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The 50th Anniversary of the US Surgeon General's Report on Tobacco: What We've Accomplished and Where We Go From Here

A Presidential Advisory From the American Heart Association

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January 11, 2014, marks the 50th anniversary of a significant milestone in our nation's public health. It was on this date in 1964 that US Surgeon General, Dr. Luther Terry, courageously released the first Surgeon General's Report on Smoking and Health.[1] This landmark report transformed the way Americans viewed tobacco, and was the beginning of a decades-long decline in tobacco use. As we proudly mark this anniversary, it is important to not only reflect on the substantial progress that has been made since 1964 in reducing the toll of tobacco in America, but also the considerable work yet to be accomplished. Despite how far we have come, tobacco use remains the No. 1 cause of preventable death and disease in this country.[2]

Most Americans, including an increasing number of those reading this paper, are not old enough to have any recollection of just how ubiquitous tobacco use was in 1964 when nearly half of the population smoked.[1] Smoking was pervasive in the workplace and at home, and cigarette advertising filled the airwaves. Notwithstanding the fact that for several decades prior to 1964 many doctors and public health organizations, including the American Heart Association (AHA), raised concerns that tobacco was the cause of serious health issues, those concerns were mostly ignored.[3,4]In fact, in 1958, 44% of Americans believed smoking caused cancer, and only 33% believed it was linked with heart disease.[5,6]

In 1961, the AHA joined a number of other major public health groups in writing to President John F. Kennedy asking for a national commission on smoking.[1] As a result of this advocacy and increasing public health pressure to address this threat to the nation's health, a newly appointed Surgeon General Dr. Terry, established a commission in 1962 to study the existing literature on the health consequences of smoking. It was this commission that produced the now landmark 1964 report.[1] Among other findings, the report stated that "Cigarette smoking is causally related to lung cancer in men; the magnitude of the effect of cigarette smoking far outweighs all other factors." and "Male cigarette smokers have a higher death rate from coronary artery disease than nonsmoking males."[1] The report stated that similar impacts were likely among women, but because women historically smoked at lower rates than men, the population impact was not yet as clear.[1]

Reflecting on the release, Dr. Terry observed that the report "hit the country like a bombshell."[7] It was rated one of the top news stories of 1964, spurring landmark legislation that required warning labels on cigarettes and banned the advertising of tobacco products on television.[8] By 1969, 70% of Americans believed smoking caused cancer, and 60% believed it caused heart disease.[6]

In the 2 decades that followed, the tobacco epidemic in this country seemed to be turning. Smoking declined from

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42.4% in 1965 to 30.1% in 1985.[9] As more research confirmed and expanded on the findings of the 1964 report,[1,2,5,9–11] it became common public knowledge that tobacco use was a major public health problem. But as the public was becoming increasingly aware of the dangers of tobacco,[12] they were also being bombarded with aggressive tobacco industry marketing.[12,13] This, combined with the highly addictive nature of nicotine, resulted in millions of Americans continuing to smoke and remaining addicted for a lifetime.[14] The public health challenge was clear—simply educating the public about the dangers of tobacco was not enough to dramatically reduce tobacco use. More aggressive action was necessary to accelerate the declines. In the late 1980s and early 1990s, the AHA and others began to significantly shift its attention and resources toward changing public policy and the environment where people lived and worked as an effective means to further reduce tobacco use. The smoke-free movement and campaigns to raise tobacco taxes were born.

Communities started to pass laws restricting smoking inside public places.[15–17] Compared with today, many of these early laws passed in the 1980s were remarkably weak; requiring separate smoking and nonsmoking sections. In 1990, San Luis Obispo, CA, became the first community in the world to pass a law prohibiting smoking in all indoor workplaces, including restaurants and bars.[18,19] California passed a statewide smoke-free law in 1995. Bars were included in the law in 1998. Momentum toward more comprehensive legislation was building.

Policy targeting the cost of tobacco products as a means to discourage smoking began to take hold as well.[20,21] In 1988, California increased the tax on cigarettes by 25 cents per pack.[22] More remarkably, a portion of the revenue raised from the tax was dedicated to a statewide tobacco prevention and cessation program, making California the first state to raise the tobacco tax for public health purposes, including the funding of tobacco control programs.[22] Several other states followed suit in the early 1990s.[23]

