Tobacco Cessation in 2013:
What Every Clinician Should Know

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Given the many deaths caused by smoking, clinicians should offer evidence-based treatment to every patient who uses tobacco. This commentary discusses health system changes that promote treatment for tobacco use, new protocols for tobacco cessation therapies, and emerging tobacco products that are being marketed as harm-reduction tools.

Chronic lower respiratory disease is the third leading cause of death in North Carolina, and chronic obstructive pulmonary disease (COPD) is the leading cause of mortality within that disease family [1, 2]. An estimated 85% to 90% of COPD deaths are caused by smoking [2]. Smoking-attributable deaths among North Carolina adults aged 35 years or older total more than 12,000 annually [3]; smoking thus contributes to about 1 in 5 deaths in the state [4]. Federal and state public health initiatives that have contributed to decreases in smoking prevalence include legislation to raise the cigarette excise tax, clean air laws prohibiting smoking in indoor environments, media campaigns to discourage tobacco use by youth and adults, and support for tobacco cessation resources such as telephone quit lines [5].

Although public health efforts and legislation have raised awareness of tobacco-related illnesses and the benefits of quitting, 21.7% of adult respondents to the 2011 North Carolina Behavioral Risk Factor Surveillance System survey reported that they continue to smoke, which translates to about 1.6 million current smokers [6]. The result is that $3.3 billion is spent in health care costs for tobacco-related illnesses every year in the state [7]. Tobacco use is increasingly concentrated among those with mental illness; individuals with a mental health or substance abuse disorder represent only 24.8% of adults but smoke 39.6% of all cigarettes [8]. Fortunately, increased awareness of and research regarding tobacco use treatment for this population has begun to address this disparity.

Implementing best practices to address tobacco addiction in medical practice requires not only individual change but also changes in health systems—changes in policies, programs, and allocation of resources that can be made by provider practices, health care administrators, managed care organizations, and purchasers of health plans. Tobacco cessation efforts are changing radically as a result of health care reform, quality improvement initiatives, and new research on best practices for treatment of tobacco use. In addition, new tobacco products that are promoted as harm-reduction aids are altering the landscape of tobacco use, raising questions about how these new products work, how they are marketed, and what effects they may have on tobacco use, illness, and smoking cessation.

Changes in Health Systems

All providers should employ evidence-based treatment for tobacco use, which includes asking patients about tobacco use at every clinic visit and offering a combination of counseling and medication to support patients in quitting [9]. Unfortunately, counseling and medication continue to be offered at unacceptably low rates. Identified barriers include lack of clinician time, lack of clinician awareness of updated medication protocols, and the misconception on the part of some specialists that primary care providers bear sole responsibility for offering tobacco use treatment [10]. Studies show that changes made at a health system level affect the behavior of individual providers. In 2007 the University of North Carolina (UNC) Health Care System outpatient clinics began including smoking status in the electronic health record (EHR) vital signs, as well as asking patients who smoked if they planned to quit. Researchers found that, among patients who smoked and were asked about their readiness to quit, a significantly greater proportion received documented cessation counseling compared with smokers who were not asked about their readiness to quit [11]. More recently, the vital signs were modified to include a reminder for providers to advise patients who smoke to quit, and to check the kinds of assistance offered (eg, counseling, quit line referral).

The Centers for Medicare & Medicaid Services' guidelines for meaningful use of EHR systems now require documentation of every patient's tobacco use status, as well as evidence that patients who smoke are being offered counseling

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Engaging a Network of Primary Care Practices in an Effort to Better Assist Patients in Quitting Tobacco Use

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Primary care practices are critical partners in helping people enjoy tobacco-free lives. Clinical practice guidelines recommend combining behavioral counseling and pharmacotherapy in a model of care that recognizes the chronic nature of tobacco dependence [1]. To successfully implement these guidelines, providers and office staff members need efficient tools that enable practice change and that work within their unique settings.

