

Reflections: 60 years of Surgeon General's Reports on smoking and health

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Disclaimer: The findings and conclusions in this article are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention or the Office of the Surgeon General.

“We have made tremendous progress over the last 60 years. This didn’t happen by accident – it was the result of community members, advocates, policymakers, scientists, and public health experts who joined hands to shift the culture around smoking, implement tobacco control policies, and build cessation programs that reduced the deadly impact of tobacco on our country.”

—Vivek Murthy, MD, MBA, US Surgeon General

In January 1964, US Surgeon General Dr. Luther Terry released the first Surgeon General’s Report (SGR) on smoking and health. Its release set the bar for comprehensive review and evaluation of the scientific literature assessing the relationship between cigarette smoking and health outcomes. In fact, it was a precursor what we would later call a systematic review. Using on the available scientific evidence (which primarily included White men as study participants), the negative health outcomes in this report included lung and other cancers, chronic bronchitis and emphysema, and cardiovascular diseases.¹

The 1964 report changed the way Americans viewed cigarettes and health. Prior to the 1900s, lung cancer was so rare that it was not medically recognized. However, by the 1930s and 40s, the parallel rising curves of cigarette consumption and lung cancer were noted, and converging lines of evidence from epidemiology studies and non-clinical studies showed strong relationships between smoking/cigarette smoke and cancer.² Although the science supporting a causal link between smoking and cancer in White men was established by the time the SGR was published,³ including multiple published epidemiologic investigations into tobacco smoke, its carcinogenic components, and their effects, the tobacco industry employed a campaign of deception to create controversy and cast doubt.^{4,5} In fact, as published in 1965, there was an inverse relationship between the “believability” of this SGR and smoking status; among people who don’t smoke, 80% believed that the linkage between smoking and the health outcomes reported in the SGR was proven, while 77%, 58% and 52% of light-, moderate- and heavy-smoking people, respectively, believed the link was proven.⁶

The release of the 1964 report marked the beginning of a dramatic, and sustained decline in smoking -- from 42.4% in 1965,⁷ to the lowest recorded rate ever --11.5% -- in 2021.⁸ The SGRs have continued to evolve, delving into tobacco-related health issues from the multitude of health effects related to tobacco use and exposure to secondhand smoke to cessation to e-cigarette use among youth and young adults, and many more.⁹ The long-standing and successful partnership between the Surgeon General, who identifies the topic and releases the reports, and the Centers for Disease Control and Prevention’s Office of Smoking and Health (CDC OSH) who develop and produce the reports, has resulted in 34 reports on the health consequences of commercial tobacco.

In a change from other reports’ focus on the state of the science, this retrospective provides an opportunity to show the “hidden” side of the SGRs. Behind each of these reports is a staggering amount of work from

a cadre of dedicated people, including managing editors, senior associate editors, senior scientific editors, directors of CDC OSH, and many others inside and outside of government. Here are some of the thoughts and reflections of just a small fraction of these dedicated people as they looked back on their experiences with the SGR and the impacts SGRs have on the public, scientific, and public health communities.

Looking back on your experiences with SGRs, what best describes your feelings about the experience? What would you change?

“My work on the SGRs extends from 1984 through the present, a span about to reach 40 years. Collectively, I view my contributions to the development of the reports as adding to the global and national foundation for tobacco control. There were intense moments, as impactful conclusions were reached, and challenging and sometimes tedious moments in pulling together and interpreting sometimes vast bodies of evidence. The methods of the reports were continually evolving although always linked to the approach of the 1964 report: attempting to gather and evaluate all relevant lines of evidence and to holistically integrate the totality of the evidence to determine if associations were causal. Over time, the methods of systematic review were increasingly integrated into the reports to enhance transparency of the literature reviews.”

— **Jonathan Samet, MD:** served as Author, Editor, and Senior Scientific Editor; currently Professor in the Department of Epidemiology, Professor and Interim Chair of the Department of Environmental and Occupational Health

“Starting in 1988 and working with the Office of the Surgeon General and the Office on Smoking and Health (OSH) until 1992, I grew to appreciate the outstanding expert contributors, the staff within OSH, and the intensive review process as an exercise in scientific excellence. The resulting reports had a palpable impact on public opinion and on the scientific evidence regarding the extent, complexity, and urgency surrounding the epidemic of tobacco-caused disease. I also gained an understanding of the political processes involved in Congressional oversight and the related power of the tobacco industry in those processes.”