Reinforcing the importance of the shift of emphasis to public policy and environmental change within the smoke-free movement, research began to accumulate showing that these tax- and smoke-free policy interventions were highly effective in reducing tobacco use.[20–22,24] For example, increasing the price of tobacco by 10% reduces overall cigarette consumption by ≈3% to 5%, lowers the number of young adult smokers by 3.5%, and cuts the number of children who smoke by 6% or 7%.[25] Studies from around the world have now provided evidence for a reduction of heart attacks and hospitalizations after implementation of smoke-free air laws.[26–28]

The culture and social norms about smoking also began to change. Smokers could no longer light up at work or while out to eat, so they smoked less. Children saw fewer smokers, changing their view that smoking was an acceptable behavior. Higher tobacco prices helped deter children from starting to smoke, and encouraged smokers to quit. Well-funded state tobacco prevention programs helped build local and statewide infrastructures to mobilize communities, educate the public, and provide resources to help smokers quit.[29]

Another major milestone in the tobacco control movement occurred in 1998. Earlier in the decade, the states sued the major tobacco companies to recoup the cost of treating diseases caused by tobacco use.[30–32] The result of these lawsuits was the Master Tobacco Settlement Agreement (MSA).[33] Under the MSA, the states received millions of dollars from the tobacco companies.[32] In hindsight, regrettably, states were not compelled to use a significant portion of the money for tobacco prevention and cessation programs, or any programs that targeted improving the nation's health.[34] Although some states seized the historic opportunity to further impact tobacco use by dedicating the amounts necessary from the MSA financial windfall to fund comprehensive tobacco prevention efforts, many failed to do so.[35] Further, funds that were dedicated to tobacco prevention in these early post-MSA years inexorably eroded as states confronted the fiscal stresses of the economic downturns of the past decade.[33] Only Alaska and North Dakota (if federal funding is taken into account) currently fund their tobacco prevention programs at levels recommended by the Centers for Disease Control and Prevention.[33] Revenue from the MSA and tobacco taxes continues to flow toward other parts of state budgets despite the fact that state tobacco control program expenditures have been shown to be independently associated with overall reductions in smoking prevalence.[36]

In 2012, it is estimated that states collected $25.6 billion in revenue from the tobacco settlement and tobacco taxes, but spent only 1.8% of it—$456.7 million—on tobacco prevention and cessation.[33] States are sacrificing long-term health benefits and healthcare cost savings for short-term budget fixes.[37] If all states had funded their tobacco control programs at even the minimum levels recommended by the Centers for Disease Control and Prevention since the MSA, there could have been millions of fewer smokers just over a decade later.[34,35] The ongoing failure to allocate even a modest amount of money from the MSA and state tobacco taxes to cessation and prevention programs is one of the greatest failures in this nation's efforts to reduce tobacco addiction.[34,35]

From 1995 to 2009, there was impressive progress in increasing tobacco taxes and passing smoke-free laws. In 2000, the average state cigarette excise tax was 32.7 cents per pack.[38] In 2009, it was $1.20 per pack.[38] A total of 107 cigarette tax increases occurred in 45 states and the District of Columbia.[38] Today, the average state cigarette tax is $1.53 per pack.[23] Additionally, the federal tobacco excise tax was increased from 24 cents in 1998 to $1.01 in 2009.[39] In 1995,

almost none of the US population was covered by laws that, at a minimum, required smoke-free restaurants and bars.[38] Today, about 65% of the population is covered by these laws.[11]

The public health impact from these laws is hard to overstate. In 2013, Minnesota increased the state tobacco tax by $1.60 per pack.[40] It is estimated that this price increase in this state alone will prevent >47 700 children from becoming smokers, spur >36 600 current adult smokers to quit, save >25 700 Minnesota residents from premature, smoking-caused deaths, and save >$1.65 billion in future healthcare costs.[40] Studies in communities across America showed that strong smoke-free laws resulted in significant drops in hospital admissions due to heart attacks.[16,17,41] Just 30 minutes of exposure to secondhand smoke increases the risk of a heart attack for a person already at-risk.[42] A study conducted by the University of California found that from its launch in 1989–2008, California's tobacco control program reduced healthcare costs by $134 billion, far more than the $2.4 billion spent on the program.[43]

The AHA joined the public health community in celebrating the passage and President Barack H. Obama's signature into law of the Family Smoking Prevention and Tobacco Control Act.[44] Having advocated for by the AHA for over a decade, the law finally granted the US Food and Drug Administration (FDA) the authority to regulate tobacco products.[45] Up to that point, tobacco products were completely unregulated.[46] Now the law restricts cigarette and smokeless tobacco retail sales as well as tobacco product advertising and marketing to youth, prohibits "reduced harm" claims including "light," "low," or "mild," without an FDA order to allow such marketing, and requires bigger, more prominent warning labels for cigarettes and smokeless tobacco products.[47,48] In 2012, attempts by the FDA to require graphic warning labels be prominently displayed on packages of cigarettes met legal opposition.[49] As a result, these warning labels do not appear on cigarette packages. They do, however, remain available for clinicians to show to patients during counseling sessions about the benefits of cessation of smoking combustible tobacco (Figure 1). Evidence exists that such graphic images have an important deterrent effect on young individuals. In a survey, 53% of young adults said such warning labels would make them think about not smoking.[50]

