical encounter may relieve the burden on time-constrained clinicians. Quitlines are an important resource for time-constrained providers to conduct evidence-based tobacco counseling. The use of proactive phone-based outreach strategies can increase engagement in evidence-based tobacco cessation treatments among low-income smokers,^{7,8} including with quitlines.^{9,10}

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Research is needed to understand what may increase reach and engagement with proactive phone-based outreach by quitlines among low-income unassisted smokers. In previous proactive outreach studies with quitlines,⁷⁻¹¹ it is unclear what telephone numbers and caller area codes were used to connect with patients. Local context may be important to connect and engage with a quitline, especially with the nationwide increase in robocalls. It is unknown how diverse populations in Medicaid, such as Spanish-speaking populations, may be receptive to such proactive phone-based outreach.

This study tests a proactive phone-based outreach strategy using local versus generic caller area codes among unassisted English and Spanish-speaking smokers in a safety net health system. The pragmatic study design was jointly initiated and developed in partnership with the state quitline, California Smokers' Helpline (Helpline), and the leadership of Los Angeles County Department of Health Services (LADHS), the nation's second-largest municipal health system that serves a large Medicaid and uninsured population. Los Angeles County has California's largest concentration of diverse smokers, where Latino Medi-Cal smokers are a significant population and predominately from Mexico. This study describes the implementation process of the proactive phone-based outreach strategy and factors associated with obtaining a patient's consent for an e-referral to the quitline.

Methods

Study Design

The pragmatic randomized trial was designed to compare patient consent to the Helpline e-referral through the process of calling patients with a local area code or a generic toll-free area code that reflects usual care. Data from the LADHS EHR were extracted for discrete variables about the patient's tobacco assessment and treatment history to identify unassisted smokers. Unassisted smokers are defined as adult smokers who visited a provider in the past two years and lacked any documentation of providing advice or assistance to quit smoking (eg, medication prescriptions, referrals). Three cohorts of patients (wave 1, wave 2, wave 3) were extracted from the EHR during three different periods: March 2019 ($n = 5824$), September 2019 ($n = 2880$), and May 2020 ($n = 2704$). The patient's clinical encounter date was pre-pandemic in 2019. The initial total combined sample size was 11 408 unassisted smokers. Priority was given to selecting unassisted patients who had been most recently seen over the past several months to accommodate the quitline's call capacity.

The study included adults ages 18 and older who made an official visit to any clinic provider in the past several months, had a history of tobacco use, had a preferred language of English or Spanish, and had a phone number ($n = 685$). The number of study participants for the three lists was (list #1, $n = 157$; list #2, $n = 210$; list #3, $n = 318$). Patients were randomly assigned by a computer-generated algorithm to receive a call from the local 213 ($n = 342$) or generic 888 ($n = 343$) area codes.

A two-step process was utilized to get patient consent for submitting a referral. LADHS had limited resources and competing priorities for their own staff to conduct the proactive outreach calls for the pragmatic study, and additional county approvals or contracts would be needed for the Helpline to contact patients without prior consent. For these reasons, LADHS allowed two Helpline research staff to

become LADHS volunteers and conduct the proactive outreach calls. During these calls, the two Helpline research staff identified themselves as calling on behalf of LADHS. It was not feasible to transfer consented patients to the Helpline on the same call. The LADHS e-referral system and automated documentation into the patient chart required the Helpline research staff to hang up and submit the information. One Helpline research staff called the English speakers between June 2019 and July 2020. The Spanish-speaking Helpline research staff called the Spanish speakers between April to July 2020 during the COVID-19 pandemic. An average of 1.6 call attempts occurred for each study condition (213 vs. 888). Both groups received the same script in their preferred language of English or Spanish (see Appendix 1).

