A Hot Debate Over E-Cigarettes as a Path to Tobacco, or From It

By SABRINA TAVERNISE    FEB. 22, 2014

Dr. Michael Siegel, a hard-charging public health researcher at Boston University, argues that e-cigarettes could be the beginning of the end of smoking in America. He sees them as a disruptive innovation that could make cigarettes obsolete, like the computer did to the typewriter.

But his former teacher and mentor, Stanton A. Glantz, a professor of medicine at the University of California, San Francisco, is convinced that e-cigarettes may erase the hard-won progress achieved over the last half-century in reducing smoking. He predicts that the modern gadgetry will be a glittering gateway to the deadly, old-fashioned habit for children, and that adult smokers will stay hooked longer now that they can get a nicotine fix at their desks.

These experts represent the two camps now at war over the public health implications of e-cigarettes. The devices, intended to feed nicotine addiction without the toxic tar of conventional cigarettes, have divided a normally sedate public health community that had long been united in the fight against smoking and Big Tobacco.

The essence of their disagreement comes down to a simple question: Will e-cigarettes cause more or fewer people to smoke? The answer matters. Cigarette smoking is still the single largest cause of preventable death in the...
United States, killing about 480,000 people a year.

Dr. Siegel, whose graduate school manuscripts Dr. Glantz used to read, says e-cigarette pessimists are stuck on the idea that anything that looks like smoking is bad. “They are so blinded by this ideology that they are not able to see e-cigarettes objectively,” he said. Dr. Glantz disagrees. “E-cigarettes seem like a good idea,” he said, “but they aren’t.”

Science that might resolve questions about e-cigarettes is still developing, and many experts agree that the evidence so far is too skimpy to draw definitive conclusions about the long-term effects of the devices on the broader population.

“The popularity is outpacing the knowledge,” said Dr. Michael B. Steinberg, associate professor of medicine at the Robert Wood Johnson Medical School at Rutgers University. “We’ll have a better idea in another year or two of how safe these products are, but the question is, will the horse be out of the barn by then?”

This high-stakes debate over what e-cigarettes mean for the nation’s 42 million smokers comes at a crucial moment. Soon, the Food and Drug Administration is expected to issue regulations that would give the agency control over the devices, which have had explosive growth virtually free of any federal oversight. (Some cities, like Boston and New York, and states, like New Jersey and Utah, have already weighed in, enacting bans in public places.)

The new federal rules will have broad implications for public health. If they are too tough, experts say, they risk snuffing out small e-cigarette companies in favor of Big Tobacco, which has recently entered the e-cigarette business. If they are too lax, sloppy manufacturing could lead to devices that do not work properly or even harm people.

And many scientists say e-cigarettes will be truly effective in reducing the death toll from smoking only with the right kind of federal regulation — for
example, rules that make ordinary cigarettes more expensive than e-cigarettes, or that reduce the amount of nicotine in ordinary cigarettes so smokers turn to e-cigarettes for their nicotine.

“E-cigarettes are not a miracle cure,” said David B. Abrams, executive director of the Schroeder National Institute for Tobacco Research and Policy Studies at the Legacy Foundation, an antismoking research group. “They need a little help to eclipse cigarettes, which are still the most satisfying and deadly product ever made.”

Smoking is already undergoing a rapid evolution. Nicotine, the powerful stimulant that makes traditional cigarettes addictive, is the crucial ingredient in e-cigarettes, whose current incarnation was developed by a Chinese pharmacist whose father died of lung cancer. With e-cigarettes, nicotine is inhaled through a liquid that is heated into vapor. New research suggests that e-cigarettes deliver nicotine faster than gum or lozenges, two therapies that have never quite taken off.

Sales of e-cigarettes more than doubled last year from 2012, to $1.7 billion, according to Bonnie Herzog, an analyst at Wells Fargo Securities. Ms. Herzog said that in the next decade, consumption of e-cigarettes could outstrip that of conventional cigarettes. The number of stores that sell them has quadrupled in just the last year, according to the Smoke Free Alternatives Trade Association, an e-cigarette industry trade group.

“E-cigarette users sure seem to be speaking with their pocketbooks,” said Mitchell Zeller, director of the F.D.A.’s Center for Tobacco Products.

Public health experts like to say that people smoke for the nicotine but die from the tar. And the reason e-cigarettes have caused such a stir is that they take the deadly tar out of the equation while offering the nicotine fix and the sensation of smoking. For all that is unknown about the new devices — they have been on the American market for only seven years — most researchers agree that puffing on one is far less harmful than smoking a traditional
cigarette.

But then their views diverge.

