Published in final edited form as:

J Public Health Manag Pract. 2010 ; 16(4): 304–308. doi:10.1097/PHH.0b013e3181cbc500.

Enhancing Dissemination of Smoking Cessation Quitlines through T2 Translational Research: A Unique Partnership to Address Disparities in the Delivery of Effective Cessation Treatment

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Introduction

Smoking is the leading cause of preventable morbidity and mortality in the United States and has a potent impact on socioeconomic (SES) disparities in health-related morbidity and mortality. Smoking accounts for over 50% of the SES gradient in mortality among men¹ and the prevalence of smoking is becoming increasingly concentrated among individuals with the lowest levels of education, income, and occupational status.^{2–7} Furthermore, smokers with lower SES tend to be less successful at quitting.^{8,9} Indeed, recent data indicate that smokers with higher SES are more likely than those with lower SES to use effective resources for quitting smoking and to have more restrictive home environments in terms of smoking, which appears to partially explain their higher cessation rates.¹⁰ Moreover, disparities in tobacco use by SES have increased over the last several decades despite widespread availability of free, effective cessation treatment. Therefore, it is crucial that individuals at disproportionate risk from smoking (e.g., smokers with low SES, racial/ethnic minorities, and smokers with comorbid disorders) be specifically targeted for the dissemination of evidence-based interventions.¹¹

Efficacy and Unique Advantages of Treatment Delivery via Quitlines

Smoking cessation quitlines have demonstrated impressive efficacy and real-world effectiveness, and their supportive evidence base has been broadened and strengthened in recent years.^{12–17} In addition, the evidence supports a positive dose-response effect of counseling in that more calls generally predict better cessation outcomes.^{14, 18} Moreover, quitlines have several unique features that make them an ideal modality for the efficient delivery of high-quality, effective, and easily accessible treatment. For example, quitlines can be easily and conveniently accessed by large numbers of smokers; can be disseminated to reach a broad range of smokers; treatment dose and content can be tailored to smokers' individual needs and motivation to quit; and the delivery of service can be tracked and monitored.¹⁹ Telephone counseling also reduces the required time commitment for counseling; requires no travel, childcare, or parking; and is inexpensive relative to equally efficacious in-person interventions. Another key advantage is that quitlines are currently widely available within the United States (www.naquitline.org).

Perhaps the most compelling evidence for the efficacy of telephone counseling for smoking cessation is provided by three meta-analyses. Lichtenstein and colleagues¹³ found that telephone counseling produced statistically significant increases in abstinence over control conditions and that telephone counseling appeared to be most effective when it was used as the sole behavioral treatment modality. A meta-analysis in the *Treating Tobacco Use and Dependence Clinical Practice Guideline* indicated that proactive telephone counseling significantly increased long-term abstinence rates relative to control conditions.^{12, 20} In fact, the efficacy of telephone counseling was equivalent to that of in-person group counseling. Finally, these findings are consistent with the recent Cochrane Collaboration review and meta-analysis of telephone counseling.¹⁴ Further, our own research has demonstrated that telephone counseling is effective among Spanish-speaking Latino smokers.²¹

Another key reason for delivering treatment via telephone counseling is the broad potential reach into the target population. Data from the 1990 Census indicate that 95% of all households have telephone service,²² although a lower proportion of smokers with low income are likely to have a phone (data by income level were not reported). Nevertheless, the best evidence available indicates that telephone counseling is effective and can reach the vast majority of the target population. In fact, there are few, if any, intervention delivery modalities that have broader reach, and perhaps none when delivering person-to-person interventions. An additional strength of disseminating treatment via quitlines is that telephone counseling occurs outside the health care setting and offloads the counseling from harried clinical providers and staff. Moreover, there is a strong dose-response relationship between intensity of behavioral treatment and abstinence.^{12, 14, 18} By utilizing an effective and efficient infrastructure for providing telephone counseling that is already in place, smokers can be connected with an intervention that is higher in intensity with respect to the number and duration of sessions than would be possible if it were to be delivered in the health care setting. Furthermore, telephone counseling overcomes health literacy problems associated with self-help materials. Finally, telephone counseling has empirically-demonstrated acceptability among low socioeconomic status and racial/ethnic minority smokers.^{12, 21, 23}

Underutilization of Quitlines

Each of the unique advantages of quitlines over other treatment modalities is critically important from a public health perspective because existing evidence-based counseling interventions for smoking cessation are grossly underutilized. It is estimated that only 1% of smokers receive active behavioral assistance with quitting.²⁴ Thus, quitlines have the capacity to serve a much larger population of smokers than they do currently.^{11, 19} For example, referrals to smoking cessation quitlines generated in primary care settings are low,^{25–27} and a large majority of smokers referred to quitlines fail to follow through and contact the quitlines for cessation assistance.^{19, 25} Thus, the creation of effective cessation treatments has not been sufficient to substantially impact smoking prevalence at the population level.