The Helpline staff introduced themselves as calling from LADHS and said, "I see that you are a smoker, and we would like to help you quit." The staff also shared a brief overview of the LADHS partnership with the Helpline. Patients were asked, "May I share your contact with them [Helpline] so they can contact and enroll you?" Patients who provided verbal consent received the Helpline e-referral. A total of 191 patients received a voicemail, 10 patients returned a callback and of these nine provided a verbal consent for the e-referral. The length of each contacted caller varied; calls took an estimated 5–10 min. An estimated 23 to 41 person-hours were expended to reach 174 self-identified smokers.

The two Helpline research staff, as official LADHS volunteers, entered the e-referral into the LADHS EHR system for all consented patients. The e-referral was sent to the Helpline and counseling staff then contacted the patient within 2 business days to offer quitline services. The initial quitline call includes conducting an intake questionnaire and offering free counseling services. This study was funded by the California Tobacco-Related Disease Research Program (TRDRP) and approved as exempt from human subjects review by the UC Davis IRB and LA County Department of Public Health IRB.

Outcome and Measures

The primary outcomes were patient contact rates and consent rates to an e-referral to the Helpline. Patient contact rates were defined as the number of patients who answered the phone and divided by the total number of patients called. Consent rates to an e-referral were defined as the number of patients contacted who self-identified as a smoker and consented to an e-referral to the Helpline divided by the total number of self-identified smokers contacted. Patients were asked, "May I share your contact with them [Helpline] so they can contact you and enroll you?"; patient responses were categorized as "Yes" or "Not interested."

Secondary outcomes for Helpline engagement rates from the e-referrals included: (1) Helpline contact rate and (2) Helpline intake rate. The Helpline contact rate was defined as the proportion of consented patients who were successfully contacted by the Helpline, among those referred. Helpline intake rate was defined as the proportion of patients who completed an intake for accepting services, among those referred.

The primary exposure was caller area code. The local area code (213) was selected by the research team as the most recognizable across LA County. The generic area code (888) reflects the Helpline's toll-free number that may be seen with caller identification.

Patient demographic information from the EHR was only available for the subset of patients who answered the phone and self-identified as smokers ($n = 174$). Sociodemographic variables included age (in quartiles 21–43, 44–55, 56–60, 61–76), gender (male, female), and preferred language spoken (English, Spanish). The year variable (2019 and 2020) represents when the outreach call occurred and was included to account for before and during the COVID-pandemic context.

Analysis

The prevalence of each covariate was estimated for the local and generic area code and differences were assessed using chi-square tests. The unadjusted and adjusted prevalence ratio and 95% Confidence Limits (CL) for the association between area code and patient consent to a Helpline e-referral were calculated using SAS PROC GENMOD's log-binomial regression.¹² The adjusted model controlled for the following variables: age, sex, preferred language spoken, and year. All analyses were conducted using SAS 9.4 (SAS, Cary, North Carolina).

Results

Overall, the Helpline contacted 52.1% of the 685 patients (Figure 1). Reasons for patients not being contacted included no answer, phone service problems, or other reasons. Of the 357 patients contacted, 51.5% were ineligible for the study (18.2% reported they were not a smoker, and 33.1% reported they already quit).

Table 1 displays the characteristics of the unassisted patients contacted by area code, language, and year. There were no statistically significant differences in the contact

rate by area code ($p = .07$). Compared with English speakers (48.4%), Spanish speakers had a higher contact rate (62.9%). The contact rate was also higher for English language calls in 2020 compared to English language calls 2019 (54.6% vs. 43.3%, $p = .01$).

A total of 174 patients, or a quarter of the sample, contacted self-identified as smokers (Figure 1). Among these self-identified smokers, 107 consented to an e-referral, reflecting 15.6% of the total sample, 30.0% of patients contacted, and 61.5% of self-identified smokers.

Table 2 displays characteristics of the self-identified smokers by the randomized area code contacted. There were no significant differences by age, gender, preferred language, or year. There was a higher percentage of patients under 61 years in the generic area code (80.0%) compared with the local area code (67.3%), but this was not statistically different ($p = .07$).

