

# Tobacco Control Policy

## From Action to Evidence and Back Again

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You've come a long way, baby. No, I'm not referring to the woman enticed into a powerful addiction by a clever 1960's jingle. Rather, I mean the practitioner of tobacco control, armed at last with a sizable and growing body of knowledge of how to reduce tobacco use and its devastating burden of disease and death. In many settings, tobacco control practitioners are armed as well with the resources to implement interventions at a level worthy of attention, if not necessarily commensurate with the severity of the problem.

The resource commitment owes to citizen initiatives to take tobacco control seriously—California and Massachusetts are the shining examples of this phenomenon—and to funding, in some states, from the states' settlement of their Medicaid lawsuits with the tobacco industry. The rapidly expanding body of knowledge reflects the visionary commitment of substantial resources to the then-tiny field of tobacco policy research beginning in the early 1990s, led by the Robert Wood Johnson Foundation. The Foundation's Tobacco Policy Research Program (since replaced with the broadened Substance Abuse Policy Research Program) has attracted both new and established investigators to the study of the nature and impacts of tobacco control policy. The amount and quality of research-based knowledge have burgeoned as a consequence.

With the expansion of evidence-based understanding of the effects of tobacco control policies, it has become possible to begin to assess the effects of multifaceted tobacco control programs, and to evaluate the desirable mix of interventions in such endeavors. To be sure, as I discuss below, we are a long way from perfecting this art. We remain largely ignorant about the effectiveness of several tobacco control measures, and subtle but important complexities limit understanding of others. But we now know enough about many of the mainstream interventions to be able to plan in terms of rational resource allocation. We can be confident that

enlightening new research findings will emerge in the coming years.

In August 1999, the Office on Smoking and Health of the Centers for Disease Control and Prevention drew on the evidentiary base to publish a guide entitled *Best Practices for Comprehensive Tobacco Control Programs*.<sup>1</sup> More recently, the science-driven Institute of Medicine issued a report<sup>2</sup> endorsing comprehensive tobacco control programs at the state level. Then in August 2000, the latest Surgeon General's report<sup>3</sup> on smoking and health laid out a blueprint of its own for how to build comprehensive programs that can achieve the ambitious tobacco control goals spelled out in the U.S. Department of Health and Human Services' *Healthy People 2010*.<sup>4</sup>

This supplement of the *American Journal of Preventive Medicine* provides a new and helpful installment in this cornucopia of evidence-based guides to effective tobacco control.<sup>5,6</sup> Developed by an independent, non-governmental task force as part of its *Guide to Community Preventive Services*<sup>7</sup> (the *Community Guide*), this report presents recommendations directed at communities and health care systems (and, to a lesser extent, to state and national tobacco control programs) as to how best to attack each jurisdiction's tobacco problem. Drawing on the newly expanded research base of knowledge, the report authors strongly recommend several interventions, recommend others with recognition that the evidence base is not as strong as one would desire, and withhold endorsement of others, reflecting the insufficiency of the evidence pertaining to their effects.

The authors are to be heartily commended for having produced a quite remarkable piece of practice-oriented scholarship. They delve deeply into the literature, leaving few research stones unturned, and they tailor their findings to their relevance for the communities of interest. Local communities and health care systems can use this report to assess their individual needs in the domain of tobacco control and to evaluate how available resources can be used most efficiently to tackle the problem. One hopes that they can use the report, as well, to generate additional support for the undertaking.

The merits of this report speak for themselves. In the remainder of this commentary, I will offer and illustrate a few cautions concerning the interpretation and use of

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the evidence pertaining to tobacco control policy. In so doing, I will often echo observations made by the authors themselves, while attempting to complement those observations as well. I take this tack to emphasize the need to avoid *Community Guide* users' tossing out potentially meritorious interventions simply because they lack sufficient evidence to warrant an endorsement at present. I warn, too, that even the best-supported interventions do not come completely free of caveats. I will conclude with thoughts about where we go from here in terms of both action and further research.

