DGIM Project Summary

Name of Project: TAMI Coach; Technology Assisted Motivational Interviewing

Investigator(s); (Include phone numbers and email addresses, indicate PI and primary contact)
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Research question(s): The aims of this study are:

AIM 1: To develop a Technology-Assisted Motivational Interviewing Chatbot (TAMI Coach) to assess and enhance patient readiness for smoking cessation, create tailored referrals, and improve treatment initiation. Expert and user-centered design interviews and focus groups will guide the initial personality development, interface logic, and flow of a conversational chatbot based on technical motivational interviewing (MI) principles. An existing corpus of MI transcripts will be used to map conversational structures and to derive machine learning-based classifiers allowing recognition of message intents, client change language content, and decision trees for accurate MICO responses. Final beta-testing with primary care patients will finalize development and elicit strategies to promote sustained engagement.

AIM 2: To assess the feasibility ad acceptability (F&A) of an RCT research protocol evaluating cessation, provide tailored cessation referrals, and promote treatment initiation in intervention versus usual care conditions.

Brief Background/Significance: This high impact pilot study creates a smart chatbot to assess and promote readiness for smoking cessation and make tailored cessation referrals. Although rates of smoking have decreased dramatically, tobacco still accounts for 480,000 deaths per year and over 16 million adults suffer from smoking-related illnesses. Minority and underserved populations are disproportionately affected. Motivational interviewing (MI) improves readiness for smoking cessation, however, it can be time intensive, require substantial expertise, and patients must still be linked with evidence-based cessation programs sensitive to local resources and patient preferences. A digital agent that uses MI skills and makes tailored referrals could potentially provide an effective and efficient way to explore patient ambivalence, improve readiness, and elicit cessation preferences so more active and compelling cessation referrals can be made.

Inclusion/exclusion criteria (list)

Inclusion—Aim 1 participant eligibility:

- Current patient at UCSF adult primary care clinic at Mt. Zion
- English speaking
- Literate
- Own a smartphone
- Must have smoked at least 100 cigarettes in their lifetime

- Smoke at least one cigarette per day for the past 7 days

Exclusion—Aim 1 participant exclusion criteria:

- Under the age of 18
- Non-English speakers, as the chatbot is text-based in English only
- Patients without a smartphone will be excluded as they will not be able to download and test/use the chatbot

Inclusion—Aim 2 participant eligibility:

- Current patient at UCSF adult primary care clinic at Mt. Zion
- English speaking
- Literate
- Own a smartphone
- Must have smoked at least 100 cigarettes in their lifetime
- Smoke at least one cigarette per day for the past 7 days

Exclusion—Aim 2 participant exclusion criteria:

- Under the age of 18
- Non-English speakers, as the chatbot is text-based in English only
- Patients without a smartphone will be excluded as they will not be able to download and test/use the chatbot
- Cognitive impairment or psychosis
- Recent and severe psychosocial stressors that would interfere with participation
- Suicidality

Method of contact/recruitment (be specific)

Aim 1 and Aim 2

Recruitment fliers will be posted in the Mt Zion primary care waiting rooms and/or by the patient elevators at 1545 and 1701 Divisadero on 4 separate occasions - first for individual interviews, secondly for focus groups, thirdly for beta testing, and finally for a pilot RCT. Patients will call the number listed and be screened for eligibility by study personnel over the phone. Eligible and interested patients will be scheduled for either an individual interview, a focus group, or a beta-testing appointment. Additionally, if necessary, we will use snowball recruiting methods to ask participants to share staff contact information with their peers who smoke and are patients at UCSF Mount Zion Adult Primary Care Clinic. Study staff will not contact potential participants who have been referred, but instead will wait for the referred potential participant to make first contact for screening.

Aim 2 Only

Patients will be initially identified for recruitment with an EHR search. PCP's will be sent a list of potential participants and asked to eliminate any patients who should not be invited based on

specified exclusionary criteria not found in the EHR such as cognitive impairment or psychosis, recent and severe psychosocial stressors that would interfere with participation, suicidality, or limited English proficiency. All remaining patients will receive an “opt out” card stating they must return the card if they do not want to receive a phone call to screen for eligibility. Eligible patients will be invited to an in-person onboarding to obtain consent and to complete baseline measures followed by randomization into the treatment condition or usual care.

Benefits/burden for participants (clearly identify potential for harm)
Burden:
Early subjects may be asked to participate in an interview that asks about their smoking habits and their interest in quitting. This exploration may feel uncomfortable to patients embarrassed or stigmatized by their tobacco use. The format uses patient-centered motivational interviewing known for minimizing discomfort. Other subjects may be asked to have "conversations" with the chatbot while being observed then offering their feedback. Some subjects may feel dissatisfied with the experience or reluctant to discuss their smoking with an avatar. Risks are seen as minimal.

Benefits:
Subjects will participate in the development of a promising new clinical tool that will assist patients in preparing for smoking cessation treatment. Participants may also learn more about smoking cessation referrals.

Any benefits or burden to DGIM practitioners?
This study does not add any tasks to DGIM administrative or clinic staff. DGIM PCP’s will be asked to review a list of potential participants from their patient panel if they deem this necessary. No benefits are noted other than the potential to facilitate smoking cessation referrals. Patients may, as a result of participation in this study, ask their provider about smoking cessation treatments and programs. However, the initiation of such a conversation is not required for participation in this study, nor does it fall outside the realm of standard practice.

Timeline for recruitment (projected start and stop dates)
Interview: Begin in March 2020/ through April 2020

Focus Groups: Begin in April 2020/ through May 2020

Beta Testing: Begin in May 2020/ through July 2020

RCT: Begin in August 2020/ through December 2020

Funding source: Tobacco-Related Disease Research Program

Potential for DGIM Collaborators? (We encourage DGIM resident and fellow involvement in particular): Yes.

Do you agree to notify us when recruitment is completed? Yes.

Date form completed: January 7th, 2020