

Tobacco Control, Harm Reduction, and Science: Integrity is our most Important Asset

The remarkable decline in smoking rates in developed countries such as the United States and the United Kingdom over the past five decades is rightly celebrated as one of the major triumphs of modern public health. Not surprisingly, a number of factors contributed to this accomplishment. Chief among them was the strong body of sound science demonstrating the devastating consequences of combustible tobacco smoke on people who smoke and those exposed to second-hand smoke, and what policies can help to combat smoking. Add to that a damning record of duplicitous behavior of the tobacco industry that employed a variety of tactics to suppress evidence about the dangers of smoking, intimidate those who reported those dangers, and used their vast wealth to curry favor with politicians and community organizations who might otherwise have supported tobacco control. This battle between the tobacco industry and public health had a strong moral quality. Those in tobacco control occupied the uncontested high ground as compared with an evil industry. In spite of a huge difference in available resources and influence, the results were striking. Cigarette smoking went from an accepted and often iconic (see Humphrey Bogart!) behavior to one that was socially unacceptable. Today in the United States smoking rates are now 14% of all adults, and one quarter of those remaining smokers do not smoke every day. The battle, however, is not over, and the recently released CDC 2019 data show a slight creep upward. 34 million people still smoke in the United States, plus millions more around the world. And, sadly, the bulk of these are found in vulnerable and marginalized populations who have little political support or influence. This is where public health advocates now need to focus their energies and attention.

A contrast with the tobacco story is what happened with marijuana. Spurred by understandable concern about the health risks of marijuana use, its status as an illegal drug, and its feared association with progression to use of potentially fatal drugs such as heroin, public health and regulatory leaders tried to warn the public about marijuana. But because the substance was illegal, there was scant scientific evidence to support the claims of danger since such little research was performed. The most notorious of the warnings about marijuana were the 1936 film “Reefer Madness,” and the more recent drug wars of the late 20th century. Public authorities cautioned about marijuana consumption’s dire consequences, and many people were incarcerated because of possession or sale. Sadly, people of color were disproportionately imprisoned. Years later, we are still largely ignorant about the health effects of marijuana use, but public attitudes have shifted dramatically. Marijuana use has become decriminalized in many states, and is legalized in some. And the dire warnings about how bad it is—and most certainly it is not a harmless substance—have been discounted or ignored. It is safe to say that the many state initiatives that have passed regarding tolerance of marijuana use reflect a public rejection of those earlier warnings, which were viewed as hysterical at worst and overstated at best. Compared with combustible tobacco, the evidence of harm seemed less, and there was no industry concentration to blame beyond “drug dealers,” a shadowy collection of foreign and domestic agents. Thus, today the use of marijuana among adults and youth is on the upswing at a time when we are largely ignorant about the short and long-term outcomes of either episodic or habitual use.

What will be the narrative about tobacco harm reduction devices such as electronic cigarettes and heat not burn products? By contrast to the relatively unified reactions to the tobacco epidemic, responses to

tobacco harm reduction devices have fractured the tobacco control community. Many are understandably concerned about the surge of e-cigarette use among teens and young adults, fearing they will serve as a gateway to smoking, as well as cause a host of adverse health outcomes, long-term nicotine addiction, and the glamorization and renormalization of tobacco. Others view these new devices as a potential exit ramp for smokers unwilling or unable to quit, despite the availability of smoking cessation treatments. The points of contention revolve around limiting access to purchase, the addition of flavorings to enhance their appeal, the doses of nicotine delivered, and marketing tactics. Particularly in the United States, the voices of concern about vaping have been much more effective than those advocating harm reduction. I know almost all of the people involved in this debate, and have great respect for their motivations and concern. As I have followed this often strident discourse, I have observed troublesome activities on both sides. From some of the anti-vaping advocates this has included what I would call “sins of commission.” By this I mean that in their anti-vaping advocacy some have gone beyond the science, stretched the results, cherry picked the analyses, and skated around standard methodological practices.

Examples include extrapolating from animal models to human disease, ignoring epidemiological evidence that youth smoking has actually plummeted since the introduction of vaping, mistaking association for causation, downplaying the fact that it is hard to adjust for predictors of risk taking behaviors that might be driving some of those associations, asserting that vaping causes so-called “popcorn lung”, claiming that vaping causes lung and/or heart disease while failing to control for illnesses that preceded the onset of vaping, and increasing the risk of getting COVID 19. The most egregious example of going beyond the science was the 2019 epidemic of vaping-associated lung injury or

EVALI. For anti-vaping advocates this was a gift from heaven, and it catalyzed some local ordinances to ban the sale of vaping devices and cemented the public's fear that nicotine is dangerous. Even before EVALI many clinicians believed that nicotine causes cancer, heart and lung disease, and a 2020 study showed that about 80% of physicians shared that erroneous belief. As evidence mounted that the real culprit for most—if not all—cases was illicit cannabis products laced with vitamin E oil acetate, public health experts including the CDC continued to warn that EVALI was caused by vaping in general, rather than vaping these cannabis products.

By contrast, as I have heard from pediatricians and child-health advocates, some proponents of harm reduction strategies have been guilty of “sins of omission.” By that I mean minimizing the risks of youth exposure—including nicotine addiction, adverse health consequences, and the frequent use of vaping devices for ingesting cannabis products-- as well as seductive marketing strategies of the vaping industry. And harm reduction advocates may have their own sins of commission in exaggerated claims of the potential of e-cigarettes to help smokers quit. That said, the examples of studies that go beyond the science or stretch the conclusions seem to be concentrated among anti-harm reduction advocates.

One might argue that these tactics are worthwhile if they succeed in limiting youth exposure to a potentially dangerous product, and that the prudent stance is to avoid vaping until we know the full extent of its harms. But there are at least three pitfalls to this argument. The first is that far too many people now believe that nicotine—and vaping—are as dangerous as smoking. This mistaken belief both downplays the devastating results of combustible tobacco and the potential benefit for vaping nicotine as an exit from smoking. The second pitfall stems from the first. There is still an urgent need to reduce the health burden of

smoking. The controversy over vaping has diverted too much energy away from smoking cessation, and there is also a puzzling absence of debate about the risks of rising marijuana use, especially among youth. I fear that race and politics are factors in this diversion, because news stories about vaping concentrated on relatively affluent white students. I have been told by many concerned and well-placed parents and advocates that “these are the good kids” who vape. By contrast, the vulnerable people who are the bulk of today’s smokers have little political influence. And to the extent that they believe that vaping is as bad as smoking, one potential exit ramp becomes closed to them.

But perhaps the most important pitfall harks back to the old sensational campaigns against marijuana. Integrity has been a precious attribute of public health. In this era of fake news and false allegations of vaccine-associated injury, we have seen how politics can sully even such icons of respectability as the CDC. Assuming that a potent COVID vaccine becomes available soon, a skeptical public needs to take the vaccine and to trust the science behind it. Scientific integrity is precious and hard to reclaim once tarnished. I urge those involved in the vaping debate to preserve that integrity and not sacrifice it for short-term goals, no matter how well intentioned. We not only have a viral epidemic to combat, but also the need to protect the health of the 34 million Americans now smoking as well as the many millions around the world. It is worth remembering that as tragic is the fact that as many as 300,000 Americans may die of COVID this year, about 500,000 will die from smoking.

Surely we can help smokers quit, protect our youth, and preserve our scientific integrity. We owe it to the public and to future generations to make that happen.