Did We Finally Slay the Evil Dragon of Cigarette Smoking in the Late 20th Century?
Unfortunately, the Answer Is No—the Dragon Is Still Alive and Well in the 21st Century and Living in the Third World. Shame on Us!

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If cigarettes were introduced as a new consumer product today, it is unlikely they would receive government regulatory approval. Cigarettes have proven biologic toxicities (carcinogenesis, atherogenesis, teratogenesis) and well-established causal links to human disease. Things were very different in 1913 when the R. J. Reynolds Tobacco Company introduced the first modern cigarette, the iconic Camel. By the early 1950s, definitive scientific reports linked cigarettes and human disease, but it was more than a half century later (2006) that cigarette manufacturers were found guilty by a federal court of deceptive product marketing regarding the health hazards of tobacco use. In the United States, cigarette smoking remains a major but slowly declining problem. But in developing countries, cigarette use is expanding tremendously. In global terms, the epidemic of smoking-caused disease is projected to increase rapidly in coming decades, not decline. Society may have begun to slowly win the smoking battle in the developed world, but we are resoundingly losing the global war on smoking. All is not lost! There is some good news! The 2003 Framework Convention on Tobacco Control, supported strongly by the American College of Chest Physicians, is the first global public health treaty of the new millennium. Many developed societies have begun planning to rid their countries of cigarettes in what is called the Endgame Strategy, and now is the time for the international medical community to help change tobacco policy to a worldwide endgame approach to rid all humanity of smoking-related diseases.

CHEST 2014; 146(6):1438-1443

ABBREVIATIONS: CHEST = American College of Chest Physicians; e-cigarette = electronic cigarette; FCTC = Framework Convention on Tobacco Control

Cigarettes are unique among consumer products in that they universally harm human health and contribute to premature death in >60% of long-term consumers.¹ The toll of preventable human misery caused by smoking is truly staggering. Smoking results in the premature death of 450,000 American smokers every year as well as 50,000 nonsmokers through secondhand smoke exposure.² Worldwide, 5.5 million smokers and 600,000 non-smokers die prematurely each year; the toll

Manuscript received November 27, 2013; revision accepted May 1, 2014.

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DOI: 10.1378/chest.13-2804
will rise to 8 million annually by 2030. Cigarette smoking caused 100 million deaths in the 20th century, about the same number as all war death; 1 billion premature deaths are projected in the 21st century, mainly in the developing world.

A Modern Product That Is Legal Only by Historic Accident

There are two popular American myths about the cigarette, namely, that it is an ancient traditional product and a government-approved consumer product in the United States. Both are wrong! Tobacco leaf is indigenous to the Western Hemisphere but was unknown to the rest of the world until the 15th century. Indigenous Americans historically used tobacco (pipes, cigars, and chewing tobacco), but, importantly, did not smoke cigarettes. Cigar smoke and pipe tobacco smoke are alkaline and deliver a high percentage of “freebase” nicotine, which is too harsh for most people to inhale in substantial quantities. Cigarettes were not a commercial product of note until the late 19th century, when two important industrial developments occurred: first, a new curing process lowered the pH of tobacco, making it more palatable, and, concurrently, the first mechanized cigarette rolling machine was invented.

In 1906, the US Congress passed the Pure Food and Drug Act, which mandated the Bureau of Chemistry, the predecessor of the US Food and Drug Administration, to regulate food and drug safety but specifically excluded tobacco, a subterfuge attributed to the lobbying efforts of Buck Duke, the founder of the American Tobacco Company. This aggressive political lobbying strategy continued for >100 years, during which tobacco companies succeeded in keeping their products legal and minimally regulated in the United States. Thus, a perfect health storm was created, allowing the largely unregulated tobacco industry to massively expand cigarette sales and secondarily ignite the largest noninfectious epidemic of preventable human disease and disability in recorded world history.

Camel: The First Modern Cigarette

In 1913, the R. J. Reynolds Tobacco Company introduced a new cigarette, Camel, which was promoted with a novel and aggressive mass media advertising campaign, the likes of which had never before been seen; the success of Camel led to competing brands such as Lucky Strike and Chesterfield. In 1905, Americans smoked <5 billion cigarettes per year, but by 1917 (only 4 years after “the year of the Camel”) consumption in the United States exceeded 16 billion cigarettes per year and spiraled upward to >600 billion per year in 1980.

The Companies’ Pledge to the American Public: The Frank Statement

By the early 1950s, definitive scientific reports of cigarettes causing diseases (lung cancer, emphysema) generated great concern in the public health community. The cigarette manufacturers responded with a cynical strategy that was widely publicized through the Frank Statement in full-page newspaper advertisements in >400 leading newspapers across the United States. The Frank Statement represented tobacco companies’ pledge to the American people with pronouncements such as the following:

- “We accept an interest in people’s health as a basic responsibility, paramount to every other consideration in our business.”
- “We believe the products we make are not injurious to health.”
- “We always have and always will cooperate closely with those whose task it is to safeguard the public health.”

