

## Effects of Physician-Directed Smoking Cessation Intervention in the Emergency Department

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# Effects of Physician-Directed Smoking Cessation Intervention in the Emergency Department

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- Tobacco use is the single most preventable cause of disease, disability, and death in the United States.<sup>1</sup>
- Each year, over 480,000 people die prematurely from smoking or exposure to secondhand smoke and another 16 million live with a serious illness caused by smoking.<sup>1</sup>
- The overall economic burden to the healthcare system is over \$300 billion dollars each year, with approximately \$170 billion attributed to direct medical care of adults.<sup>2</sup>
- Over \$156 billion is lost in productivity due to firsthand smoking, and \$5.6 billion to secondhand smoke exposure.<sup>1, 2</sup>
- The few studies that have reported rates of tobacco use in patients seeking care in the emergency department have shown great variability in prevalence (21-41%) and report that rates are greater than that of the general population.<sup>3-8</sup>
- Using a physician directed, patient “opt-out” approach to prescriptive smoking cessation in the Emergency Department setting, we set out to describe patient actions as they related to smoking cessation behaviors. Outcomes studied include the phone follow-up data of the patients who did not opt out of the brief motivational interview in the Emergency Department.

## Problem Statement

Does phone follow-up data show that the brief intervention in the Emergency Department using motivational interviewing and Screening, Treatment Initiation, Referral (STIR) counseling concepts results in patient actions towards smoking cessation?

### Study Design and Setting

- Prospective quality improvement pilot study in two Northeastern Pennsylvania Emergency Departments.
- A standardized script adapted from D'Onofrio et al.<sup>9</sup> and an electronic medical record template were derived to guide the patient interview and prescriptive interventions (STIR).
- Residents and attending physicians that received training were able to conduct STIR.

