



NEWSMAKER INTERVIEW: RICHARD CARMONA

A Former Surgeon General Lends His Support for E-Cigarettes

Richard Carmona, who crusaded against tobacco as U.S. surgeon general during the second Bush presidency, put himself at the center of a public health debate when he joined the board of e-cigarette maker NJOY, based in Scottsdale, Arizona, last March. These battery-powered devices look like cigarettes but don't use tobacco. Instead, they release a nicotine vapor that can satisfy an addict's cravings without producing tobacco-derived poisons. Unregulated by the Food and Drug Administration (FDA), e-cigarettes are gaining in popularity; sales of all brands now top \$1.7 billion in the United States. While some experts see no evidence of a major new health risk and a potential for doing some good, others fear that e-cigarettes will undermine a hard-fought public health campaign to bring smoking under control.

Fifty years ago, the U.S. Office of the Surgeon General issued its seminal report indicting cigarette smoking as a cause of cancer. At the time, more than 40% of adults and those of high school age in the United States were smokers. Since then, the number has dropped to about 20% of that population. Whether e-cigarettes will help some smokers quit or provide a gateway for new tobacco users is the main unanswered question.

Described by colleagues as affable and quick-witted, Carmona was responsible for the surgeon general's 2006 report on secondhand smoke and helped push for indoor smoking bans in restaurants and bars. In an interview with *Science*, Carmona insisted that he and NJOY share a

mission to make tobacco obsolete, and that e-cigarettes could help reduce harm from smoking. The interview has been edited for clarity and brevity.

—CHARLES SCHMIDT

Q: As a doctor and former surgeon general, why did you join the board of an electronic cigarette manufacturer?

R.C.: At first, I immediately rejected their offer. But with some due diligence I came to see that they were willing to do the necessary science and that we could be allies in the antitobacco movement. That said, I offered to join only under certain conditions: that they request FDA regulation—which is in the public's best interests—that they conduct and publish their own research in peer-reviewed journals, even if the findings hurt the bottom line; that they don't use my name or refer to the surgeon general in their advertising campaigns; and that they don't market to kids. So far, they've delivered on all those promises.

Q: E-cigarettes are touted as a way to stop tobacco smoking. But would you advocate that people who do that successfully then also try to wean themselves off e-cigarettes?

R.C.: Yes, but the urgency isn't as great because people who use them aren't inhaling large amounts of carcinogens and cardiovascular disease-causing agents.

Q: How can you be sure they're safe?

R.C.: As research priorities, we're asking about cons from long-term nicotine use, and

Going smokeless. Richard Carmona, an anti-tobacco former U.S. surgeon general who ran for the Senate and lost, now promotes electronic cigarettes.

we're examining the different components in side-stream vapor to make sure they're not unsafe. So far we don't see any problems. And we're also looking into long-term efficacy: How many people who use e-cigarettes quit and for how long? We just have to craft the right questions and then report back to the public.

Q: Won't e-cigarettes just lead to more people getting hooked on nicotine?

R.C.: That same question came up decades ago when nicotine gum, patches, and sprays came on the market. People said they would create new nicotine addicts and that never happened. But e-cigarettes are a different kind of nicotine delivery device, so they raise unanswered questions that we're looking into.

Q: On what basis do you think e-cigarettes can help people quit smoking?

R.C.: There is evidence that gums, patches, and sprays work, but they don't work well enough. And early evidence suggests that because e-cigarettes reinforce the physical movement of smoking, they can enhance tobacco cessation, but we don't have all the information yet. We have to continue doing the research and publishing data to demonstrate that they're helpful.

Q: What about children? Some of these e-cigarettes are candy flavored.

R.C.: As a company, we've made a commitment that these products should not be sold to kids under any circumstances. Children don't factor into NJOY's marketing, but if a customer says they like a particular flavor, then I have no problem with that—adults enjoy these flavors, too.

Q: How would you respond to critics who say you shouldn't be doing this?

R.C.: Making tobacco obsolete is part of NJOY's value ... and it's consistent with my efforts to move people away from cigarettes with combustible toxins that lead to cancer and cardiovascular diseases. I accept that my colleagues have concerns and that the antitobacco world is divided on this. You've got two camps here: an abstinence-only camp that thinks anything related to tobacco should be outlawed, and those of us who say abstinence has failed, and that we have to take advantage of every opportunity with a reasonable prospect for harm reduction.

