Human Ecology researchers have determined that exposure to ads for smoking-cessation products encourages smokers to quit—even if they don’t buy the products. Now, the experts are looking at the policy implications.

Advertisements, Public Policy, and Public Health

BY CAROLE STONE

Do advertisements for nicotine patches, chewing gums, inhalants, and other smoking-cessation products make people want to quit?

“We were able to show that when people see advertisements for products to help them stop smoking, they are more likely to try to quit, and to quit successfully,” says Professor Alan Mathios of the Department of Policy Analysis and Management. Mathios is co-principal investigator of a study of nicotine-related advertising, “Private Profits and Public Health: Does Advertising of Smoking-Cessation Products Encourage Smokers to Quit?” And surprisingly, many of those people who quit do not even purchase the advertised products. “We think there may be important ‘spillover effects’ from advertising,” says Mathios, who has also served as interim dean of the College of Human Ecology since July.

“The spillover effect is that people see the ads and think, ‘I ought to quit smoking, and I can do it even without a pharmaceutical aid,’” explains Donald Kenkel, an economist who is one of four researchers in the Department of Policy Analysis and Management who collaborated on this study. The others are Rosemary Avery and Dean Lillard. “The advertisement encourages a person to quit smoking, and that is a societal benefit,” Kenkel adds.

The research was published in the Journal of Political Economy this August, and it was featured that month on National Public Radio, among other media. It won best conference paper at the 2007 American Marketing Association’s Public Policy and Marketing Conference in Washington, D.C., in May. > > >
Ads like this are part of the Smoking-Cessation Advertisement archive, which holds 20 years of ads from popular magazines.
Figuring Out the Role of Advertisements

Kenkel points out that the research addresses a longstanding controversy about what ads do. “Some people think that ads only divide up a market into shares. When McDonald’s and Burger King, for example, advertise against one another, maybe it’s only the market share that’s important to them—how many people they can attract to their restaurant and not to their competitor’s,” he says. “On the other hand, maybe these ad campaigns instead increase the total number of people who patronize fast-food restaurants.” Figuring out which effect dominates is tricky, and it probably varies from market to market, Kenkel surmises.

“We found that advertising can expand the size of a market—by increasing the number of people who are trying to quit smoking,” Kenkel says.

To establish a chain of logic to deduce causality, the social scientists behind the study examined people’s smoking habits, the magazines they read, and the number of ads in those magazines.

“The key variable we created is the number of ads people were exposed to because of the magazines they read,” Mathios says. “By knowing who has been exposed to advertising, we are confident that we are close to getting to the causal impact of advertising.” The researchers treat the variation in exposure like a natural experiment on the impact of advertising.

“It’s very interesting that, for example, Time and Newsweek, two popular newsweekly magazines, have different numbers of ads for cessation products. So you can compare the quit rates of people who read Time to those who read Newsweek.”

“We could have surveyed people and asked them, ‘Do you smoke?’ ‘Have you ever used nicotine gum?’ ‘Do you remember seeing ads for the product?’ ‘Do you recollect seeing those ads and thinking that you should stop smoking?’ That’s not what we did,” Kenkel notes.

“People’s memories are often distorted, and we wanted to rely on something more objective.”

The team calculated that if the smoking-cessation product industry increased its average annual spending on magazine advertising by about $2.6 million or 10 percent, the average smoker would see 2.1 more ads each year; according to the researchers’ calculations, this would translate to about 80,000 additional quits each year.

The study, initially funded by the National Institutes of Health’s National Cancer Institute, was designed to document tobacco advertising and smoking-cessation ads in magazines, and the impact of exposure to those ads on individuals’ decisions to smoke or to quit.

Pharmaceutical advertising was also documented when Merck Co. Foundation became a sponsor. Additional funding was provided by the Robert Wood Johnson Foundation.

Nicotine Replacements Were Rx at First

The first nicotine-replacement product—nicotine-laced chewing gum—was approved by the U.S. Food and Drug Administration (FDA) as a prescription drug in 1984. SmithKline Beecham later marketed the gum, which it called “Nicorette.”

The nicotine patch was developed in the early 1980s and approved by the FDA as a prescription product in 1991. A Johnson & Johnson subsidiary marketed it as “Nicotrol,” and SmithKline Beecham sold it as “Nicoderm.”

In 1996, the FDA did away with the prescription requirement for the gum and the patch and approved their direct sale to consumers “over the counter.” With this change in status came a change in advertising requirements.

OTC Status Affects Amount of Ads

In a related study, the Human Ecology research team also found that the change in a product’s status—from prescription-only (Rx) to over-the-counter (OTC)—has a significant impact on the advertising of the product and the subsequent flow of information to readers. This study was published in the Journal of Regulatory Economics.

Rx-only products require a fine-print disclosure that includes all counter-indications and possible adverse effects, similar to the disclosure and warnings listed in the Physicians Desk Reference. Once a product is approved for OTC sales, the extensive fine-print counter-indications are no longer required. As a result, manufacturers save a significant amount of money, and they tend to reinvest that money in a different kind of more appealing advertising, the authors note.