Table 3 shows that in the unadjusted log-binomial regression analysis, area code was not associated with the outcome of consent to an e-referral. In the adjusted model, the association of area code with the outcome was significant after adding covariates, for which associations with age and language were also significant. The adjusted prevalence of agreeing to an e-referral in the 213 area code was 29% higher than agreeing to an e-referral in the 888 area code (Adjusted Prevalence Ratio 1.29, 95% CI 1.01–1.65, $p = .04$). The adjusted prevalence of agreeing to an e-referral among younger patients was 47% higher compared to patients in the oldest age quartile who were 61 years and older (Adjusted Prevalence Ratio 1.47, 95% CI 1.07–2.01, $p = .02$). The adjusted prevalence of agreeing to an e-referral was 40% higher in Spanish-speaking patients compared to English-speaking patients (Adjusted

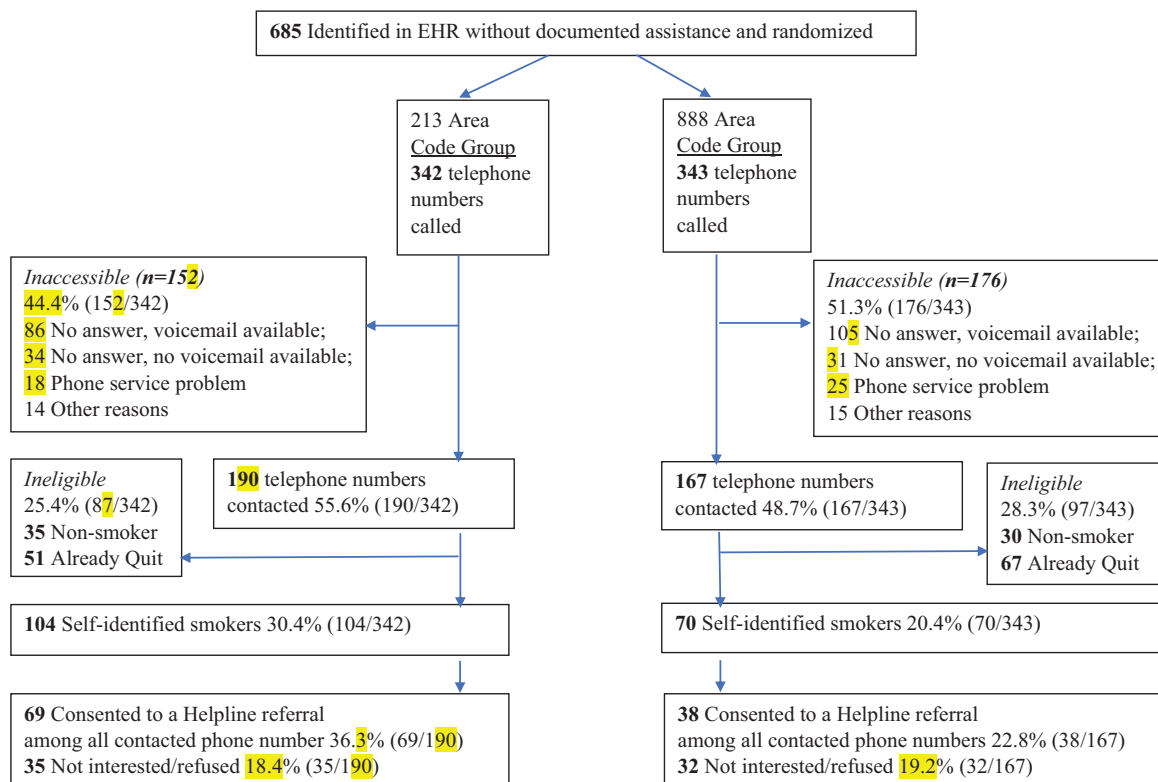


Figure 1. Diagram of proactive outreach by area code and outcomes with LADHS patients identified as unassisted smokers.