Not only did the industry not live up to the pledge as released, but also it had an earlier secret draft of the Frank Statement that contained statements that were more specific but were removed from the final version, as follows:

- “We will never produce and market a product shown to be the cause of any serious human ailment.”
- “We are pledging aid and assistance to the research effort to track down the cause of lung cancer, one of the most baffling problems confronting medical research.”
- “The Committee (newly formed Tobacco Industry Research Committee) will undertake to keep the public informed of such facts as may be developed relating to cigarette smoking and health and other pertinent matters.”

More than 30 million pages of previously secret internal tobacco company documents were made public by the landmark Minnesota Tobacco Trial in 1998, and they revealed an elaborate public relations campaign of obfuscation about the health risks of smoking, highlighted by a disingenuous strategy of creating doubt about the scientific evidence linking smoking and disease. “Doubt is our product since it is the best means of competing with the ‘body of fact’ that exists in the mind of the general public. It is also the means of establishing a controversy.”
As late as 1994, the chief executive officers of the seven major cigarette manufacturers testified before the US Congress that nicotine was not addicting and that their products did not cause harm. The tobacco industry’s previously secret internal documents showed that the industry was aware that this assertion was essentially untruthful and that, within the industry, the cigarette was recognized and indeed engineered to be a sophisticated nicotine drug-delivery device that aided nicotine addiction.

US Department of Justice Lawsuit

The US Department of Justice legal suit resulted in the conviction of the cigarette manufacturers in 2006 for violating the racketeering statutes (Racketeer Influenced and Corrupt Organizations Act). Judge Gladys Kessler, the presiding judge, held the cigarette manufacturers accountable and ordered them to stop promotion of their “light” cigarettes as low-tar low-nicotine products and to publicly admit, for the first time, that they had deceived the public about the harmful nature and addictiveness of their products, that they manipulated nicotine levels in cigarettes, that low-tar low-nicotine cigarettes are not less harmful, and that secondhand smoke kills people and causes disease. Despite these admissions, cigarette companies are still fighting legal battles with individuals injured by their product (8,000 pending cases in Florida alone), fighting federal graphic warning labels in the courts, and using delaying tactics for the implementation of Judge Kessler’s order regarding public admission of their deceptions.

Holding Ground in Developed Countries While Making Inroads in Developing Countries

Although good progress has been made in developed countries such as the United States, Ireland, United Kingdom, and Australia, the cigarette epidemic remains a major world problem. There are still 45 million active smokers in the United States and in 2008, the cigarette manufacturers spent $10 billion promoting and advertising their product in the United States, an increase of 46% compared with 1998. Despite the industry’s denial of marketing to children, a major conclusion in the 2012 Surgeon General’s Report was that, “Advertising and promotional activities by tobacco companies have been shown to cause the onset and continuation of smoking among adolescents and young adults.” We contend that if the tobacco companies cannot or will not limit promotion and sales of its products to existing adult smokers and specifically avoid children, then society has a moral obligation to do so. The prevalence of smoking among children has been slowly decreasing, but susceptible children can rapidly become addicted and smoke long-term; among them, > 60% are destined to die of a tobacco-caused disease.

Profits from selling cigarettes in western countries are declining; in contrast, revenues from developing countries are increasing. Multinational cigarette manufacturers have turned increasingly to less-developed countries to aggressively sell their product. Penetration of the lucrative Russian cigarette market by western tobacco companies has become a priority; meanwhile, introduction of specific cigarette brands to Indonesia by British American Tobacco and Philip Morris International Management SA was aided by sponsoring youth-focused concerts, cigarette giveaways, and unrestricted advertising and promotions while resisting smoke-free policies through intensive lobbying.

American Cigarette Companies

Intuitively, one would suspect that American cigarette companies should be in decline financially: Their sales are falling in the United States, tobacco advertising is severely restricted, cigarette taxes are at record levels, and the companies have made record financial settlements in the billions of dollars with state governments. But this conclusion is wrong—American cigarette companies are booming financially, predominantly from sales increases in export markets.

World Health Organization Framework Convention on Tobacco Control

Developed in the first decade of the 21st century, the Framework Convention on Tobacco Control (FCTC) is the first global public health treaty. The cigarette industry fought hard to neutralize the FCTC, but, in the end, a strong international treaty was developed. Importantly, it has been signed and ratified by > 170 countries, including all developed countries, with one notable exception—the United States.

