



Massachusetts General Hospital in Boston, MA

Partners HealthCare, a large integrated health care system in eastern Massachusetts, has built tobacco cessation into the care of all inpatients in its 5 hospitals since 2005, when Partners leaders saw that performance on the Joint Commission's tobacco national hospital quality measures needed improvement. They asked Dr. Nancy Rigotti, Director of the Tobacco Research and Treatment Center at Massachusetts General Hospital (MGH), a hospital in the Partners system, to chair a Tobacco Task Force to improve tobacco treatment across the system. They provided internal funds to support a quality improvement effort. Dr. Rigotti, who had previously tested smoking cessation interventions for hospitalized patients at MGH, worked with colleagues across the Partners system to translate research evidence into a practical program that could be adopted by each of the 5 hospitals in the Partners system and meet Joint Commission standards. In general, each hospital adapted the MGH's pioneering program to their hospital's unique situation. Each individual hospital supported its own program from internal hospital funds. Over time, scores on the tobacco measure rose to high levels across the system.

MGH's model has 3 steps. The first step is to identify automatically every patient's smoking status during the hospital admission process. Physicians and nurses do so using a coded field in the hospital's computerized provider order entry system as part of the process of admitting a patient to the hospital. At the same time, with just one "click," physicians can order nicotine patches to manage nicotine withdrawal symptoms. Nicotine gum, lozenges, and inhalers, as well as bupropion and varenicline, can also be ordered from the hospital pharmacy. As a second step, certified Tobacco Treatment Specialists working for the hospital's Tobacco Treatment Service (TTS) download a list of identified smokers admitted the previous day, and visit them at the bedside to provide counseling. Their goal is to ensure adequate treatment of nicotine withdrawal symptoms, encourage smokers to quit, and offer assistance to smokers who want to do so. Notes from the counseling session are entered into the patient's electronic medical record and are accessible by outpatient physicians.

For smokers who are not ready to quit, visits from the Tobacco Treatment Specialists are brief, typically lasting fewer than five minutes. For smokers who want to consider quitting after hospital discharge, the counselor conducts a standard assessment and helps the smoker develop a quit plan to increase the odds of success. These visits usually last about 20 minutes.

The third step is to arrange for continuing tobacco treatment after hospital discharge. The goal is to link a smoker to smoking cessation counseling and medication resources after return home. This is the responsibility of the TTS counselor, who makes recommendations for

smoking cessation medication and refers patients to community smoking cessation resources for post-discharge care. Recommendations about medication and program referrals are documented in the patient's medical record.

Counselors' efforts are reinforced by an internally developed, four-page pamphlet, "A Guide for Hospital Patients Who Smoke," which is part of the admission packet put at each new patient's bedside. It addresses reasons why a hospital admission is a good time to quit, offers information about managing nicotine withdrawal symptoms in the hospital, and provides contact information for community-based smoking cessation resources, including the state telephone quit line, local programs, and websites.

MGH's major challenge is connecting smokers to tobacco treatment after hospital discharge. TTS counselors initially used Massachusetts' QuitWorks fax-referral system to link smokers from the hospital to the state telephone quitline after discharge, but this system produced a low rate of successful connection to the Quitline. Subsequently, MGH developed an innovative Extended Care management program to facilitate smoking cessation medication and counseling use after hospital discharge and ultimately increase cessation rates. The program is now being tested in a randomized controlled trial with funding from the National Institutes of Health (NIH).

With Extended Care, smokers who plan to quit are given a 30-day free supply of their preferred FDA-approved smoking cessation medication at discharge, with the option of 2 free refills (for a full 90-day course). After discharge, an interactive voice response (IVR) program conducts automated follow-up calls with patients who use tobacco to determine their status, converts the data into a database for staff to quickly review and to determine what type of follow-up to provide and to whom. It also allows smokers to order medication refills. Information about discharge medications is sent to the patient's primary care provider, whom the patient is told to contact in case there are any problems with the medication.

The IVR system is administered by TelAsk Technologies in Ottawa, Canada and is adapted from one pioneered by the Ottawa Heart Institute (see below). It provides automated telephone calls at 2, 14, 30, 60, and 90 days after discharge. Discharge dates and participant phone numbers are transferred securely to TelAsk by the hospital team. The IVR system makes up to eight attempts to reach participants for each scheduled call, at participants' preferred times.

The IVR calls have four goals:

1. Assessing smoking status and medication use
2. Providing tailored motivational messages
3. Triaging participants to smoking cessation resources
4. Offering refills for medications

Criteria that trigger the system to recommend a return call from a live counselor include:

1. Patients who do not start pharmacotherapy after discharge or stop pharmacotherapy before the end of the 90 day course
2. Patients who resume smoking after discharge but still want to quit
3. Patients who are quit but have a low level of confidence in their ability to stay quit
4. Patients reporting medication side effects

Patients can request real time calls from tobacco treatment counselor at any time.

Outcomes of the program are being assessed at 1, 3, and 6 months after hospital discharge. A pilot version of the IVR system has been published.ⁱ

Project Funding: Normal Operations/Grant (NIH)

Hospital Website: <http://www.massgeneral.org/services/smokingcessation.aspx>

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ⁱ Regan S, Reyen, M, Lockhart AC, Richards AE, Rigotti NA. An interactive voice response system to continue a hospital-based smoking cessation intervention after discharge. *Nicotine & Tobacco Research*. 2011;13(4):255-260.