Table 1. Number and Percent of LADHS Patients Contacted by Area Code, Language, and Year ($n = 685$)

	Number contacted	Percent contacted	<i>p</i>
Total	357	52.1	
Area code			
213	190	54.7	.07
888	167	48.7	
Preferred language			
English	247	48.4	.0010
Spanish	110	62.9	
Year*			
English 2019	122	43.4	.01
English 2020	125	54.6	

*Indicates year patient received the call. All Spanish calls occurred in 2020.

Table 2. Characteristics of LADHS Patients Who Were Self-identified Smokers and Randomized to Local or Generic Area Code

	213 Area code ($n = 104$)	888 area code ($n = 70$)	<i>p</i>
Age			
≤ 60	67.3	80.0	.07
≥ 61	32.7	20.0	
Median, (range)	56.5 (21–76)	54 (27–72)	
Gender			
Female	49.0	44.3	.5
Male	51.0	55.7	
Preferred language			
English	85.6	82.9	.6
Spanish	14.4	17.1	
Year*			
2019	55.8	44.3	.14
2020	44.2	55.7	

*Indicates year patient received the call. All Spanish calls occurred in 2020.

Prevalence Ratio 1.40, 95% CI 1.05–1.86, $p = .02$). Gender and year were not statistically significant covariates in the adjusted model.

For engagement with the Helpline, among the 107 individuals who consented to the Helpline e-referral, the majority ($n = 77$, 69.2%) were successfully contacted by the Helpline (not shown). Half of the individuals contacted by the Helpline completed an intake for accepting services ($n = 54$, 50.5%). Thus, among the total sample of 685 patients, 11.2% engaged with the Helpline and 7.9% completed an intake for accepting services.

Discussion

To our knowledge, this is the first study demonstrating that proactive phone-based outreach to unassisted smokers in a safety net health system increased consent for an e-referral to a quitline by 29% using a caller's local area code instead of a generic area code. The use of a local area code may increase smokers' acceptance of quitline e-referrals. A local area code

may increase trust in seeing a more familiar area code associated with a known health system rather than a generic area code that can be associated with an unidentified, unsolicited call from phone scammers. Among these socioeconomically disadvantaged patients who smoke, patients who were younger than 61 or Spanish-speaking were also approximately 40% more likely to consent to an e-referral than their older or English-speaking counterparts. A proactive phone-based outreach strategy may also be useful for increasing consent to an e-referral with younger or Spanish-speaking patients in a safety net health system who smoke.

Proactive outreach to clinic populations has been effective in randomized trials in different settings, including for low-income populations,⁸ which show higher smoking cessation rates for smokers receiving proactive offers of tobacco treatment compared to usual care within clinic encounters.^{7,9,10} Some of these proactive outreach studies^{7,10} used interactive voice response (IVR) outreach to recruit smokers into randomized trials and also to obtain consent for tobacco treatment. Our study did not use IVR and only offered a quitline e-referral, while other randomized controlled trials have offered a variety of tobacco cessation treatment interventions (eg, internal cessation counseling, text messages, text messaging with nicotine replacement therapy, mailings) which may include a quitline referral. Our study's contact rate (52.1%) and consent rate to an e-referral among the study cohort (15.6%) were higher than a proactive outreach study using IVR in a primary care setting by Kalkhoran et al, but that study's contact rate (12%) and consent rate for tobacco treatment among those contacted (5.4%) were far lower than those in our study. Future studies may consider the context, sustainability, and resource capacity for scaling up proactive outreach and identify additional factors to increase contact and consent rates.

