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Endgame: engaging the tobacco industry in its own elimination

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Abstract

A billion deaths from tobacco are expected by 2100. Many policy interventions such as increased taxation, restrictions on advertisement, smoking bans, as well as behavioral interventions, such as pharmacological and psychological treatments for smoking cessation, decrease tobacco use, but they reach their limits. Endgame scenarios focusing on tobacco supply rather than demand are increasingly discussed, but meet with resistance by the industry and even by many tobacco control experts. A main stumbling block that requires more attention is what to do with the tobacco industry in endgame scenarios. This industry has employed notoriously talented experts in law, business, organization, marketing, advertising, strategy, policy, and statistics and has tremendous lobbying power. Performance-based regulatory approaches can pose a legal obligation on manufacturers to decrease – and eventually – eliminate tobacco products according to specified schedules. Penalties and rewards can make such plans both beneficial for public health and attractive to the companies that do the job well. We discuss caveats and reality checks of engaging the tobacco industry to eliminate its current market and change focus. Brainstorming is warranted to entice the industry to abandon tobacco for other profit goals. To get the dialogue started, we propose the wild possibility of hiring former tobacco companies to reduce the costs of healthcare, thereby addressing concurrently two major challenges to public health.

Introduction

The tobacco pandemic remains an embarrassment to medical research and public health. There is no other modifiable risk factor of major portend that medical research has

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Author's contributions

All three authors have contributed to this perspective, which has resulted from several rounds of brainstorming between the authors. JPAI wrote the first draft, which was extensively edited and modified by the other two authors. All authors have approved the final version.

documented so conclusively, yet 5·5 trillion cigarettes continue to be smoked by 1·5 billion people, and tobacco causes over 5 million deaths annually worldwide and rising [1]. A billion people may die in the 21st century from tobacco. Many potential solutions have been implemented to reduce demand for tobacco including increased taxation, restrictions on advertisement, smoking bans, drugs and psychological treatments for smoking cessation, and behavioural interventions [2]. While these are successful in some settings, the decline in tobacco prevalence in the USA has stalled and 1000 new youth become tobacco users daily. With expanding global population, the number of smokers will continue increasing for at least two decades, even if the existing antitobacco measures work as predicted.

Tobacco endgame: possibility and resistance

The definitive solution to this catastrophe is to eliminate supply (manufacturing and sales) of tobacco products. Surveys show that policymakers, public health practitioners and journalists are widely supportive of a tobacco-free vision and willing to consider tobacco control policies that target supply [3]. Some countries explicitly plan for a tobacco endgame. For example, Bhutan banned tobacco product sales in 2004; New Zealand aims for < 5% smoking prevalence by 2025; and Singapore, Finland and Tasmania are considering the possibility of a tobacco-free generation born since 2000 [4]. There are a variety of ideas about how to materialize the tobacco endgame, ranging from total immediate ban of manufacturing and sales (‘abolition’) [5] to more complex regulated processes that may gradually achieve the same goal [6,7]. Nevertheless, most endgame proposals have met with great resistance. The tobacco industry opposes all endgame scenarios similarly: arguing for protection from prohibition zealots, prosecuting potential violations of international trade agreements and creating fear about illegal markets that would deprive governments of tax revenue. Even within the public health community, there is a substantial resistance to endgame approaches [8], which have not been a popular theme in the research literature to date [9]. As Ruth Malone has put it, ‘every significant achievement in tobacco control was preceded by many influential people saying it couldn’t be done, wouldn’t work, or would create new problems’ [8]. The same apparently applies to endgame ideas.

Something to worry about: what will become of the (not so) poor tobacco industry?

The elephant in the room is what to do with the tobacco industry in a tobacco-free era, which we, for maximal health benefit, characterize as elimination of all tobacco products: combusted, smokeless, vaporized and as yet-determined emerging forms.

Yet, these transnational corporations cannot just vanish overnight simply because we wish it were so. Other stakeholders in any tobacco endgame are more easily accommodated. Evidence is mounting that crop diversification is financially viable even for tobacco farmers. Remaining smokers will be possible to treat through cessation medications and behavioural therapies aided further by expanded smoke-free environments. Governments will offset lost tax revenues with far greater savings in life years gained for their citizens and in averted productivity losses and health costs [10]. But what will happen to the tobacco industry with four companies in the global Fortune 500 list (not counting the Chinese state tobacco

company, the trader of a third of the global market)? Can the tobacco industry be repurposed to a completely different business agenda?

Very few people are involved in the industrial production of tobacco products. The production processes have become streamlined, and machines do almost all of the work. The industry's personnel represent a small proportion of the labour force. For example, tobacco accounts for only 0·44% of the labour force in Brazil (http://www.who.int/tobacco/communications/events/wntd/2004/tobaccofacts_nations/en/). With an estimated 440 000 deaths attributed to tobacco in the USA annually and fewer than 70 000 tobacco industry employees in the USA, the ratio is more than six deaths per year per employee. These ratios may be even higher in other countries.