Investigators at the University of North Carolina (UNC) School of Medicine, including J.H., partnered with members of the UNC Physicians Network (UNCPN), including R.G., over the course of a year to develop and pilot a clinic-based treatment intervention for tobacco use; this intervention was developed using quality improvement techniques. We formed a team that included health care providers, information technology personnel, practice managers, other office staff members, and the UNC researchers.

The researchers from UNC worked with UNCPN leaders and with one UNCPN practice to establish how we would conform with the privacy and security rules regarding protected health information set forth in the Health Insurance Portability and Accountability Act of 1996 (HIPAA); to create a memorandum of understanding; and to schedule team meetings at which to devise and test a protocol for assisting tobacco users in quitting. We used survey data and interviews with clinic staff to understand the practice's current processes for identifying smokers, offering behavioral counseling, prescribing cessation medications, and billing for tobacco use counseling; we also sought to find out what challenges staff members faced in carrying out these activities. We devised an educational curriculum that could be delivered during 5 lunchtime sessions; topics included the latest information regarding cessation medications and use of motivational interviewing.

Although several changes were made by the pilot practice, 2 changes were particularly important. Providers needed a better system for identifying patients who were truly interested in using their office visit to discuss cessation strategies. To address this need, we provided sample "readiness assessment" forms and patient educational tools that had been developed at the UNC Family Medicine Center. We collaboratively refined these to develop a 3-question form that assesses the patient's willingness to address tobacco use during the office visit, the importance to the patient of quitting tobacco use, and the patient's confidence in making a quit attempt. This 3-question form is shown on page 404 of the commentary by Harrill-Smith and colleagues (in this issue); it can also be found, along with other tools and resources, on the Web site of the UNC Nicotine Dependence Program (www.ndp.unc.edu). Another key change involved creating a more formal referral system for patients who are interested in receiving additional smoking cessation

or medication. Because clinic and physician reimbursement are tied to compliance with these guidelines, larger numbers of patients should be offered cessation counseling [12]. Other quality improvement programs, such as the patient-centered medical home (PCMH), encourage preventive care and chronic disease management, which includes the use of patient self-management tools. Tobacco use remains the leading preventable cause of disease, making it an ideal candidate for PCMH behavioral change interventions.

Additional measures that are effective on the population level, such as referring patients to tobacco cessation quit lines, should be adopted by all practices. QuitlineNC, a free telephone/online coaching service, allows providers to fax a referral requesting that QuitlineNC initiate a call to a patient who has indicated that he or she is ready to make a quit attempt. The fax referral form can be customized and integrated into the flow of an office visit by training nurses and medical assistants to offer patients a fax referral to QuitlineNC, assigning a staff member to keep QuitlineNC information brochures and fax referral forms stocked in each exam room, and deciding who will fax the referrals each day. Patients also have the option to contact QuitlineNC directly, by calling 1-800-QUIT-NOW (1-800-784-8669).

Another practice-based change involves use of a decision support tool, which offers a visual reminder for providing tobacco use treatment. This tool would prompt questions (eg, how many cigarettes smoked per day, scales to assess importance and confidence) and actions to be completed by clinic staff and providers (eg, educational materials provided, pneumococcal vaccine given, medication prescribed). Much like chronic disease registries, this tool prompts physicians to offer appropriate evidence-based counseling and pharmacotherapy at each visit. These prompts can also be built into EHR systems to eliminate paper forms. Alternatively, a decision support tool might be a simple questionnaire that assesses a patient's readiness to quit (Figure 1), which could be completed by the patient and given to the provider to stimulate conversations and fax referrals.

Health system changes can also support tobacco use treatment during inpatient care. When patients who are addicted to tobacco are hospitalized, they can be encouraged to maintain the abstinence begun during their hospitalization with continued cessation after they are discharged. The Joint Commission measures for assessing and treating tobacco use by patients with pneumonia, myocardial infarction, or coronary heart disease have been expanded to include a

counseling. To do this, we tested and implemented the North Carolina Tobacco Use Quitline (QuitlineNC) fax referral process.