While we would have expected the LADHS contact rate to be higher for the local area code, in addition to the consent rate, the trend did not reach statistical significance but favored the direction for the local area code. This finding was surprising because we thought area code would impact both the initial contact reach and consent to the e-referral. One explanation for this could be the lack of concordance between the local area code and the patient, as there are 10 area codes in Los Angeles county. The fact that only half of the patients were contacted may reflect the difficulties in reaching low-income people by telephone (eg, no answer, phone service problems). In addition, public health programs like quitlines can be negatively impacted by patient actions to avoid unsolicited calls, such as the use of caller identification or call screening. Quitlines might consider learning from population health management businesses, such as TelAsk, who already use the phone number of a health system to contact patients.¹³

There are several other challenges to connect with safety-net patients. Despite only including patients with an office visit in the past several months, almost half (44.4%) of the local area code cohort and a half (51.3%) of the generic area code cohort were inaccessible. The inaccessible rate for either area code was actually lower compared to Haas's study using IVR (over 60% in both the intervention and control arm).⁷ The top three reasons for inaccessibility in our study included no answer (eg, left message), no voicemail set-up or mailbox full, followed by a phone service problem (eg, not accepting calls, disconnected, the wrong number). Furthermore, our study only included patients who had a phone number. A

Table 3. Association Between Area Code Group and Other Factors With Consent to an e-Referral

	Number that agreed to e-referral	Percent that agreed to e-referral	Unadjusted prevalence ratio (95% CI) <i>n</i> = 174	<i>p</i>	Adjusted** prevalence ratio (95% CI) <i>n</i> = 174	<i>p</i>
Area code						
213	69	66.3	1.20 (0.95–1.58)	.12	1.29 (1.01–1.65)	.04
888	38	54.3	ref		ref	
Age*						
<=60	84	66.7	1.39 (1.01–1.92)	.04	1.47 (1.07–2.01)	.02
>=61	23	47.9	ref		ref	
Gender						
Male	57	62.0	1.02 (0.80–1.29)	.89	1.04 (0.82–1.31)	.75
Female	50	61.0	ref		ref	
Preferred language						
Spanish	21	77.8	1.33 (1.04–1.70)	.02	1.40 (1.05–1.86)	.02
English	86	58.5	Ref		ref	
Year						
2019	53	60.0	1.07 (0.84–1.35)	.59	0.95 (0.72–1.25)	.71
2020	54	64.0	ref		ref	

*Prevalence ratio for age categories under 61 were similar and combined in the model.

**Adjusted for age, gender, preferred language, and the year call occurred.

study at two safety-net hospitals in New York City reported that having no phone was the top challenge in connecting smokers to post-discharge cessation interventions.¹⁴ Safety net patients may lack consistent phone service and voicemail access, which highlights the importance of updating patients' phone numbers and contact information regularly.

Despite these challenges to contact LADHS patients, this study demonstrates a relatively high Helpline contact rate for engagement in services. The Helpline contact rate (69.2%) in this study with LADHS patients was higher than the Helpline contact rate (52%) at the UC Davis health system reported in Hood-Medland et al.¹⁵ Possible explanations for the difference may be our study's focus on patients who recently received a primary care visit. Additionally, the script for the Helpline staff represented the caller as part of the primary care clinic setting (see [Supplemental Material](#)). The Hood-Medland et al.¹⁵ study included patients from both the clinic and hospital, who may be sicker and feel less connected to the healthcare system.

Requiring patient consent to opt-in for an e-referral to a quitline is a barrier to population health. Our study workflow had a two-step process where Helpline staff called an approved LADHS volunteer to obtain consent to the e-referral, and then submitted the e-referral within the EHR system. The Helpline received the referral and counseling staff called all consented patients within 2 business days. This two-step process may be eliminated by establishing an agreement where health care systems may have the Helpline counseling staff call patients directly and offer services. Ethical considerations around such opt-out strategies have determined that the benefits outweigh the risks for patients, and can enhance the medical community's obligation to treat tobacco dependence.¹⁶