The objective of the FCTC is “to protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke.” To this end, the treaty’s core provisions to reduce demand have price and tax measures and nonprice measures, such as protection from exposure to tobacco smoke, regulation of the contents of tobacco products, and treatment of tobacco dependence. The FCTC is a turning point for world public health, in that it is the first and currently the only multilateral binding treaty that addresses a major consumer product that has been
implicated in multiple chronic noncommunicable diseases.

Electronic Nicotine-Delivery Systems: Electronic Cigarettes

The latest innovation by the cigarette industry is the electronic cigarette (e-cigarette), an electronic device meant to simulate cigarette smoking using a heating element that vaporizes a liquid solution of nicotine and propylene glycol.31 e-Cigarettes are currently both unregulated in the United States and have minimal scientific evidence for their long-term safety. They are advocated as a potential therapy for tobacco dependence, but limited studies to date have shown no convincing therapeutic superiority in supporting nicotine cessation compared with other nicotine replacement products.32-34 In a study of one type of e-cigarette, in healthy smokers who inhaled the vapor for 5 min, acute adverse physiologic effects included a marked increase in total respiration impedance and airway resistance and a substantial decrease in exhaled nitric oxide, adverse effects similar to those of tobacco smoking.35 It is possible, but unproved, that e-cigarettes are a less harmful nicotine delivery device than conventional cigarettes and may have a “lesser of the two evils” type of benefit for addicted smokers who cannot quit compared with continued active cigarette smoking.

It can be argued that the cigarette industry is again capitalizing on the concept of a “less harmful cigarette,” a public health strategy similar to the introduction of “low-tar low-nicotine” cigarettes in past years. A recent large randomized trial showed that nicotine-containing e-cigarettes had no additive antismoking efficacy compared with a non-nicotine (placebo) e-cigarette.36 However, in a recent commentary, the case for regulation of e-cigarettes was laid out in a balanced manner that concluded that these products could be a “disruptive technology” that might ultimately make conventional cigarettes obsolete.37 Thus, although e-cigarettes may have potential medical use for treating tobacco dependence in the future, much research is needed to firmly establish the appropriate role, if any, for these products. At the very least, the distraction from an imminent public health threat—cigarettes—is very real.

The Endgame Strategy

It can be argued that cigarettes are a legal product only by historic accident and early political intrigue, primarily by Buck Duke and his influence over the 1906 Pure Food and Drug Act. Had regulators known then what we currently know, it is unlikely that the public sale of cigarettes would have ever been approved. Cigarette smoking, unlike pipe smoking, is not a long-standing tradition; rather, cigarettes are a relatively new and highly sophisticated consumer product.

Countries such as Australia, New Zealand, Scotland, Ireland, and Singapore are considering different approaches to rid their countries of cigarettes and, ultimately, the harm caused by all tobacco use in what is called the Endgame Strategy.38-41 Proposed tactics range from the traditional (taxation, smoke-free workplaces, restricting access to cigarettes, more graphic warning labels,42 well-funded media campaigns, and providing treatment of smokers) to the more innovative (plain packaging,43 reducing imports by quotas [“sinking lid”],44 removal of all flavorants and additives including menthol, extending smoke-free initiatives to all indoor public places and parks, sporting venues, beaches, automobiles, and prisons, considering a regulated market model,45 and reducing the nicotine content of cigarettes to nonreinforcing, nonaddicting levels46). The tobacco-free-generation Endgame approach in Singapore calls for no longer allowing citizens born after January 1, 2000 to purchase or possess tobacco products.47 Other authors urge restructuring of the tobacco industry to align it with public health goals through supply-side interventions48 or through abolition of the sale of cigarettes, which is possible under existing laws in local communities and states in the United States.49 All that is needed for effective retooling of the cigarette industry (the supply side) or the abolition of the sales of cigarettes is the societal will to do it.

Bottom Line

The American College of Chest Physicians (CHEST) has a history as an early adopter of ardent antismoking recommendations, including an antismoking pledge by its membership. The initial conclusion of a 1982 report by the CHEST Subcommittee on Smoking in the Physician’s Workshop, a project of the CHEST Project on Smoking and Health, stated “health hazards of tobacco smoking are not only individual hazards, but also public health issues.”50 We suggest that it is time to change tobacco policy from a selective national reduction strategy to a true worldwide Endgame approach, and our medical societies should be in the forefront of this battle. In the words of President John Fitzgerald Kennedy, “If not us, who? If not now, when?”
Acknowledgments

Financial/nonfinancial disclosures: The authors have reported to CHEST the following conflicts of interest: Dr Hurt has received a medical education grant from Pfizer Medical Education Group 2010-2014. Drs Murphy and Dunn have reported that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

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