To assess the practice's progress with implementing change, the UNC team reviewed data with the practice's staff members on a monthly basis; these data included the number of readiness assessments completed, the number of referrals to the quit line, and the number of office visits during which tobacco use counseling was provided or smoking cessation medication was prescribed. We also reached out to other providers in the UNCPN to assess their interest in a Continuing Medical Education webinar on tobacco use treatment. We gathered ideas about content and solicited input regarding the best time of day to hold such an event. The webinar covered topics such as tobacco cessation pharmacotherapy, motivational interviewing techniques, and how to align tobacco use treatment with the recognition process for patient-centered medical homes. With support from the North Carolina Translational and Clinical Sciences Institute, we evaluated the webinar and assessed its value to clinical and network leaders.

The pilot practice rapidly implemented practice changes and has steadily increased the number of readiness assessments, quit line fax referrals, and prescriptions of cessation medications. Practice managers have begun disseminating the tools and resources to other UNCPN practices. Although we are still in the implementation phase of this project, our team of practice staff members, network leaders, and academic partners plans next to engage patients as team members, which should allow for further high-value improvements in this care delivery process. By engaging an even broader group of stakeholders, we hope to increase the number of quit attempts and patients' rates of success in becoming tobacco-free. NCMJ

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voluntary set of measures applicable to all patients who smoke or use tobacco [13]. Hospitals that adopt The Joint Commission inpatient tobacco measures will increase the evidence-based care offered. UNC Health Care's Nicotine Dependence Program offers tobacco cessation counseling to hospitalized inpatients, outpatients, employees, and those with cancer, ensuring that patients receive comprehensive counseling support and individualized medication support facilitated by trained tobacco treatment specialists.

New Protocols for Pharmacotherapy

In addition to counseling patients about treatment for tobacco use, clinicians can utilize new pharmacotherapy protocols that double and sometimes triple quit rates over those achieved a generation ago [9]. Varenicline, which was approved by the US Food and Drug Administration (FDA) in 2006, blocks nicotinic receptors and decreases cravings for and enjoyment of tobacco use. While varenicline has the highest effectiveness of any monotherpy, it also has a black-box warning due to potential neuropsychiatric side effects [14]. Combination therapies using more than one nicotine replacement product have shown greater effectiveness than use of a single form of nicotine replacement therapy (NRT) and have quit rates comparable to those for varenicline. Having recognized that most people who use NRT cut down on the amount they smoke but do not quit immediately, the FDA recently allowed manufacturers to remove the warnings that had stated that NRT products should not be used by consumers who continued to use tobacco [15]. Using NRT to cut down on tobacco use prior to a quit attempt has been demonstrated to increase quit rates [16]. Individuals who are using a nicotine patch or some other form of NRT and are still having "breakthrough cravings" should be encouraged to use combination NRT.

These new protocols for medication use are especially pertinent for individuals with COPD, because smoking cessation can prevent the progression of COPD and can improve survival rates. In a study of 472 patients with severe COPD, counseling along with varenicline was shown to be the most effective treatment, with a 58.3% continuous abstinence rate in Weeks 9–24. This was followed by a 55.6% quit rate with counseling and bupropion, and a 38.2% quit rate with

FIGURE 1.
Sample Form Used to Assess Willingness to Quit Using Tobacco

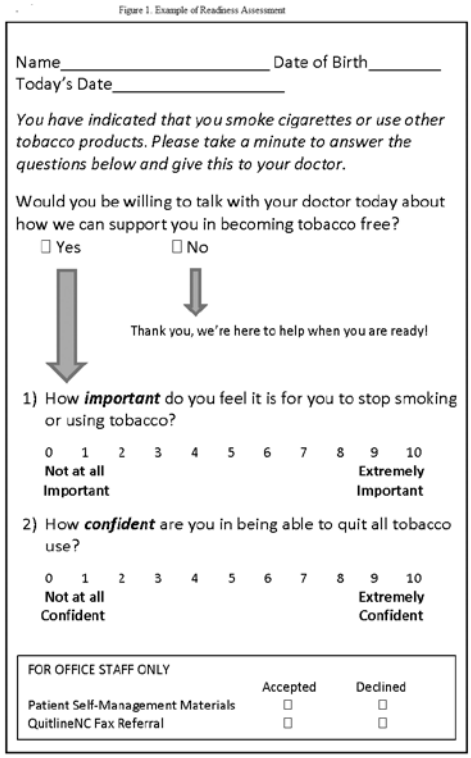

Figure 1. Example of Readiness Assessment

Name_____ Date of Birth_____
Today's Date_____

You have indicated that you smoke cigarettes or use other tobacco products. Please take a minute to answer the questions below and give this to your doctor.