As Medi-Cal members comprise a significant proportion of Helpline callers,¹⁷ Medi-Cal managed care plans should also consider this proactive outreach strategy for

population health to connect members to free tobacco treatment with the Helpline. Fu et al's study shows proactive outreach for tobacco treatment, compared to usual care by providers, increases engagement in evidence-based tobacco treatment and is effective in long-term smoking cessation among low-income smokers in Minnesota.¹¹ Opportunities exist at the plan level through data-sharing agreements between Medi-Cal plans and state quitlines to scale up the proactive outreach strategy to members who smoke. In California, two Medi-Cal managed care plans are obtaining approvals to implement this innovative model. The Helpline has demonstrated in a previous randomized trial that Medi-Cal plans should also consider additional financial and medication incentives to help enhance member engagement with quitline services.¹⁸ Further implementation research is needed to understand how health systems and health plans can coordinate their proactive outreach efforts with quitlines.

The proactive outreach strategy may help with health inequities experienced by diverse, underserved populations such as Latinos, who are less likely to be advised and assisted by providers to quit.^{19–23} In a cross-sectional California survey study, the disparity between Latino smokers receiving less provider advice than non-Latino Whites was accounted for by Latino smokers having fewer office visits or not having a chronic disease.²⁴ Similarly, the disparity for receiving less cessation information or referral was accounted for by Latinos smoking less. Future efforts to eliminate these ongoing disparities for Latino Medi-Cal smokers might consider community engagement and proactive outreach strategies outside of the clinical encounter to close tobacco treatment care gaps.

In our study, a higher percentage (77.8%) of Spanish speakers agreed to the Helpline e-referral compared to English speakers (58.5%), which could mean this proactive outreach strategy may resonate well for Spanish speakers. Less than a fifth of Latinos (19.5%) are enrolled in the Helpline's

services, yet Latinos make up over a third (34.2%) of all smokers in California.²⁵ Population outreach with household mailings promoting the Helpline directly to Latino Medi-Cal members, including Spanish speakers, has increased calls to the Helpline.²⁶ Further examination of the proactive outreach strategy with other racial/ethnic groups is necessary among the diverse Medi-Cal population as a Medi-Cal health disparity report demonstrates every race/ethnic group shows lower cessation tobacco treatment utilization rates than non-Latino Whites.²⁷

Our study results highlight several potential modifications to consider beyond caller area code to increase patient engagement in a larger proactive outreach study. The LADHS contact rates through the proactive outreach strategy may reflect issues related to the script used over the phone, patient readiness to quit, phone number accuracy, or acceptance of telephone services before and during the COVID-19 pandemic. Further, there may be an increase in reach rates with more up-to-date phone number records. For example, patients with more frequent use of health services may have more updated numbers in the EHR. Further research is necessary to scale up the proactive outreach engagement and to explore ways to strengthen the acceptance of Helpline services.

Limitations

The study has several limitations. (1) We rely on the tobacco status assessment based on the provider's data entry into the I. This information is based on a patient's self-reported answer about current smoker status and answers may vary depending on how the question is asked by the clinic staff. Latinos, especially low-level smokers, may not consider themselves smokers and may answer "no" to an abbreviated tobacco use assessment question, such as, "are you a smoker?" during a provider visit. Further, the script language used in our study states, "I see you are a smoker," and this may also be a factor in the intervention contact or consent rate. (2) A larger cohort of smokers was identified through EHR documentation; however, due to the large volume of smokers without documented assistance, only a small cohort of patients with a recent primary care encounter was included in the pilot study. (3) This was not a randomized controlled trial evaluating smoking cessation outcomes among smokers but rather focused on the process to engage with evidence-based treatment. The study was not powered to detect a difference in quit rates. (4) The study only included one safety net clinic system in Los Angeles County (albeit the second largest municipal health system in the nation) and the generalizability of the findings may be limited. (5) The clinical encounter date for all of the patients in the study was pre-pandemic in 2019. The year variable measured differences in contact rate before- and during-COVID for English language calls. All Spanish calls occurred in 2020 and we were unable to assess the effects the pandemic might have on the Spanish speakers. (6) The association between area code and e-referral consent only became significant in the adjusted model. Negative confounding, where confounding can bias the primary measure of association toward the null, was present in our study as the adjusted estimate is greater than the unadjusted estimate. This may be due in part to small sample size, heterogeneity in the sample characteristics, or some other reason. Our study goal however was to detect any difference with area code and not a hypothesized effect size.