Perhaps the most disappointing and important deficiency in research knowledge of tobacco control pertains to the effects of marketing, both for and against smoking. Marketing is a pervasive phenomenon in our society, nowhere more evident than in the cigarette manufacturers' campaigns to sell their products and, for that matter, in the tobacco control community's attempt to combat their use. We live today in a society in which cigarette ads have been banned from the broadcast media for 3 decades and restrictions abound on ad placement on municipal transit systems, in sports stadiums, and now on billboards. Yet the tobacco industry continues to spend billions of dollars promoting its wares every year. Counter-marketing campaigns—far more modest in size—have become a staple of comprehensive tobacco control programs at the state level; and history's largest antismoking initiative, produced by the Master Settlement Agreement–funded American Legacy Foundation, has poured the vast majority of its resources into counter-marketing during its first year in operation. Despite this vast expenditure of resources, we know precious little about either the short- or long-term effects of marketing and counter-marketing campaigns.

Does cigarette advertising (and promotion) increase smoking? The evidence was strong enough a dozen years ago to lead the Surgeon General to state that it is “more likely than not that advertising and promotional activities do stimulate cigarette consumption.” But that analysis concluded that there was no “smoking gun” indicting advertising as a cause of smoking and that “[g]iven the complexity of the issue, none is likely to be forthcoming in the foreseeable future.”<sup>8</sup> In the intervening decade, the evidence has strengthened, bolstered by creative new studies that add weight to the Surgeon General's reading of the evidence.<sup>9,10</sup> The most thoughtful overview of the issue, blending empirical evidence with theory, is especially convincing that, in the aggregate, advertising and promotion must increase the consumption of cigarettes. However, that analysis concluded that the overall contribution of marketing is almost certainly modest. As a point estimate, the authors concluded that in its entirety, the advertising/promotion enterprise increases smoking on the order of 6% to 7%.<sup>11</sup>

How about counter-marketing? The tobacco control community clearly believes that this is an essential ingredient in any serious assault on tobacco use, as indicated by the resources devoted to counter-marketing in the states most aggressively attacking tobacco and in the Legacy Foundation campaign. The logic underlying this belief is compelling: If the tobacco industry finds marketing so effective at encouraging smoking, as its resource commitment clearly implies,<sup>12</sup> a professionally produced counter-marketing campaign ought to be able to sell the nonsmoking and health message. In this fight-fire-with-fire response to the industry, the far less affluent tobacco control community actually has one advantage: access to the broadcast media.

Both logic and experience support the view that, at least in the short run, a counter-marketing campaign ought to impact the thinking and behavior of both smokers and prospective smokers.<sup>11</sup> Analyses of the tobacco control programs in California and Massachusetts have concluded that these states' counter-marketing campaigns have contributed to the overall effectiveness of the programs.<sup>2</sup> By virtue of the varying reach of its national media buys in different communities, the American Legacy Foundation should be able to evaluate the impact of its campaign as well.

Despite this evidentiary support for counter-marketing (and for limiting pro-tobacco marketing), a sober look at the evidence leads to the inevitable conclusion that we still know very little about the parameters that make a counter-marketing campaign effective. How big must the campaign be? How long must it run? Which groups should it target? In what proportions? What themes or approaches work best? (There is a debate, for example, between the California and Massachusetts programs as to the value of targeting health concerns directly versus focusing on mocking the industry.<sup>13</sup>) Even if these campaigns appear to work in the short run, will they work in the long run, or will their marginal effectiveness wane, as appears to have occurred with the tobacco industry's broadcast advertising?<sup>11,14</sup>

In short, the domain of advertising and counter-advertising is one plagued with important uncertainties. It vividly illustrates a principle that I would advocate in allocating resources to comprehensive tobacco control programs in a world of uncertainty: Balance the degree of uncertainty with the potential importance of the intervention. Counter-marketing may or may not work well; but if it does work, it could have a substantial impact. That strikes me as a better gamble than a (hypothetical) intervention that is demonstrably effective but with a very modest impact on smoking. Resources for tobacco control, although greatly expanded in recent years, are far too scarce to squander on interventions that offer only a mediocre outcome.

I would offer a second principle, one shared by many proponents of tobacco control: Follow the industry's

lead. If the tobacco industry exhibits little concern about an intervention, we should suspect that it is probably largely ineffective, at least according to their intelligence. The industry's endorsement of school health education programs is a case in point.