Would you be willing to talk with your doctor today about how we can support you in becoming tobacco free?

☐ Yes ☐ No

Thank you, we're here to help when you are ready!

1) How ***important*** do you feel it is for you to stop smoking or using tobacco?

0 1 2 3 4 5 6 7 8 9 10
Not at all Important — Extremely Important

2) How ***confident*** are you in being able to quit all tobacco use?

0 1 2 3 4 5 6 7 8 9 10
Not at all Confident — Extremely Confident

FOR OFFICE STAFF ONLY

	Accepted	Declined
Patient Self-Management Materials	☐	☐
QuitlineNC Fax Referral	☐	☐

counseling and NRT [17]. In an analysis of 5,587 patients from the US Lung Health Study, patients who quit smoking were found to have better lung functioning and a higher survival rate than those who smoked [18].

Emerging Products

New nicotine products that have emerged on the market over the past few years include snus and electronic cigarettes (e-cigarettes). These products are often promoted as safer alternatives to traditional cigarettes. Both products provide continued delivery of nicotine. Snus is a small pouch of steam-pasteurized tobacco placed under the upper lip. E-cigarettes are battery-operated devices that resemble the size and shape of a cigarette and produce a nicotine vapor. Even though individuals who use these products may not be exposed to all of the harmful chemicals and carbon monoxide associated with cigarette smoking, it is unclear whether these products are safe, whether they promote continued tobacco use rather than cessation, whether they are associated with dual tobacco use, and whether they entice young people who otherwise would not have started using tobacco.

The FDA does not yet regulate e-cigarettes, and these products are marketed with highly attractive promotions, such as colorful packaging that is likely to attract young individuals. Sales of e-cigarettes have risen exponentially across the United States; there are more than 250 brands, many with fruit names or fruit flavoring [19]. The lithium batteries in e-cigarettes could potentially overheat and cause burns [20]. There are additional concerns that e-cigarettes may have short-term or long-term adverse pulmonary effects [21]. Many smokers view electronic cigarettes as a safer alternative to cigarettes and use them in places where cigarette smoking is banned. However, insufficient research exists about their long-term safety and effectiveness in promoting tobacco cessation. North Carolina and many other states have banned the sale of e-cigarettes to minors [22].

Conclusion

Smoking cessation is the most effective way of preventing or slowing the progression of COPD and other tobacco-associated diseases. Tobacco cessation saves lives and increases quality of life. Practitioners can encourage cessation efforts by implementing a 3-minute, evidenced-based assessment: ask patients about their tobacco use at every visit; discuss the benefits of quitting and encourage the use of NRT (using combination NRT when appropriate); and connect them to follow-up care, which can be easily done by faxing a referral to QuitlineNC [23]. Health system changes—such as adopting the practice of checking vital signs related to smoking and following meaningful use guidelines—can be implemented to ensure that patients are receiving support at every visit. Physicians may receive reimbursement for tobacco counseling lasting 3–10 minutes and additional reimbursement for counseling lasting longer than 10 minutes. New products such as e-cigarettes and snus are being researched to test their efficacy as harm-reduction products or cessation aids, but at the current time, providers should follow evidence-based best practices and only recommend FDA-approved pharmacotherapy. The UNC Nicotine Dependence Program provides smoking cessation support both to individuals and to institutions. Contact the program's Web site (www.ndp.unc.edu) for information on implementing changes that make providing tobacco cessation support simple, efficient, and effective. NCMJ

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