We need to evaluate the skills and expertise of tobacco industry employees and consultants to see what other jobs they might thrive in. The tobacco market continues to expand despite and against such overwhelming evidence that tobacco is immensely harmful, because this industry has employed talented experts in law, business, organization, marketing, lobbying, strategy, policy, science and statistics [5]. The discipline of modern advertising strategies has grown and matured within the walls of the tobacco industry. No one lobbies and markets as effectively in susceptible, poor and disadvantaged populations as the tobacco industry.

Performance-based regulation and rewarding the industry for extinguishing its markets

One option is to contract the tobacco industry and its notoriously talented personnel specifically in the fight towards eradication of tobacco use. Performance-based regulation has already been proposed as a potential endgame strategy [11]: a legal obligation is posed on the manufacturers to decrease and – eventually – eliminate their harmful products according to specified time plans. Penalties and rewards can make such a plan legally enforceable, beneficial for public health and attractive to the companies that are rewarded if they do the job well. Transforming the tobacco industry will require a pact between governments and the companies with penalties charged proportionately unless tobacco users and consumption decline beyond an agreed-upon threshold annually. Conversely, if tobacco users and consumption decline faster than targeted, these companies could be rewarded proportionately.

Offering government money to reward the tobacco industry may sound heretical. However, if the repurposed tobacco industry is effective in eliminating the use of its products, then matching their revenue losses is worth the service and would cost far less than the money saved by governments and societies through productivity and health gains [12]. One needs some careful budget calculations here, and these need to be done separately in each country, accounting for the current burden of tobacco, the projected decline, the finances of the healthcare system and any offset costs, before the penalties and rewards are assigned. However, given the tremendous burden of disease morbidity and mortality from tobacco, a pact that would be financially favourable for both governments and the industry should be feasible in most, if not all, countries.

Some preliminary calculations

Cost analyses considering both welfare and healthcare expenses in Finland conclude that a smoker costs 71 600 Euros (almost $100 000 US) more to the public than a nonsmoker [13]. The estimate is conservative because the calculation accounts for the cynical fact that smokers die earlier; thus, a state saves some pension and medical insurance cost. Further, the estimate values 1 year of full quality life at only 22 200 Euros (probably a very low price for people living in developed countries). Regardless, if we multiple that by the 300 billion smokers in high-income nations, the net extra cost of $30 trillion due to smoking is more than 100 times the worth of the entire annual tobacco market in these countries. For low- and middle-income countries, where 80% of the current tobacco users reside (and perhaps an even larger proportion in the future), pension and insurance savings from early deaths would be minimal, so the main determinant in the financial balance would be the value of human lives that can be saved from smoking.

Governments must decide how much they value their share of the 1 billion global citizens who are expected to die from tobacco in the 21st century. With a shorter lifespan of 8·6 years on average for a smoker [13], this translates to 8·6 billion life years expected to be lost from smoking. Even if one life year is valued at just half the amount assigned in the Finnish cost analysis [13], this translates to approximately $100 trillion, about 300 times the worth of the global annual tobacco market and about 500 times the worth of the globally accrued tobacco taxes. Allocating a small portion of this amount in an incentive plan to extinguish tobacco companies over an agreed number of years should be financially beneficial both to the public and to the transformed company stakeholders. If, on the other hand, human life is considered to have no value or negligible value, such a plan would offer no financial incentive to governments. In that case, governments must justify a plan that tacitly encourages some citizens to smoke and die early, funded by tobacco tax revenue and pension cost savings. This sounds incredibly cynical, but may not be far from current reality. Figure 1 depicts the potential profits and losses in current, transition, and endgame settings if the industry were so incentivized to work towards its own elimination.

Caveats and reality checks

One may argue that there are practical concerns about governmental and local programmes competing with tobacco companies over their contribution to tobacco use declines and the respective financial reward. Moreover, tobacco companies have claimed to work towards tobacco control objectives, but have done the opposite [14,15]. Therefore, there should be rigorous documentation that the plan meets its purpose and tobacco use is indeed sharply declining. Contracting the tobacco industry to reduce and eventually eliminate legal and illegal tobacco use on a realistically fast-paced schedule may ease their transition to healthier businesses. Indeed, missing from currently considered endgame proposals is an exit strategy for the former tobacco industry.

Changing business focus in countries without state monopolies

In countries without state monopolies, creative solutions are needed to effect change in business focus. Like other companies that change their portfolio over time, tobacco

companies have, in fact, previously considered switching business. Some companies have experimented with sodas, wines, pasta and confectionaries. Philip Morris even considered buying Genentech, and RJ Reynolds spun off a 'life sciences' company to develop nicotinic analogue drugs, although recent trials have been disappointing [16]. Unless we grasp the opportunity, the tobacco industry will continue to strengthen its unhealthy portfolio with novel addictive nicotinic products. This is already happening with all major tobacco companies now manufacturing electronic cigarettes.