Aggressively targeted, proactive dissemination strategies will be required to increase smokers' awareness of the health consequences of smoking, benefits of quitting, and effective tools and services to increase the likelihood of successfully achieving cessation. Even modest increases in the reach (i.e., the number, proportion, and representativeness of smokers who attempt to quit) and effectiveness (i.e., the number or proportion of smokers willing to utilize existing treatments) of quitlines could dramatically impact smoking prevalence at the population level.²⁸ Moreover, enhancing the dissemination and implementation of existing "best practices" for tobacco cessation will directly impact smokers with the least motivation to quit, highest smoking rates, and most profound smoking-related health disparities.¹¹ Thus, an important mechanism for connecting low SES smokers with effective cessation services is by formalizing partnerships between quitlines and health care systems that serve low SES populations. Such partnerships are the hallmark of successful T2 translational research, defined by the Institute of Medicine as "the translation of results from clinical studies into everyday clinical practice and health decision making."

T2 Translational Research: A Unique Partnership to Enhance Dissemination of Smoking Cessation Treatment

The past three decades have generated a tremendous amount of research and knowledge regarding how best to help smokers quit. These data indicate that the use of evidence-based treatments can increase smoking abstinence rates as much as fourfold.¹¹ However, far more attention and research dollars have been directed toward expansion of this knowledge base than to dissemination and utilization of this knowledge. This lack of dissemination will ultimately diminish progress toward achieving critically important public health goals.^{29, 30}

The purpose of this paper is to highlight a unique partnership between a quitline and one of the nation's largest safety net public health care systems, which serves a very low SES and predominantly minority population. The partnership directly responds to recent calls to improve dissemination of evidence-based smoking cessation interventions through integration with existing treatment delivery systems and developing partnerships with health care providers. For example, Abrams¹¹ has indicated that it is imperative that widespread dissemination of evidence-based smoking cessation interventions be fully integrated into

existing treatment delivery systems if they are to have a significant impact. Similarly, Borland and Seagan¹⁹ have suggested that a crucial strategy for increasing the impact of quitlines is to formalize partnerships with health care providers that include formal referral mechanisms. In addition, the Centers for Disease Control and Prevention (CDC) have included partnerships with healthcare systems as a best practice for promoting the utilization of quitlines.³¹

The specific focus of the partnership is on increasing dissemination and enhancing utilization of an existing evidence-based smoking cessation resource, the State of Texas Quitline (i.e., Quitline), within the Harris County Hospital District (HCHD) community health clinics. The State of Texas Quitline is provided by the American Cancer Society (ACS). The HCHD clinics provide access to cost-effective, quality health care delivered in a compassionate manner to all residents of Harris County regardless of their ability to pay. The patient population served by the HCHD is racially/ethnically diverse, predominantly low socioeconomic status, and underserved. The vast majority of patients are low-income (41% below the poverty level) and 87% are members of racial/ethnic minority groups. The 10 HCHD community health clinics that are part of the current partnership served nearly 170,000 unique patients in 2007. Furthermore, the HCHD clinics have a well-developed infrastructure for broad and immediate dissemination of this existing evidence-based cessation treatment. The study was approved by the Institutional Review Board of the University of Texas M. D. Anderson Cancer Center, the Harris County Hospital District, and the Texas Department of State Health Services.

Ask-Advise-Connect: Enhancing Quitline Dissemination

The existing evidence base indicates that 1) quitlines are effective yet grossly underutilized; 2) it is crucial that smoking cessation interventions be fully integrated into existing treatment delivery systems if they are to have a significant impact; and 3) successful dissemination within the healthcare setting will require that existing barriers at the system and patient levels be addressed. A new approach to disseminating quitlines within the healthcare setting that is responsive to each of these three points is currently being evaluated in a CDC-funded group randomized trial intended to increase dissemination and enhance utilization of the Quitline among a critically underserved and racially/ethnically diverse population of smokers with very limited access to resources for quitting smoking (R18DP001570). This approach, entitled “Ask-Advise-Connect,” seeks to address clinic- and patient-level barriers to evidence-based treatment dissemination through connecting smokers with treatment through an automated connection system.

