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Smoke is the Chief Killer: Clinical and Policy Strategies that Target Combustible Tobacco Use

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January 2014 marks the 50th anniversary of the landmark first Report of the Surgeon General on the Health Consequences of Smoking – an important moment to take stock of efforts to eliminate the harms of tobacco use. Smoking rates in America have declined dramatically over the last 50 years. Adult prevalence has fallen from about 43% in 1965 to about 18% by 2012; a decline that has meaningfully reduced smoking-caused disease and death. These outcomes are a testament to the policy, legal, and clinical strategies begun 50 years ago that have reduced tobacco use and mitigated its harms.

What Can We Do in 2014?

The evolved landscape of tobacco use in the 2000's presents both new challenges and new opportunities. One challenge is that almost 50 million Americans continue to use some form of tobacco, with much higher use rates amongst the poor, the mentally ill, illicit substance and alcohol abusers, Native Americans, and LGBT individuals. In addition, research now more clearly than ever highlights the harms of *combustible* tobacco use per se (cigarette, pipe, and cigar smoking) with current estimates attributing 90 to 98% of tobacco-related deaths to combustible products^{1,2}. The evidence is clear; the net harms of combustible tobacco use, including harms from secondhand smoke, dwarf the harms caused by other forms of tobacco use (e.g., smokeless tobacco)³. Another emerging landscape feature is an increasing interest in harm reduction³ and chronic care approaches⁴ to reduce the dangers of tobacco use—strategies that can complement one another in a forward looking approach to tobacco control, but that also might contain the perils of unintended consequences.

Below we discuss tobacco control strategies that fit the changing landscape of tobacco use in America in the 21st Century. This landscape suggests *distinct strategies for the policy and clinical domains*.

A Clinical Approach to Eliminating Combustible Tobacco Use

Combustible tobacco is the chief killer amongst forms of tobacco, and a substantial population continues to smoke tobacco despite making repeated attempts to quit. Whether for genetic and/or constitutional reasons, or due to environmental and behavioral challenges (e.g., poverty, stress), such smokers painfully build an extensive history of failed quit attempts. Despite producing significant clinical benefit, current smoking treatments fail with the majority of smokers who use them, nor do they help the smokers who are unwilling to use them or the 70% of smokers who are unwilling to make a quit attempt at a given healthcare visit.

One opportunity afforded by today's changing landscape is the diversity of alternative nicotine delivery vehicles available to smokers. Importantly, evidence shows that all of the non-combustible delivery vehicles are substantially less dangerous than combustible tobacco products. The noncombustible forms include multiple nicotine replacement therapies (NRT) as well as smokeless tobacco (e.g., snus) and the e-cigarette. E-cigarettes are especially notable because, over the last few years, smokers are using them at a markedly increasing rate. More than 20% of smokers report that they have tried e-cigarettes⁵ and some early evidence suggests that use of e-cigarettes may help smokers reduce or quit combustible tobacco use. However, there is currently too little evidence to conclude that e-cigarette use will, in fact, aid smoking reduction or cessation, and important clinical concerns surround their growing use. One is that the use of e-cigarettes along with combustible cigarettes (i.e., "dual use") could prolong the use of combustibles.

How should clinicians respond to this changing landscape of tobacco use and products? We offer the following recommendations while recognizing the limited science currently available to inform clinical decision making in 2014:

1. Clearly state that use of any tobacco product (e.g., combustible or smokeless tobacco) can be harmful, but that combustible tobacco use is *by far* the most harmful.
2. Strongly encourage patients who use tobacco to stop using any combustible or smokeless tobacco product. All such patients should be encouraged to quit, including those with serious mental health or active substance abuse disorders. When patients are willing to make a quit attempt, evidence-based cessation treatments (e.g., physician advice, quit line counseling, FDA-approved medications) should be provided as recommended by the United States Public Health (PHS) Service Clinical Practice Guideline⁶.
3. Smokers who are not willing to make a quit attempt, should be urged to *smoke combustibles as little as possible*. Clinicians should review strategies to help them reduce their smoking, including behavioral strategies such as not smoking in the home or car. In addition, patients who smoke should be told that using NRT may help them reduce their combustible use and ultimately quit entirely. Clinicians should tell their patients that there are many forms of FDA-approved NRT,

including newer forms such as the nicotine mini-lozenge, and these can effectively quell the urge to smoke.

4. During the discussion of cigarette substitutes, many patients will ask about e-cigarettes. Clinicians should again stress that the main goal is to stop or reduce the use of combustibles. Clinicians should also tell patients that the effects of long-term e-cigarette use are not known, but that they are likely much safer than combustible tobacco products. Clinicians could then tell patients that “If you use e-cigarettes, your health will improve only if they help you significantly reduce your use of combustible products and eventually stop combustible use entirely”.
5. Clinicians should then monitor their patients' success in reducing combustible tobacco use over time, and assist them in achieving complete cessation of combustibles.

Public Health Approaches to Eliminating Combustible Tobacco Use

The most effective way to prevent the approximately 450,000 deaths from tobacco use in America is to rapidly eliminate combustible tobacco consumption. While e-cigarettes have been cited by some as a means of achieving this aim, wide scale promotion and use of e-cigarettes carries substantial public health risk⁷. One concern is that they will serve as a gateway drug, leading youth to first experiment with e-cigarettes and then move on to using combustible tobacco. An additional concern is that the normalization of e-cigarette use may lead former cigarette smokers to begin using this new product, thereby reinstating their nicotine dependence and fostering a return to combustible use. A third concern is that indoor smoke free ordinances may be undermined by e-cigarette use. Finally, as noted above, dual use of both e-cigarette and combustible products might prolong the use of combustibles. Despite these concerns, the recognition of combustibles as the chief tobacco killer calls for a progressive and focused public health approach that targets the known, overwhelming risks of these products, specifically, policies to:

1. Implement population-wide evidence-based policies that particularly target reducing combustible tobacco use: e.g., via excise tax increases, state and nationwide clean-indoor air policies, public service media campaigns.
2. Fulfill the promise of FDA regulation of tobacco use in America, specifically: a) implement graphic warning labels on all tobacco products (that include 1-800-QUIT NOW, b) expand FDA jurisdiction, including advertising and marketing restrictions, on all tobacco products including e-cigarettes and little cigars, and, c) use the legislated FDA authority to gradually lower the nicotine content of *combustible* tobacco products to close to zero.
3. Protect children and adolescents from using *any tobacco or nicotine containing product*, including combustibles, e-cigarettes, and smokeless tobacco products. Such protections should include a ban on the sale of all such products to anyone under the age of 21 given the risks for lifelong nicotine addiction associated with early use.

4. Communicate intelligently about harm reduction – all nicotine containing products are not equal – the public health focus should be to eliminate combustible tobacco products, even if it means some individuals who give up combustibles will continue to use indefinitely FDA medications, e-cigarettes, or smokeless tobacco products.
5. Significantly restrict the sale of all combustible tobacco products. For instance, sales could be restricted to very few outlets (e.g., only at licensed vendors) and combustible products would not be advertised or displayed at sale locations (with product stored behind the counter). Alternatively, sales could be restricted to those who have been licensed to purchase them. Such restrictions would require new federal legislation.

New approaches must be adopted if we are to dramatically reduce the harms of tobacco use in the United States over the next decade. To achieve this goal requires that we recognize the unequal dangers resulting from combustible tobacco use.

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