The 2009 Family Smoking Prevention and Tobacco Control Act (FSPTCA) gave the U.S. Food and Drug Administration (FDA) the authority to regulate the manufacture, distribution, and marketing of tobacco products in the interests of public health. In 2010, the FDA proposed a rule requiring cigarette packs to bear large graphic warning labels, which represented the agency’s first major proposed tobacco regulation. Federal agencies proposing any significant regulatory action, defined as one having an annual effect on the economy of $100 million or more, are required to evaluate the regulation’s costs and benefits. Accordingly, the FDA prepared an economic impact analysis of the proposed rule and retained its analysis in the 2011 final rule. The FDA is using a similar approach in its economic impact analysis of a 2014 proposed “deeming rule,” asserting jurisdiction over e-cigarettes and other tobacco products not explicitly included in the FSPTCA.

This highlights the importance of understanding which method is appropriate for these and future tobacco regulations. To do so, we and other economists reviewed the FDA’s economic analysis and offered suggestions for improvements (1). Although we considered many aspects of the analysis in that report, including factors leading to underestimation of benefits, a critically important focus was the FDA’s calculations of the costs of the graphic warning label regulations.

The costs of regulations have 3 components: industry’s costs to implement them, the FDA’s administrative and enforcement costs, and the costs to consumers. The FDA measures the last of these as the loss in “consumer surplus,” or the pleasure that smokers derive from smoking over and above the price they pay for cigarettes. For fully informed, rational consumers, consumer surplus reflects the difference between what they are willing to pay for a product, which reflects how they value it, and the actual marketplace price they pay. Regulatory actions that reduce the demand for a product or increase market price reduce consumer surplus. This loss in surplus reflects the lost satisfaction resulting from reduced consumption. The FDA’s economic impact analysis of its graphic warning label rule applied this standard tool of welfare economics and accounted for lost consumer surplus by assuming that the reductions in smoking caused by the labels reduced the benefits by roughly half. We find this application erroneous.

If consumers’ decisions to start or continue smoking were fully informed, perfectly rational, and forward-looking, those induced to quit by graphic warning labels would indeed lose consumer surplus. However, if consumers fully understood the risks associated with smoking, there would be little reason for the smoker to quit in response to the graphic warning labels. This is a crucial point—that the labels influence quitting (2, 3) suggests that this extreme case is invalid. This model is a poor description of the smoking decision for 2 reasons.

First, most persons begin smoking in adolescence or young adulthood, a time when they are not fully aware of the health and economic consequences of smoking, underestimate their own mortality, heavily discount long-term consequences, and do not fully understand addiction. A study found that although only 3% of high school seniors who smoked daily believed that they would definitely be smoking in 5 years, almost two thirds were still smoking 7 to 9 years later (4). Society has clearly decided that the decision to start smoking is irrational for persons younger than 18 years, as implied by laws regulating youth access to tobacco products, including FDA enforcement of a national legal purchase age of 18 years for tobacco products over which it has jurisdiction. Thus, the benefits to persons who start using tobacco products regularly before age 18 years and who quit in response to FDA regulatory actions should not have any offset for lost consumer surplus. We estimate that this includes 70% to 75% of smokers; using a higher age of 21 years, as some states do, would remove 91% of smokers (5).

Second, extensive behavioral economic and psychological research shows that established smokers continue to smoke to satisfy their desire for immediate gratification rather than their desire for good long-term health and that they later regret this decision. Data from a 2002 survey show that more than 9 out of 10 smokers agreed or strongly agreed with the statement, “If you had to do it over again, you would not have started smoking” (6). Furthermore, 7 of every 10 smokers reported that they wanted to quit smoking, and more than half of all smokers stopped smoking for at least 1 day with the intent of quitting permanently (7). Yet, only 2.7% of smokers quit each year (8). These data strongly suggest that many smokers do not find smoking pleasurable and derive little consumer surplus from it. Indeed, another study found that the self-reported happiness of potential smokers increases when cigarette taxes are increased (9). In addition, research has shown that smokers do not fully understand the health consequences of smoking (10), and the fact that new evidence is continually emerging about the diseases...
caused by smoking suggests that it is impossible to say that existing smokers are making fully informed decisions (5). To the extent that the labels are effective in moving some smokers to successfully quit, resulting reductions in smoking are more likely to be a benefit than a cost.

We conclude that the “lost pleasure” from tobacco use, as represented by conventionally measured consumer surplus, should not be included as a cost in FDA economic impact analyses of tobacco regulations. Most tobacco users become regular users before reaching legal purchase age. For those who begin as adults, imperfect information and addiction suggest that regulations that reduce tobacco use are likely to enhance welfare. Indeed, data strongly suggest that many smokers derive little consumer surplus from smoking. Most struggle with trying to break an addiction, regret having started smoking, and face psychological costs from being addicted and unable to quit. To protect the public’s health, it is imperative that the FDA incorporate this reality into all future evaluations of the costs and benefits of proposed tobacco product regulations.

References
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