— **Thomas Novotny, MD, MPH:** served as Managing Editor, Scientific Editor, Contributor, Reviewer; currently Professor Emeritus and Adjunct Professor, San Diego State University School of Public Health, Co-director SDSU Center for Tobacco and the Environment

“My retrospective view with the SGR entails three principal aspects: 1) the opportunity (and privilege) to contribute to a landmark document with direct public policy implications; 2) to offer some insights, inform and learn from other researchers about the challenges and complexity facing African American communities regarding tobacco use; 3) to advance the view that the study of smoking as a public health problem, particularly as it affects communities of color, cannot be devoid of the health effects of systemic or institutional racism or the social determinants of health.”

— **Gary King, PhD:** served as Co-Author/Contributor; currently Professor of Biobehavioral Health, Department of Biobehavioral Health, Penn State University

Looking back on your experiences with SGR, what are you most proud of?

“The production process was challenging, but once each report was released there was a sense of pride and accomplishment. Most people don’t understand the effort it takes to produce one report. There are over a hundred contributors and thousands of details, and each day brings a new set of challenges.”

— **Leslie Norman, MS, MBA:** served as Managing Editor, Editorial Assistant; currently Deputy Branch Chief, Epidemiology Branch, CDC OSH

“My role in producing the 25th Anniversary SGR in 1989 and then mobilizing 35 countries, six authors, dozens of reviewers, and various US Government agencies in producing the 1992 report. That report expanded understanding of the history, environmental impacts, and cultural complexities of the global tobacco epidemic as a first-ever international project for OSH.”

— **Thomas Novotny, MD, MPH:** *served as Managing Editor, Scientific Editor, Contributor, Reviewer; currently Professor Emeritus and Adjunct Professor, San Diego State University School of Public Health, Co-director SDSU Center for Tobacco and the Environment*

“I believe we all should take pride in how far the research community of basic, behavioral, and social scientists have come in integrating multidisciplinary theories and practices in addressing this major health problem. The tremendous decrease in smoking prevalence and smoking related diseases (especially lung cancer) attests to that fact. Further, the many lessons of our progress have been transferred to other public health challenges.”

— **Gary King, PhD;** *served as Co-Author/Contributor; currently Professor of Biobehavioral Health, Department of Biobehavioral Health, Penn State University*

If you were to give your past self (the one working on SGRs) one piece of advice, what would it be?

“Don’t let perfect be the enemy of the good. Surgeon General’s Reports are a well-oiled machine, which follow a process from compilation to release that has been refined over decades... given the sheer volume of a report, and the vast number of hands it crosses throughout the development process, its final form is usually a far cry from its humble beginnings.”

— **Brian King, PhD, MPH:** *served as Deputy Director for Research Translation CDC OSH, Senior Associate Editor, Reviewer, Author; currently Director of FDA’s Center for Tobacco Products*

“Don’t expect personal public recognition for your specific contributions but do expect to feel pride and a sense of accomplishment for your contribution towards a major piece of work that will likely have important impacts on public health. Don’t get involved in the SGR production process if you are looking for individual glory or credit for specific contributions. But do get involved if you want the satisfaction of knowing you helped produce an outstanding report on an important topic that may have an important impact on public health.”

— **Tim McAfee, MD, MPH:** *served as Director of CDC OSH, Author, Reviewer; currently Professor, Department of Social and Behavioral Sciences, University of California, San Francisco; Contractor/consultant for CDC OSH Tips media campaign*

What do you think are the lasting impacts of the SGR and your experiences?

“It is not only the US public health system that relies on the SGRs, but they inform and influence the worldwide tobacco control movement, provide recommendations for other nations that are unable to support such extensive, systematic synthesis of science and evidence, and lays the foundation for refining and updating (based on science) the MPOWER framework¹⁰ as part of the Framework Convention on Tobacco Control.”

— **Corinne Graffunder, DrPH, MPH:** *served as Director of CDC OSH*

“Public health is always political but should strive to be non-partisan. The 1964 SGR had a strong external scientific leadership that produced evidence-based scientific conclusions not policy recommendations. Establishing an independent scientific process to deal with this scientific-policy boundary was a challenge in 1964 that has become even more difficult for recent reports. On all aspects of evidence review and report conclusions, internal agency and government clearance systems should always defer to external peer review lead by the independent Senior Scientific Editors. Experience has shown that the respect for scientific conclusions and potential policy impact of a report can be impacted by failure to uphold this standard.”