Finally, while our study was conducted before and during the COVID-19 pandemic, the EHR data extraction reflects pre-pandemic patient clinical encounter dates. The pandemic lockdown increased the number of people staying at home, along with other COVID-related stressors, such as socio-, economic-, and psychosocial distress. This may have affected a patient's willingness to pick up the phone call in 2020 regardless of the caller area code. Similarly, these stressors may have affected willingness or readiness to accept a quitline referral to quit smoking. It is unknown whether pandemic effects impacted the Spanish speakers as all of the calls to Spanish speakers occurred during the pandemic.

Conclusions

A proactive outreach strategy to engage unassisted smokers in a safety net health system increased connections to the quitline and was enhanced with a local area code. This also is a promising strategy for health equity, such as engaging Spanish speakers. Findings suggest acceptability for verbal consent to an e-referral and the high rates of quitline engagement show that this may be a viable option for health care systems, or Medi-Cal managed care plans, seeking to increase access to tobacco treatment services. Further research is necessary to examine ways to reach more patients, coordinate across health systems and health plans, and assess long-term outcomes after the interventions.

Supplementary Material

A Contributorship Form detailing each author's specific involvement with this content, as well as any supplementary data, are available online at <https://academic.oup.com/ntr>.

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Declaration of Interests

H Yee was an advisor to RubiconMD. No other declarations were reported by the authors of this paper.

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References

1. Curry SJ, Keller PA, Orleans CT, Fiore MC. The role of health care systems in increased tobacco cessation. *Annu Rev Public Health*. 2008;29:411–428. <https://www.annualreviews.org/doi/10.1146/annurev.publhealth.29.020907.090934>.