Providers at Ask-Advise-Connect clinics are trained to ask all patients about their smoking status at every visit, advise all patients who smoke to quit, and directly connect patients who accept cessation assistance with the Quitline. Specifically, smoking status is assessed at every patient visit by clinical providers in response to a prompt in the EMR at the time that other vital signs are checked and recorded. Assessing smoking status at every patient visit is crucial because data indicate that this practice dramatically increases the identification of smokers in healthcare settings.^{32, 33} Connections to the Quitline are made by having providers click an automated link in the electronic medical record (EMR) that will

automatically send smokers' contact information (i.e., name and phone number) to the Quitline. Thus, smokers seeking routine medical care are easily and seamlessly connected with an existing cost-effective and evidence-based treatment program with little burden on the provider or patient. Streamlining the burden of connecting patients to the Quitline through the implementation of an automated referral system overcomes a significant provider-level barrier to providing smoking cessation treatment (i.e., that harried providers refer patients to quitlines at low rates). At the other end of the spectrum, providing patient contact information directly to the Quitline overcomes a critical patient-level barrier to receiving treatment (i.e., that patients often fail to contact quitlines on their own following referral).

The Ask-Advise-Connect approach is being compared to an Ask-Advise-Refer approach, which is modeled after several nationally promoted healthcare-based smoking cessation initiatives. Ask-Advise-Refer is based on an abbreviated version of the 5 A's (i.e., Ask, Advise, Assess, Assist, Arrange) as recommended in the *Treating Tobacco Use and Dependence Clinical Practice Guideline*¹². Both dissemination approaches seek to reduce time demands related to smoking intervention delivery among busy clinicians by referring patients to evidence-based smoking cessation programs such as quitlines, Internet-based resources, and local programs. Ask-Advise-Refer initiatives are recommended by the American Dental Hygienist Association (www.askadviserefer.org), the American Academy of Family Physicians (www.aafp.org/online/en/home/clinical/publichealth/tobacco.html), the American College of Emergency Physicians³⁴, the American Society of Anesthesiologists (www.asawebapps.org/docs/SmokeCessation.htm), the California Diabetes Program (www.caldiabetes.org/content_display.cfm?contentID=497&CategoriesID=32), the Addressing Tobacco in Healthcare Research Network supported by the Robert Wood Johnson Foundation (athc.wisc.edu/index.html), and other organizations. These initiatives involve training providers to ask every patient about their smoking status at every visit, advise all patients who smoke to quit, and refer smokers to a quitline for cessation counseling. Despite widespread support of national and local Ask-Advise-Refer initiatives, the rate of referral to quitlines among clinical providers is low.^{25–27} Moreover, in cases where smokers are referred to quitlines in a healthcare setting, very few actually call the quitline following referral.^{19, 25} Thus, the reach and impact of the Ask-Advise-Refer approach to dissemination is limited by critically important barriers at both the clinic and patient levels. The Ask-Advise-Connect approach currently being evaluated is intended to address these barriers.

Summary and Conclusions

Smoking places an extreme burden on the healthcare system, and quitlines have tremendous potential to increase the utilization of effective cessation treatments among smokers. Unfortunately, smoking cessation treatment has not been well integrated or institutionalized within the health care system. Thus, there is a critical need to address barriers to the dissemination of evidence-based smoking cessation interventions at both the patient and clinic levels. This paper is intended to highlight a unique partnership between a quitline and one of the nation's largest safety net public health care systems, which serves a very low SES and predominantly minority population. A new approach to dissemination which seeks

to address clinic- and patient-level barriers among a critically underserved and racially/ethnically diverse population of smokers is currently being evaluated within the context of the partnership. By streamlining the burden of connecting patients to the Quitline through the implementation of an automated referral system, and by providing patient contact information to the Quitline, this approach to dissemination overcomes multiple levels of existing barriers. The partnership directly responds to recent calls to improve dissemination of evidence-based cessation interventions through integration with existing treatment delivery systems and developing partnerships with health care providers.^{11, 19} Such approaches targeting low SES smokers are essential to reducing the SES gradient in tobacco use and health more broadly.

Acknowledgments

This research and preparation of this manuscript were supported by a grant from the Centers for Disease Control and Prevention (R18DP001570).

Biographies

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