— **Terry Pechacek, PhD:** *served as Contributing Author; Peer Reviewer and/or Contributing Author, Lead Scientist, Lead Federal Scientist, Contributing Author, Associate Scientific Editor, Senior Scientific Reviewer; currently Research Professor, Department of Health Policy and Behavioral Science, School of Public Health at Georgia State University*

“The SGR’s are the foundation of critical milestones in our field, from the 1964 SGR on Smoking and Health that ignited the entire tobacco control movement to the 1988 report on nicotine addiction that reframed our understanding of smoking an addiction rather than a poor choice or moral failing, the 1994 report recognizing smoking as a pediatric disease, and the 2016 report anticipating the youth e-cigarette epidemic. These reports raised critical questions, set the research agenda, and often scared the beans out of the tobacco industry.”

— **Pamela Ling, MD, MPH, Author, Reviewer, Chapter Editor, Speaker in the US Surgeon General’s Virtual Field Trip;** *currently Professor of Medicine, School of Medicine, University of California, San Francisco*

We know so much about the health effects of tobacco – why do we still need comprehensive scientific documents like the SGR?

“As the causal conclusions on the adverse effects of active and passive smoking mounted, I was continually surprised that new conclusions were reached. Our understanding of how smoking harmed health moved beyond its obvious targets to almost every organ in the body. Research continues on smoking and the reports offer syntheses of what has been learned.”

— **Jonathan Samet, MD:** *served as Author, Editor, Senior Scientific Editor; currently Professor in the Department of Epidemiology, Professor and Interim Chair of the Department of Environmental and Occupational Health*

“The tobacco industry and their products are evolving rapidly, particularly in the past decade. They have introduced e-cigarettes and other vaping products and are now introducing heated tobacco and oral nicotine products. The tobacco/nicotine/non-pharmaceutical psychoactive drug delivery device marketplace is evolving furiously, including starting to possibly incorporate other drugs like THC. In addition to morphing from their reliance on cigarettes, the tobacco industry is concurrently introducing new approaches to marketing, sales, and branding to take advantage of these new products, including changing public perceptions. Future credible SGR assessments based on surveillance and systematic evidence reviews will be crucial to inform the public health response.”

— **Tim McAfee, MD, MPH:** *served as Director of CDC OSH, Author, Reviewer; currently Professor, Department of Social and Behavioral Sciences, University of California, San Francisco; Contractor/consultant for CDC OSH Tips media campaign*

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What do you see as the biggest impacts that SGRs have on the public? Scientific communities? Public health communities?

“Surgeon General’s Reports have served an essential role in driving a reduction in smoking, which was due in no small part to these reports equipping key stakeholders with the information needed to effect change. This includes evidence-based assessments of impactful policy actions, as well as robust summaries of existing scientific gaps and key areas for further research.”

— **Brian King, PhD, MPH**: *served as Deputy Director for Research Translation CDC OSH, Senior Associate Editor, Reviewer, Author; currently Director of FDA’s Center for Tobacco Products*

“Seeing the steep decline in the prevalence of cigarette smoking since 1965 shows a major impact of this series of reports. For me personally, it was seeing the impact of the 2006 report (“The Health Consequences on Involuntary Exposure to Tobacco Smoke”). After that report was published, there was a dramatic rise in the number of states and municipalities that enacted smokefree laws. That report alone had a significant impact on protecting people from the harms of exposure to secondhand smoke, and I am very proud to have managed the production of that report.”

— **Leslie Norman, MBA**: *served as Managing Editor, Editorial Assistant; currently Deputy Branch Chief, Epidemiology Branch, CDC OSH*

Several themes emerged. On the administrative and process side, this included the arduous evidence synthesis, writing and clearance processes, the need to be flexible both in content and process, an understanding that report evolves during the process, and that the driver for the work is the impact, not individual recognition. On the scientific side, this included a tobacco industry that continues to evolve and introduce new technologies and new products. On the public health side, this included the impact that SGRs have on prevention and control policies, from the local to the national level, that impact and improve people’s health and lives. The relevance and impact of the SGRs kept experts involved, often for multiple SGRs and in multiple roles. As we note and celebrate 60 years of tobacco- and health-related SGRs, we look forward to engaging internationally recognized experts from across the scientific spectrum to continue these comprehensive reviews and assessments that positively impact not only public health, but the lives of the individuals involved. Thank you to the editors, authors, contributors, and so many others who have provided thoughtful engagement and scientific assessment needed for each and every SGR, and who have set the bar for future SGRs and their scientific and public health impact.

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