“We demonstrated that there were more advertisements after these drugs were given over-the-counter status, and that means a stronger flow of images to consumers,” Avery says.

Mathios adds, “What’s exciting about this research is the empirical demonstration that when tobacco-cessation products went from being available by prescription only to over the counter, manufacturers bought more advertising space and, therefore, there were more advertising messages in the media.

“Taken together with our evidence that the ads help people quit, this suggests that when the U.S. Food and Drug Administration regulates a product, such as a nicotine-replacement product, as prescription-only, it may actually have

Our modest take-away message is that the FDA ought to regulate products on a case-by-case basis,” Kenkel says. “They ought to think harder about their decisions and how these affect the advertising of new products. There are costs and benefits of advertising, and in the case of smoking-cessation products and some other pharmaceuticals, the benefits of advertising are very high.”
hindered reaching the goal of a smoke-free America,” he says.

The team’s study of the advertising of nicotine products chronicles 20 years of magazine advertisements and correlates this to market research on habits such as smoking.

**A Bizarre Regulatory World**

“It is ironic that when smoking-cessation products were categorized as prescription drugs, it was easier to advertise cigarettes than it was to advertise these products,” Kenkel points out.

“Until the FDA weighs the advantage of these pharmaceuticals versus the harm of cigarettes, we will continue to live in a bizarre regulatory world,” says Kenkel, whose expertise is in health economics and public sector economics. Most of his research is on the economics of disease prevention and health promotion and cost-benefit analysis of public policies, especially policies that affect health.

Mathios, who worked at the Federal Trade Commission, where he served as a senior staff economist in the Division of Economic Policy Analysis for six years, comments, “The FDA only asks, ‘Is a particular product safe and is it effective?’ They don’t ask, ‘What will people do if this product is safe but inaccessible?’ We hesitate to tell them how to regulate products, because we are not medical doctors. But we think they need to consider these questions in a larger context.”

**Health Advantages vs. Medical Risks**

The group’s research findings may have implications for the way the FDA reviews products in general.

Some smoking-cessation products are psychotropic: Zyban, for example, was originally developed as the antidepressant Wellbutrin, the trade name for the drug bupropion. When researchers noted that some of those taking the drug quit or reduced their smoking, Glaxo Wellcome began clinically testing it as an aid for smoking cessation. The FDA approved Zyban as a smoking-cessation aid in May 1997, by Rx-only because it is also an antidepressant drug.

In 2006 the FDA approved Chantix, a nicotinic acetylcholine receptor agonist marketed by Pfizer. The product stops nicotine addiction in the brain—and is a different form of medicine from a nicotine delivery device by gum, patch, inhaler, or spray. (The nicotine inhaler and nicotine spray are FDA approved, but by Rx only.)

While product regulation usually is considered a medical and public health issue—and to a great extent it is—there are also economic issues that impact public health, the authors say. And if your objective is to see people quit smoking, then heavily regulating smoking-cessation products while only lightly regulating cigarettes does not make sense.

They suggest, for example, that like smoking-cessation product ads, ads for Statin drugs, which reduce cholesterol levels, may have important ‘spillover’ benefits. Direct-to-consumer advertising often leads a patient to visit a doctor to discuss an advertised product. But instead of writing a prescription for a Statin drug to lower cholesterol, if the doctor follows medical practice guidelines, he or she will recommend changes in diet and exercise first to promote good health, the authors argue.

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**Project Archives Magazine Ads—Turns to TV Next**

For the past six years, the researchers and their student assistants have been examining 20 years of advertising, from 1985 to 2005, in 27 of the most-read American magazines. In the process, they created the Smoking-Cessation Advertisements (SCADS) archive.

Professor Rosemary Avery trained undergraduates, who in turn trained other undergraduates, to be research assistants. At any one time there were between nine and 21 students at work on the project.

All the print advertisements for smoking-cessation products, tobacco products, and smoking-related Public Service Advertisements that appeared in those 20 years were included in the archive. Working in a lab in Martha Van Rensselaer Hall on the Cornell campus, student teams made more than 86,000 digital images of advertisements from magazines. The SCADS archive occupies 1 terabyte (one trillion bytes) of computer memory.

Matthew Eisenberg ’09, who manages teams of undergraduate researchers, says, “I found myself thinking about this project all the time, and I’ve learned two main skills: how to deal with vast amounts of data while paying attention to minute details and how to manage people.”

With print ads complete, the researchers have turned to examining and archiving television ads.

“Last summer, I spent 40 hours a week for three straight weeks watching Public Service Announcements about smoking,” Eisenberg says. “They’re full of horrible images, like people speaking in a raspy voice and smoking through a hole in their throat. I watched ads like that back-to-back. I don’t know what they’ll mean to other people, but I can tell you one thing: they certainly had an effect on me!”

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