Since the original report in 1964,[1] the Surgeon General's office has issued 30 additional reports on tobacco.[51] Each report has linked more diseases to tobacco use. In 2006, Surgeon General Richard Carmona appropriately stated that "The debate is over. The science is clear. Tobacco smoke pollution is a serious health hazard."[11] The 2006 report also stated that the only way to effectively eliminate the risk of secondhand smoke exposure is to completely remove it from indoor environments,[11] providing further ammunition in the push towards smoke-free laws covering the entire country.

Figure 1. The graphic warning labels developed by the US Food and Drug Administration. Source: Office of Health Communication & Education, Center for Tobacco Products/US Food and Drug Administration, Silver Spring, MD. http://www.fda.gov/TobaccoProducts/Labeling/ucm259214.htm. Accessed December 13, 2013. Used with permission.

As a country, we have made great strides since 1964 in reducing the toll of tobacco, but by no means is it time to declare victory. An unfortunate side effect of all the progress is a perception among the public and policy makers that the issue is resolved. Nothing could be further from the truth. Although the percentage of Americans smoking has dropped by more than half, the total number of smokers has declined only slightly because of population growth.[52] In 1965, about 50 million Americans smoked. Today, about 44 million smoke.[52] Unless there are dramatic reductions in tobacco use, tobacco will remain the No. 1 cause of preventable death and disease for many decades to come.[2]

And although the percentage of Americans who use tobacco has declined, tobacco use worldwide has skyrocketed. Currently, tobacco use causes 5 million deaths annually

worldwide.[53] If current trends continue, 8 million people will die from tobacco use each year by 2030.[53] The tobacco industry also continues to aggressively market tobacco products and fight against effective tobacco control policies. Little cigars and cigarillos, which are not currently regulated by the FDA and are sold in flavors like chocolate, grape, strawberry, and "Da Bomb Blueberry," are gaining in popularity among youth.[54] In 2012, tobacco companies spent an estimated $47 million to successfully defeat a ballot initiative in California that would have raised the tobacco tax by $1.00.[55]

The tobacco industry is also pushing so-called "reduced harm" or "modified harm" tobacco products. Products like chewing tobacco, snus, and electronic cigarettes (e-cigarettes) are marketed by the industry as safe alternatives to smoking. The industry is also lobbying for federal and state laws and resolutions directing health authorities to promote these products.[56–58] Research is very clear that some of these products, like chewing tobacco and snus, are still dangerous and can cause cancer and other diseases.[59–62] There is also significant concern that smokers will use these products only when they are unable to smoke, but will continue smoking when able.[63,64] This is known as dual-use.

E-cigarettes present a unique challenge (Figure 2). They deliver a nicotine vapor without the combustion products that are responsible for most of smoking's damaging effects. They use vaporization at a lower operating temperature (5% to 10% of the temperature of a lit cigarette) to deliver nicotine and other constituents in a way that mimics smoking behavior.[65] The impact of these products on cessation, dual use, youth initiation, social norms, and public health needs further elucidation.

This is a quickly evolving issue. It will be important for the public health community to determine which public policies that apply to combustible cigarettes also should apply to e-cigarettes. E-cigarette companies, which include the major tobacco companies, are aggressively marketing these products as a way for smokers to get their nicotine hit in places that restrict smoking.[66–68] This has the potential to create enforcement problems with existing smoke-free laws, as it would require business owners to determine if a customer is using an e-cigarette or a combustible cigarette. E-cigarettes are also being indirectly marketed as cessation aids, although the FDA has not approved them to be used in this manner.[63,69,70]

The use of e-cigarettes among youth has grown dramatically in recent years. According to the Centers for Disease Control and Prevention, e-cigarette use among high school students more than doubled from 4.7% in 2011 to 10% in 2012 (where 1.78 million students ever used e-cigarettes).[71] Among youth who use e-cigarettes, 75% smoke conventional cigarettes as well.[70] Until more research is available regarding the potential health harms of e-cigarette use, as well as the risk of e-cigarettes serving as a gateway for youth to become addicted to tobacco, these products should be carefully regulated by the FDA.