2. Clinical Practice Guideline Treating Tobacco Use and Dependence 2008 Update Panel La, and Staff. A clinical practice guideline for treating tobacco use and dependence: 2008 update. A U.S. Public Health Service report. *Am J Prev Med.* 2008;35(2):158–176.
3. Thorndike AN, Regan S, Rigotti NA. The treatment of smoking by US physicians during ambulatory visits: 1994–2003. *Am J Public Health.* 2007;97(10):1878–1883.
4. Tong EK, Strouse R, Hall J, Kovac M, Schroeder SA. National survey of U.S. health professionals' smoking prevalence, cessation practices, and beliefs. *Nicotine Tob Res.* 2010;12(7):724–733.
5. Zhu SH, Anderson CM, Tedeschi GJ, et al. Evidence of real-world effectiveness of a telephone quitline for smokers. *N Engl J Med.* 2002;347(14):1087–1093.
6. Kaslow AA, Romano PS, Schwarz E, Shaikh U, Tong EK. Building and scaling-up California quits: supporting health systems change for tobacco treatment. *Am J Prev Med.* 2018;55(6 Suppl 2):S214–S221.
7. Haas JS, Linder JA, Park ER, et al. Proactive tobacco cessation outreach to smokers of low socioeconomic status: a randomized clinical trial. *JAMA Intern Med.* 2015;175(2):218–226.
8. Danan ER, Fu SS, Clothier BA, et al. The equity impact of proactive outreach to smokers: analysis of a randomized trial. *Am J Prev Med.* 2018;55(4):506–516.
9. Rigotti NA, Bitton A, Kelley JK, Hoepfner BB, Levy DE, Mort E. Offering population-based tobacco treatment in a health-care setting: a randomized controlled trial. *Am J Prev Med.* 2011;41(5):498–503.
10. Kalkhoran S, Inman EM, Kelley JHK, Ashburner JM, Rigotti NA. Proactive population health strategy to offer tobacco dependence treatment to smokers in a primary care practice network. *J Gen Intern Med.* 2019;34(8):1571–1577.
11. Fu SS, van Ryn M, Nelson D, et al. Proactive tobacco treatment offering free nicotine replacement therapy and telephone counselling for socioeconomically disadvantaged smokers: a randomised clinical trial. *Thorax.* 2016;71(5):446–453.
12. Spiegelman D, Hertzmark E. Easy SAS calculations for risk or prevalence ratios and differences. *Am J Epidemiol.* 2005;162(3):199–200.
13. TelAsk. <https://telask.com/telask-communicator/>. Accessed May 20, 2021.
14. Sherman SE, Link AR, Rogers ES, et al. Smoking-cessation interventions for urban hospital patients: a randomized comparative effectiveness trial. *Am J Prev Med.* 2016;51(4):566–577.
15. Hood-Medland EA, Stewart SL, Nguyen H, et al. Health system implementation of a Tobacco Quitline eReferral. *Appl Clin Inform.* 2019;10(4):735–742.
16. Ohde JW, Master Z, Tilburt JC, Warner DO. Presumed consent with opt-out: an ethical consent approach to automatically refer patients with cancer to tobacco treatment services. *J Clin Oncol.* 2021;39(8):876–880.
17. Tong EK, Stewart SL, Schillinger D, et al. The Medi-Cal Incentives to quit smoking project: impact of statewide outreach through health channels. *Am J Prev Med.* 2018;55(6 Suppl 2):S159–S169.
18. Anderson CM, Cummins SE, Kohatsu ND, Gamst AC, Zhu SH. Incentives and patches for Medicaid smokers: an RCT. *Am J Prev Med.* 2018;55(6 Suppl 2):S138–S147.
19. Babb S, Malarcher A, Asman K, et al. Disparities in cessation behaviors between Hispanic and Non-Hispanic White adult cigarette smokers in the United States, 2000–2015. *Prev Chronic Dis.* 2020;17:E10. https://www.cdc.gov/pcd/issues/2020/19_0279.htm.
20. Houston TK, Scarinci IC, Person SD, Greene PG. Patient smoking cessation advice by health care providers: the role of ethnicity, socioeconomic status, and health. *Am J Public Health.* 2005;95(6):1056–1061.
21. Lopez-Quintero C, Crum RM, Neumark YD. Racial/ethnic disparities in report of physician-provided smoking cessation advice: analysis of the 2000 National Health Interview Survey. *Am J Public Health.* 2006;96(12):2235–2239.
22. Cokkinides VE, Halpern MT, Barbeau EM, Ward E, Thun MJ. Racial and ethnic disparities in smoking-cessation interventions: analysis of the 2005 National Health Interview Survey. *Am J Prev Med.* 2008;34(5):404–412.
23. Sonnenfeld N, Schappert SM, Lin SX. Racial and ethnic differences in delivery of tobacco-cessation services. *Am J Prev Med.* 2009;36(1):21–28.
24. Valencia CV, Dove M, Tong EK. Factors associated with receipt of smoking cessation advice and assistance by health professionals among Latino and Non-Latino White smokers with Medicaid insurance in California. *JAMA Netw Open.* 2022;5(1):e2144207.
25. California Smokers' Helpline Caller Intake Reports. 2019. <https://www.nobutts.org/california-smokers-helpline-call-reports>. Accessed August 1, 2021.
26. Vijayaraghavan M, Dove MS, Stewart SL, et al. Racial/ethnic differences in the response to incentives for quitline engagement. *Am J Prev Med.* 2018;55(6 Suppl 2):S186–S195.
27. SFY 2017–18 Tobacco Cessation Focused Study Report. *Managed Care Quality and Monitoring Division, California Department of Health Care Services.* Sacramento, CA: State Fiscal Year 2017–18 Tobacco Focused Study Report; 2018.