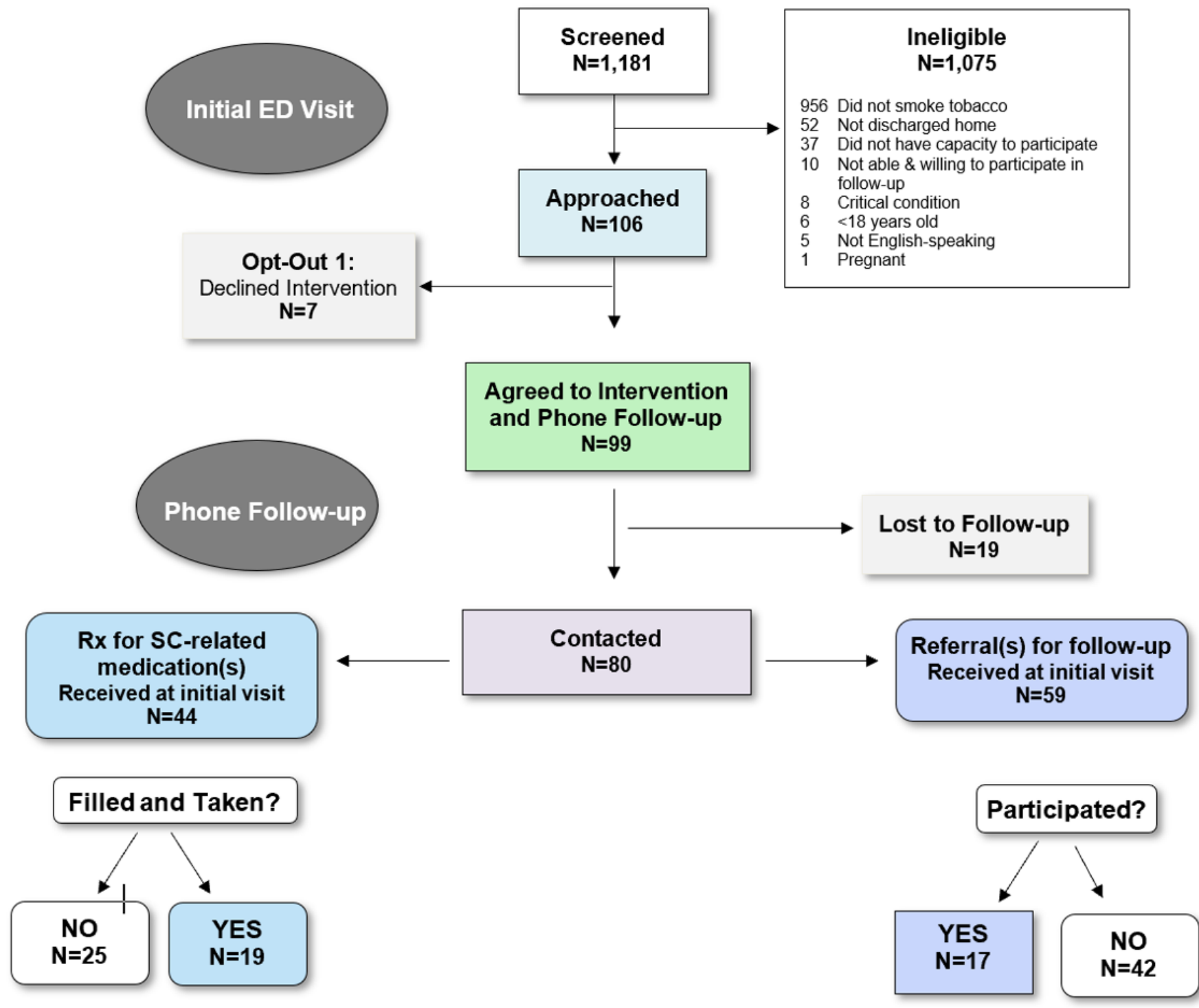
### Selection of Participants

- Prospective quality improvement study conducted from 5/7/2019 – 12/18/2019.
- Inclusion criteria: currently smokes tobacco, English speaking, ≥18 years of age, discharged after their ED visit, able to participate in phone follow-up, and not critically ill, incapacitated, incarcerated, or known to be currently pregnant.

### Intervention

- Physicians provided a brief motivational interview concerning smoking cessation which included a “readiness to change” inventory and recommendations to facilitate tobacco abstinence – both prescription(s) for use of smoking cessation-related medications and referral(s) for follow-up with a tobacco treatment program and/or primary care provider.
- At approximately three months following their ED discharge, patients who did not opt out of the intervention and phone follow-up were contacted.

Figure 1. CONSORT Flow Diagram



Greenberg, MR, Greco, NM, Batchelor, TJ, et al. Physician directed smoking cessation using patient “opt-out” approach in the emergency department: A pilot program. *JACEP Open*. 2020; 1: 782–789. <https://doi.org/10.1002/emp2.12176>

Table 1. Tobacco Use at Initial Visit and Phone Follow-up

	Initial Visit		Phone Follow-up	
	n	%	n	%
Currently smokes tobacco?	N=99		N=80	
Yes	99	100	63	78.8
No	-	-	17	21.3
Smokes	N=99		N=63	
Cigarettes	92	92.9	61	96.8
Cigars	7	7.1	2	3.2
How many cigarettes/day?	N=92		N=61	
1-10	57	62.0	41	67.2
11-20	30	32.6	18	29.5
21-30	4	4.3	1	1.6
31-40	1	1.1	-	-
Missing	-	-	1	1.6
How many cigars/day?	N=7		N=2	
≤2	6	85.7	1	50.0
>2	1	14.3	1	50.0

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Table 2. Intervention Results

	n	%	n	%
Result of Follow-up	N=99			
Contacted	80	80.8		
Lost to Follow-up	19	19.2		
Prescription for SC-related medications	N=58			
Adherent	19	32.8		
Nicotine replacement			10	52.6
Oral medication			6	31.6
Both			3	15.8
Non-adherent	25	43.1		
Missing (Lost to Follow-up)	14	24.1		
Referral Follow-up	N=77			
Participated	17	22.1		
Primary Care			10	58.8
Tobacco Treatment Program			1	5.9
Both			4	23.5
Other			2	11.8
Did not participate	42	54.5		
Missing (Lost to Follow-up)	18	23.4		

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- This project relates to the Leadership, Values Based Patient-Centered Care, and Health Systems domains of SELECT.

- The physicians incorporated motivational interviewing with

Emergency Department (ED) patients who were smokers, this tool is a leadership tool that can be used to create a climate of change within the provider/patient relationship.

- Due to the opt-out nature of this project, the patient was in full control of moving forward with the intervention or opting-out at any point, including phone follow-up. If the patient chose to continue the discussion of smoking cessation with provider then they were involved in shared decision making, brief STIR intervention, and phone follow-up.

- Additionally, this project is a quality improvement project to evaluate the efficacy of an ED based intervention. The phone follow-up data demonstrate that STIR showed promising acceptability and effectiveness for helping patients quit smoking. If this result is replicated in larger study populations, quality of healthcare may be improved by incorporated physician-directed smoking cessation STIR intervention in the ED.

What actions do smokers take after the ED SC motivational interviewing and STIR interventions to try to quit? We found that phone follow-up demonstrates that about one-fifth of the patients stopped smoking by 3-months post-intervention. About one-third of the patients adhered to the prescriptions for smoking cessation-related medications and greater than one-fifth participated in the referral follow-up. These findings support a willingness of patients to participate in STIR and the benefits of intervention in this setting.

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