Figure 2. An electronic cigarette.

Tobacco use is one of the most extensively researched areas in public health; however, much more research is still needed. One of the areas needing more research is determining behavior modification techniques, in addition to pharmacologic approaches, that are most effective in helping tobacco users quit. When combined with cessation counseling and behavior modification techniques, the effectiveness of pharmacologic approaches improves significantly.[72,73]

There has been much progress since the Surgeon General's first report on tobacco,[1] but tobacco use continues to be a public health epidemic that requires urgent attention. It remains a major correctable and avoidable cause of cardiovascular disease.[74] We know what needs to be done. Unfortunately, progress in passing tobacco taxes, smoke-free laws and allocating funds for tobacco prevention and cessation has stalled in recent years. Only 3 states have raised their tobacco tax since 2011. The average state tax rate of $1.53 per pack does not cover the per-pack healthcare and lost productivity costs to the states, which are estimated to be $10.47 per pack.[75] Moreover, there are large disparities across the country between the states with high tobacco tax rates and those with low tax rates (Figure 3).[23] The states with lower tax rates often have much higher tobacco use rates.[23]

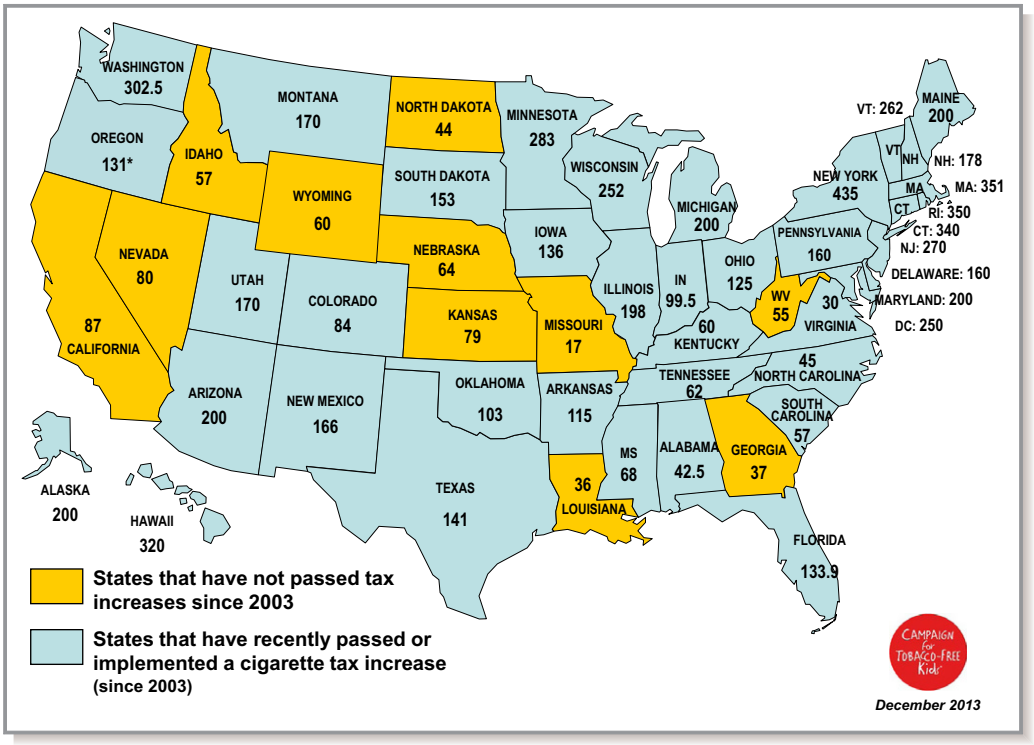

Figure 3. State cigarette tax rates (cents per pack) in the United States. State average is $1.53 per pack. *Oregon's increases to $1.31 per pack effective January 1, 2014. Source: Campaign for Tobacco-Free Kids, Washington, DC. Used with permission.

Although local communities across the country continue to pass smoke-free laws,[76] only 3 states have passed strong laws in the past 3 years.[73] Many Americans, particularly in the Southeast, are still not protected by smoke-free laws.[73] And total funding for tobacco prevention remains far below the levels recommended by the Centers for Disease Control and Prevention.[77] It is time for policy makers to act.

The AHA remains highly committed to eliminating the toll of tobacco in America. As we mark the 50th anniversary of the first Surgeon General's Report on Tobacco and Health, let us all renew our commitment to ensuring that future generations live free from tobacco addiction.

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