

Title of Project: Linking low SES and racial/ethnic minority populations to evidence-based cessation treatment through health system changes

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Abstract

With the adoption of electronic health records, the New York State Smokers' Quitline (NYSSQL) paper-based fax referral system is becoming obsolete. In response to this practice transformation the NYSSQL launched Opt-to-Quit (OTQ™). OTQ™ is a policy-driven, system-wide solution for facilitating smoker referrals through a streamlined electronic data exchange between the NYSSQL and the healthcare organization. Due to barriers in implementation few healthcare organizations have adopted the OTQ™ referral model; specifically, none in New York City (NYC). The goal of the proposed project is to implement OTQ™ in two healthcare organizations that serve low socioeconomic status (SES) and racial/ethnic minority populations in NYC to ensure disparate populations are receiving evidence-based smoking cessation treatment. The evaluation emphasizes both process and outcome measures to ensure that we are able to assess both if the intervention worked and why it worked (i.e. What were the processes needed to implement OTQ™). The primary goal of this proposal is to develop a highly replicable step-by-step protocol for implementing OTQ™ that addresses current barriers to adoption and results in higher rates of Quitline referrals, increased engagement in treatment and improved cessation rates among diverse patient populations.

Purpose

Our aim is to create a highly replicable and sustainable model for ensuring that healthcare organizations (HCOs) serving disparate patient populations (including low income and racial/ethnic minority populations) are implementing the evidenced-based best practices for tobacco use dependence. This includes 1) screening all patients for tobacco use and 2) offering all smokers' opportunities to receive evidence-based treatment (including pharmacotherapy and counseling). In response to the transition from paper charting to full adoption of electronic health records within HCOs, the New York State Smokers' Quitline (NYSSQL) has developed Opt to Quit™ (OTQ™), a policy driven solution that facilitates smokers referrals via a streamlined data exchange embedded into the EHR.

We aim to 1) Successfully implement the OTQ™ program in 2 HCOs in New York City; 2) Conduct a process evaluation to inform the development of a step-by-step manual for implementing OTQ™ which includes defining the resources needed; 3) Conduct an outcome evaluation of OTQ™ of patient level outcomes which includes interviewing key staff to inform the case studies embedded in the manual. By the end of the project a manual will have been developed that can be used by a variety of healthcare organizations in integrating OTQ™.

The original goal was to implement OTQ™ in two Federally Qualified Health Centers (FQHCs), but due to significant barriers including lack of leadership commitment at one FQHC the project team decided to move forward in successfully implementing OTQ™ in two HCOs 1) FQHC: Outpatient and 2) Hospital: Inpatient

Scope

The proposed project aims to address well-documented gaps in the delivery of evidence based tobacco dependence treatment. Disparities in tobacco use and related illnesses also emphasize the need to focus on health care settings serving vulnerable populations. According recent data from the NYC Department of Health and Mental Hygiene (NYCDOHMH), smoking-related illnesses remain the leading cause of preventable death in NYC. Although tobacco use has declined there are still more than 900,000 smokers in NYC.ⁱ

One of the most significant advances in tobacco control over the last decade has been the creation of statewide tobacco cessation quitlines. The Public Health Service (PHS) Guideline on Treating Tobacco Use and Dependence has documented the efficacy of quitlines. Yet, quitlines are grossly underutilized reaching only about 1-2% smokers annually.^{ii iii iv v} One strategy for increasing the reach of quitlines is creating a referral system that links health care practices to the quitline via a fax, or more recently, electronic referral mechanism. Although the referral system offers providers the option to “delegate” counseling and treatment, barriers to implementing these systems (e.g. need for changes in workflow, and additional system changes) have resulted in poor rates of adoption. Studies have shown that even modest increases in the reach of quitlines could increase the impact on population level smoking prevalence.^{vi} Therefore, it is critically important to develop methods for overcoming barriers to implementing quitline referral systems that are easy to use and optimize referral rates.

With EHR adoption, the refer to quit program via fax is becoming obsolete, as HCOs have expressed that they no longer want to use paper-based systems. In response to this practice transformation, in 2012 the New York State Smokers Quitline (NYSSQL) launched the OTQ™ program to facilitate more efficient referrals from health care systems to the quitline. OTQ™ is a policy-driven, PHS Guideline-aligned^{vii} system-wide model that identifies all tobacco-using patients, and electronically refers each to the NYSSQL to engage in the quit process and offer additional quitline services, unless he or she opts out. One of the key innovations of OTQ™ is that it aims to increase patient engagement in evidence-based tobacco dependence treatment by changing the NYSSQL referral program to a patient “opt-out,” whereby all identified smokers are systematically referred through the EHR, as opposed to an “opt-in” approach where only smokers who express interest in quitting are referred to NYSSQL. The “opt-out,” approach works as follows: Clinicians simply state to patients that as per the FQHCs organizational policy they will be connecting all patients to the NYSSQL, so long as the patient verbally consents. The EHR will be updated to contain a customized chart field to document and submit patient referrals. With the click of a button the EHR then automatically transmits the patient’s basic contact information (OTQ™ adheres to all Health Insurance Portability and Accountability Act (HIPAA) compliance requirements) to the NYSSQL; creating a registry of smokers. The NYSSQL will then call the patient within 72 hours, and connect them to evidence-based services.