In the spirit of this second principle, a hard-hitting media campaign is probably a good bet for tobacco control. So, too, is the effort to increase cigarette excise taxes, a centerpiece of tobacco control that is always fought vigorously by the industry. I turn briefly to taxation as an example of an intervention strongly supported by the evidence, and hence strongly endorsed by the authors of the *Community Guide* report, that is in some ways less well understood than most of us think. Recent research performed by talented scholars has unearthed effects of taxation that few tobacco control advocates have ever considered. As I will emphasize again below, these novel findings in no way compromise the fundamental observation that taxation is a proven effective method of reducing tobacco consumption. But they highlight the importance of contemplating the nuances of policy consequences, and they demonstrate the value of pursuing thoughtful, creative research even on the most well-established interventions.

Illustrative of this new research is the study that found that when price rises, some smokers switch to higher tar and nicotine cigarettes in an effort (conscious or otherwise) to get their conventional dose of drug from fewer cigarettes. This phenomenon appears to apply especially to young smokers.<sup>15</sup> For smokers who make this switch, a price-induced reduction in the number of cigarettes smoked daily may not reduce risk, or may reduce it far less than proportional to the change in the number of cigarettes. To the extent that such switching occurs (it is far from a universal phenomenon), the public health value of a tax increase is diminished.

When one thinks about it, this result is hardly surprising. Yet few of us ever contemplated the phenomenon seriously before the publication of this study. The analysis illustrates the value of sophisticated research on the nuances of tobacco control policy.

The authors of this study emphasize that their findings do not alter the conclusion that increasing taxes is a highly effective tool of tobacco control policy. Many smokers who reduce their daily consumption in response to a tax-induced price increase do not switch to higher tar and nicotine brands, nor do they practice compensating smoking behaviors that would completely compromise their reduction in daily consumption (e.g., inhaling more deeply, puffing more frequently). More importantly, some smokers stop smoking entirely as the result of a price rise and other potential smokers do not start. Especially for those induced not to smoke, a tax-induced price increase is an unequivocal victory for better health.

How many potential smokers are deterred from beginning to smoke by a price increase? Given that most new smokers are drawn from the ranks of non-adults, this question seems to translate into whether higher prices reduce the initiation of smoking by children. Conventional wisdom has long held that they do. Although the evidence on the effects of price on youth smoking is less strong than it is for adults, a 1993 consensus statement from the leading economists working on the subject concluded that the impact of price increases on youth smoking is at least as strong as it is on adults.<sup>16</sup> The bulk of the research supports the view that it is in fact more substantial, with a common conclusion being that the overall youth price elasticity of demand is approximately twice that of the adult elasticity.<sup>17</sup> Nevertheless, until recently little research specifically addressed the question of whether price increases deterred initiation of smoking by kids. The long-held assumption was that it did. A study by economists at Cornell University challenged this assumption, finding that price increases did not discourage initiation per se.<sup>18</sup> Economists at the Georgia Institute of Technology and the University of Maryland found fault with the methods of the first study,<sup>19</sup> igniting a heated debate on the subject.<sup>17</sup>

In part, this debate hinges on the definition of initiation, itself an intriguing issue. (Is "initiation" when a child smokes his or her first cigarette? Is it defined more meaningfully as the time when the child develops a "regular" pattern of use? What constitutes a "regular" pattern? Is it once-a-week smoking? Daily smoking?) The point to be made here is simply this: While the evidence allows us to conclude that price is an effective deterrent to youth smoking, we do not possess a definitive understanding of the mechanism by which this works. Possibly higher prices do discourage even early experimentation with smoking. (The debate is not resolved in the literature.) Perhaps higher prices interrupt a child's movement from pure experimentation to regular use. Perhaps they encourage regular smokers to stop. Quite likely, the role of price in youth smoking is some mix of such responses.

We need to learn more. At the same time, the enormous burden of tobacco-induced illness does not permit us the luxury of awaiting definitive research outcomes. Policy and other interventions must proceed forward, with all of the intensity that the resource base permits and utilizing the best knowledge afforded by the existing base of research-produced knowledge. A defining characteristic of tobacco control—most likely a necessary one—is that action has typically preceded a strong body of research understanding. Knowledge has derived from analysis of that experience. What the knowledge permits—what it must produce—is refinement of action, a balancing of resource allocation that will ensure evermore effective control of the tobacco menace. It is an iterative process, from action to

evidence and back again. The authors of the report in this supplement have presented the tobacco control community with a gift, one that must be embraced as a valuable tool for the hard work that lies ahead.

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Preventive Medicine, Vol 20 No 2S, pp 2-5, Copyright 2001 by  
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