Countries with state monopolies

In the 40 countries (including China) that have national tobacco monopolies, governments must understand that they waste more money in heath and productivity losses than they gain from selling/taxing tobacco. The current situation offers the paradox where sometimes the same tobacco senior executives may also be civil servants who try to sell and monitor/supervise tobacco at the same time. These governments need to look carefully at their own balance sheet. Moreover, the tobacco industry has often been linked to the wider propagation of state and societal corruption [17]. If so, the benefits for putting these houses in order would be even greater.

Finding a new job for the tobacco industry: an open brainstorming competition

Rigorous policy studies evaluating the benefits, feasibility and potential harms of supply-targeting interventions for tobacco eradication and for tobacco industry performance-based regulation are needed. Social media and crowd sourcing could be enrolled in generating ideas for new jobs, contracts and tasks for the former tobacco industry and its expert teams in the longer term. What could their personnel be trusted to do? In the past, the same retired physicists hired by the tobacco industry to deny that tobacco causes cancer were also hired to deny that pollution causes acid rain and that greenhouse gas emissions cause global warming [18]. Could these notoriously talented experts, advertisers and implementation science leaders be repurposed to serve good causes instead? Fortunately (or sadly), a large number of good causes are underserved, providing ample opportunity to employ teams with persuasive power, if the incentives are sufficiently enticing.

Become an Ex: can the former tobacco industry help fix health care?

The healthcare systems in most developed countries are spiralling out of control in terms of cost, inefficiency and profusion of nonevidence-based applications. What is lacking to curb the tide may be primarily efficient implementation sciences to promote sound evidence and rigorous counteracting of advertising and marketing. Perhaps talented experts from the ex-tobacco industry could be hired by governments to counter insolent pharmaceutical companies, greedy health professionals and self-interested lobbyists (e.g. the producers of adult diapers who lobbied in favour of prostate-specific antigen (PSA) testing) [19]. If so, the former tobacco companies could be recruited to this field under similar performance-based regulated contracts. If they manage to curtail the sales of an ineffective and/or harmful

intervention beyond a certain low limit, they could/should be rewarded appropriately for healthcare cost containment.

The tobacco-industry-redux-health may be a wild idea; we acknowledge this. Converting harbingers of death into harbingers of health would not be easily accomplished and may be equally challenged in terms of gaining societal acceptance. But what we need is more, not fewer, wild ideas. We hope that our suggestion will open a dialogue for generating, piloting and scrutinizing, with both modelling and empirical, experimental methods, various endgame ideas.

Conclusion

Figure 1 summarizes schematically our proposal for a tobacco endgame. Essentially, our plan suggests that the tobacco industry may be incentivized to eliminate its products and transform itself to some societally useful occupations and more profitable activities for its shareholders.

Societal action against tobacco needs to offer a realistic exit plan for the tobacco industry that is firm, accountable and unwavering and that may truly come to pass. More than a hypothetical exercise of exclusive concern to tobacco control scientists, the tobacco endgame is a real and unifying problem for global public health.

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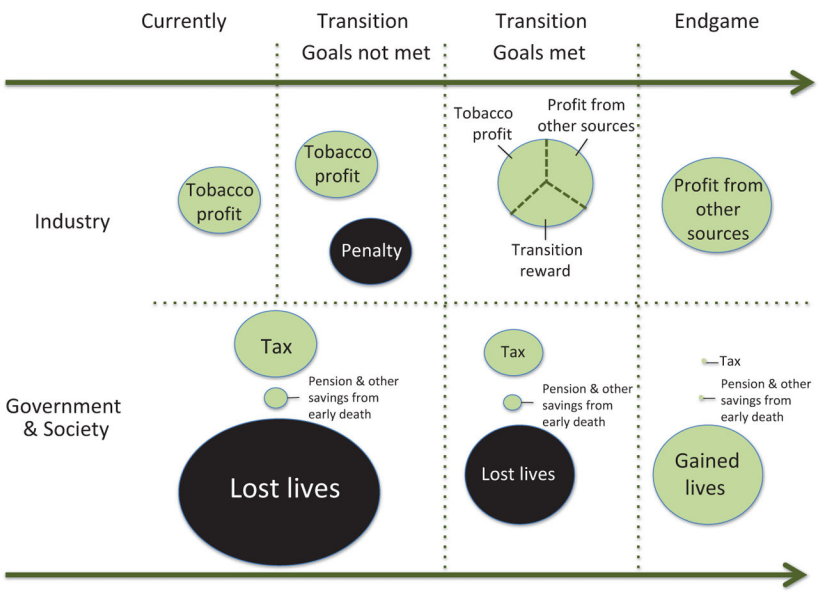

Figure 1.

The big picture of profits and losses in current, transition and endgame settings: The figure shows the process where the tobacco industry is either rewarded or penalized for scheduled goals towards eliminating tobacco products. Gains (marked in green) and losses (marked in black) are shown separately for the industry and for the government/ society. The size of the circles is proportional to the amount of money involved and represents a typical scenario. The two scenarios in the transition phase correspond to the situations where self-elimination goals are met or not met, respectively.