Methods

The aim of this project is to develop a model for implementing OTQ™ in healthcare organizations to increase the referrals to the NYSSQL and reduce smoking prevalence among high risk populations in different healthcare settings (inpatient and outpatient). The project addresses OTQ™ implementation barriers noted by the NYSSQL. A baseline assessment was conducted of both HCOs including staffing, workflow, Information Technology expertise, current systems for screening and documenting tobacco dependence treatment, current systems for referring patients to the NYSSQL and updated tobacco dependence treatment quality measures obtained from the electronic health record. A process evaluation was also conducted to inform the development of a step-by-step manual for implementing OTQ™, which included defining the resources needed. An outcome evaluation was also conducted to understand patient level outcomes.

Results

The project has had many positive impacts. In taking a community based participatory approach the team worked closely with key staff members (leadership, administrative, clinical, IT) at each of the HCOs. This approach assisted in garnering buy-in, and implementation adoption/sustainability of the system changes proposed. Moreover, this project brought together a group of individuals from multiple organizations, disciplines and fields, all working towards the same common goal (to help smokers quit). This project was a collaboration between New York University, NYSSQL, EHR vendors (e.g. eClinicalWorks (eCW)), and the New York City Department of Health, Primary Care Information Project. As each stakeholder had a slightly different area of expertise the team was able to complement each other's work and strategize in a meaningful way.

One of the most significant impacts of this project is the ability to use data-driven information to identify gaps in care and eliminate those gaps through the creation of action-oriented EHR reports. The outpatient facility now has the ability to report five detailed tobacco outcome measures, which they previously did not have the technology or accompanying workflow to do so. At both HCOs patient referral data increased over time. Detailed information regarding these increases is outlined below by HCO.

HCO 1 (Outpatient): December 2014- June 2015 data confirmed that 3 referrals had been transmitted to the NYSSQL, demonstrating a need for a system-wide change. Between September 2017-March 2018, after the implementation of OTQ™, HCO 1 screened approximately 38% of their patients 18 and over ($n=1090/2871$ (numerator: total number of patients screened for tobacco use/denominator: total patients 18 and over)), and identified that 25% of the patients screened were smokers. In addition, of the smokers identified, 20% were assessed for readiness to quit ($n=56$ patients). Of those 56 patients assessed for readiness, **all** were referred to the NYSSQL or other cessation programs.

HCO 2 (Inpatient): Data extracted from February 2015-February 2016, demonstrated that 0 tobacco using patients out of approximately 1400 were referred to the NYSSQL. Data from February 2016-February 2017(a year after OTQ™ implementation) demonstrated that approximately 66% of tobacco using patients (numerator: 922 offered referral/denominator: 1388 total tobacco users) were offered a Quitline referral.

If healthcare organizations do not have the ability to routinely review their data, then it is challenging for them to understand the scope of smokers that are not being referred to appropriate resources. In order to improve patient care and access to treatment, organizations must be able to identify their target (smokers) and implement system changes that streamline the access for their target to receive appropriate services (tobacco use treatment-pharmacotherapy and counseling).

Lastly, through the process of implementing OTQ™, many lessons were learned, which has been summarized in an easy to use step-by-step manual (manual design pending), and can assist other healthcare organizations in implementation of OTQ™. Due to the fact OTQ™ was implemented in two separate settings (inpatient and outpatient), another major impact of the work is that it has resulted in a generalizable manual that can assist a variety of other different HCOs in the future.

List of Publications and Products

Two abstracts were accepted as poster presentations at upcoming conferences. The first poster will be presented at the American Public Health Association this upcoming November 2018, and the second poster will be presented at the International Conference on Practice Facilitation this upcoming December 2018. These posters describe the challenges and innovations in using EHR technology to link at-risk communities to appropriate tobacco treatment.

The content of the step-by-step OTQ™ manual has been drafted and reviewed. The team is working on the final stages of the design process which they anticipate will be completed by early 2019. Once final, the team will share and disseminate to external partners accordingly.

ⁱ <https://www1.nyc.gov/office-of-the-mayor/news/565-17/mayor-de-blasio-signs-sweeping-legislation-curb-smoking-tobacco-usage#/0>

ⁱⁱ Stead LF, Perera R, Lancaster T. Telephone counseling for smoking cessation (review) John Wiley & Sons; New York: 2007.

ⁱⁱⁱ Ossip-Klein DJ, McIntosh S. Quitlines in North America: evidence base and applications. *Am J Med Sci.* 2003;326:201–5.

^{iv} Rabius V, McAlister AL, Geiger A, Huang P, Todd R. Telephone counseling increases cessation rates among young adult smokers. *Health Psychol.* 2004;23:539–41.

^v Borland R, Segan CJ. The potential of quitlines to increase smoking cessation. *Drug Alcohol Rev.* 2006; 25:73–8.

^{vi} Vidrine, J. I., Shete, S., Cao, Y., Greisinger, A., Harmonson, P., Sharp, B., Miles, L., Zbikowski, S.M., Wetter, D. W. (2013). Ask Advise Connect: A New Approach to Smoking Treatment Delivery in Healthcare Settings. *JAMA Internal Medicine, 173*(6), 10.1001/jamainternmed.2013.3751. doi:10.1001/jamainternmed.2013.3751

^{vii} Fiore, M., Tobacco Use and Dependence Guideline Panel. (2009). *Treating tobacco use and dependence: Quick reference guide for clinicians 2008 update.* Rockville, Md.: U.S. Dept. of Health and Human Services, Public Health Service.