Pessimists like Dr. Glantz say that while e-cigarettes might be good in theory, they are bad in practice. The vast majority of people who smoke them now also smoke conventional cigarettes, he said, and there is little evidence that much switching is happening. E-cigarettes may even prolong the habit, he said, by offering a dose of nicotine at times when getting one from a traditional cigarette is inconvenient or illegal.

What is more, critics say, they make smoking look alluring again, with images on billboards and television ads for the first time in decades. Dr. Glantz says that only about half the people alive today have ever seen a broadcast ad for cigarettes. “I feel like I’ve gotten into a time machine and gone back to the 1980s,” he said.

Researchers also worry that e-cigarettes could be a gateway to traditional cigarettes for young people. The devices are sold on the Internet. The liquids that make their vapor come in flavors like mango and watermelon. Celebrities smoke them: Julia Louis-Dreyfus and Leonardo DiCaprio puffed on them at the Golden Globe Awards.

A survey from the Centers for Disease Control and Prevention found that in 2012, about 10 percent of high school students said they had tried an e-cigarette, up from 5 percent in 2011. But 7 percent of those who had tried e-cigarettes said they had never smoked a traditional cigarette, prompting concern that e-cigarettes were, in fact, becoming a gateway.

“I think the precautionary principle — better safe than sorry — rules here,” said Dr. Thomas Frieden, director of the C.D.C.

E-cigarette skeptics have also raised concerns about nicotine addiction. But many researchers say that the nicotine by itself is not a serious health
hazard. Nicotine-replacement therapies like lozenges and patches have been used for years. Some even argue that nicotine is a lot like caffeine: an addictive substance that stimulates the mind.

“Nicotine may have some adverse health effects, but they are relatively minor,” said Dr. Neal L. Benowitz, a professor of medicine at the University of California, San Francisco, who has spent his career studying the pharmacology of nicotine.

Another ingredient, propylene glycol, the vapor that e-cigarettes emit — whose main alternative use is as fake smoke on concert and theater stages — is a lung irritant, and the effects of inhaling it over time are a concern, Dr. Benowitz said.

But Dr. Siegel and others contend that some public health experts, after a single-minded battle against smoking that has run for decades, are too inflexible about e-cigarettes. The strategy should be to reduce harm from conventional cigarettes, and e-cigarettes offer a way to do that, he said, much in the way that giving clean needles to intravenous drug users reduces their odds of getting infected with the virus that causes AIDS.

Solid evidence about e-cigarettes is limited. A clinical trial in New Zealand, which many researchers regard as the most reliable study to date, found that after six months about 7 percent of people given e-cigarettes had quit smoking, a slightly better rate than those with patches.

“The findings were intriguing but nothing to write home about yet,” said Thomas J. Glynn, a researcher at the American Cancer Society.

In Britain, where the regulatory process is more developed than in the United States, researchers say that smoking trends are heading in the right direction.

“Motivation to quit is up, success of quit attempts are up, and prevalence
is coming down faster than it has for the last six or seven years,” said Robert West, director of tobacco studies at University College London. It is impossible to know whether e-cigarettes drove the changes, he said, but “we can certainly say they are not undermining quitting.”

The scientific uncertainties have intensified the public health fight, with each side seizing on scraps of new data to bolster its position. One recent study in Germany on secondhand vapor from e-cigarettes prompted Dr. Glantz to write on his blog, “More evidence that e-cigs cause substantial air pollution.” Dr. Siegel highlighted the same study, concluding that it showed “no evidence of a significant public health hazard.”

That Big Tobacco is now selling e-cigarettes has contributed to skepticism among experts and advocates.

Cigarettes went into broad use in the 1920s — and by the 1940s, lung cancer rates had exploded. More Americans have died from smoking than in all the wars the United States has fought. Smoking rates have declined sharply since the 1960s, when about half of all men and a third of women smoked. But progress has slowed, with a smoking rate now of around 18 percent.

“Part of the furniture for us is that the tobacco industry is evil and everything they do has to be opposed,” said John Britton, a professor of epidemiology at the University of Nottingham in England, and the director for the U.K. Center for Tobacco and Alcohol Studies. “But one doesn’t want that to get in the way of public health.”

Carefully devised federal regulations might channel the marketing might of major tobacco companies into e-cigarettes, cannibalizing sales of traditional cigarettes, Dr. Abrams of the Schroeder Institute said. “We need a jujitsu move to take their own weight and use it against them,” he said.

Dr. Benowitz said he could see a situation under which the F.D.A. would gradually reduce the nicotine levels allowable in traditional cigarettes, pushing
smokers to e-cigarettes.

“If we make it too hard for this experiment to continue, we’ve wasted an opportunity that could eventually save millions of lives,” Dr. Siegel said.

Dr. Glantz disagreed.

“I frankly think the fault line will be gone in another year,” he said. “The evidence will show their true colors.”

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