

Scientific Solutions – Transforming Science

**CHEMICALS POLICY IN THE 2008–2009
PRESIDENT’S CANCER PANEL REPORT**

RICHARD CLAPP

ABSTRACT

The President’s Cancer Panel 2008-2009 report, *Reducing Environmental Cancer Risk: What We Can Do Now*, was a watershed event in the U.S. chemicals policy process. The report, which was released after two years of public meetings and input from a variety of scientists and organizations, concluded that the national cancer program has not adequately addressed “grievous harm” from chemical carcinogens. Consistent with public health principles, it recommended that a prevention-oriented approach to regulating chemicals should replace the current “reactionary” approach. Various responses of cancer organizations and spokespeople in the aftermath of the release of the report are described. The report explicitly supports the type of policy reform contemplated in the Toxic Chemicals Safety Act of 2010, which failed to pass in the 111th Congressional session. In the absence of meaningful action at the federal level, the report will still provide strong support for state and local policy initiatives in coming years.

Keywords: cancer, occupation, environment, policy

EDITORS’ NOTE

The links between environmental and occupational exposures have been recognized for centuries; however, strong acknowledgment of these links in U.S.

government policies has been limited and generally weak. Now though, the 2008–2009 President’s Cancer Panel report, *Reducing Environmental Cancer Risk: What We Can Do Now*, provides official recognition of the significant contribution of environmental and occupational exposures to cancer etiology. Our understanding of the links between these exposures and cancer dates back to the 1700s, when Sir Percival Pott documented that chimney sweeps had elevated rates of scrotal cancer associated with exposure to soot. Knowledge of the relationship between occupational and environmental exposures and cancer has evolved significantly since that time. While the mechanisms of cancer etiology have not been well understood, there is increasing evidence that many substances used in manufacturing and everyday products may increase the risk of cancer, whether exposures occur in utero, in childhood, or in adulthood. More than 400 substances are recognized by the International Agency for Research on Cancer as known or suspect carcinogens. Yet there is still significant controversy as to the relative contribution that environmental and occupational exposures play in our increasing overall cancer burden. Despite President Nixon’s call for a war on cancer and significant investments in cancer research, the mainstream cancer community continued to focus on addressing genetics and social factors as causes, fundamentally ignoring the preventable role of occupational and environmental exposures.

The publication of the President’s Cancer Panel report validates and reinforces decades of efforts of advocates, scientific associations, and scientists documenting evidence of the environmental and occupational links to cancer and the need to prevent such exposures. In particular, the panel found that a significant portion of cancers are related to environmental and occupational factors. The panel noted the inadequacies of current research, policy structures, and funding mechanisms to identify and prevent occupationally and environmentally induced cancers and suggested that precautionary actions are needed. The President’s Cancer Panel report is a landmark in its vision and recommendations. The report justified the need for visionary policies such as the 1958 Delaney Clause of the Federal Food, Drug, and Cosmetics Act, which prohibited any chemical food additive, including pesticides, found to induce cancer in humans or animals, and the 1977 Occupational Safety and Health Administration’s Generic Cancer Standard, which identified zero exposure as the only safe level of exposure to carcinogens.

The following article details the development of this seminal report, as well as the responses to it to date. The President’s Cancer Panel report has the potential to fundamentally shift cancer policy, as well as chemicals policy, in the United States and beyond. As such, it also is likely to be politically marginalized and/or attacked so as to prevent it from driving national environmental public health policy. Ensuring that this report is a strong driver for primary exposure and pollution prevention policies will take the continued dedicated efforts of the public health, labor, and environmental movements, as well as aligned

environmental health scientists. We hope that this introduction to the President's Cancer Panel report encourages readers to study and use it to advance healthy and sustainable modes of production and consumption.

Editors: Jessica N. Schifano and Craig Slatin

The President's Cancer Panel, which reports directly to the President, has provided guidance on the direction of the National Cancer Program since it was created in 1971. The panel members for the most recent report include two eminent scientists, Dr. LaSalle Leffall and Dr. Margaret Kripke. Dr. Leffall is the Charles Drew Professor of Surgery at the Howard University College of Medicine and a former President of the American Cancer Society, the Society of Surgical Oncologists, and the American College of Surgeons. Dr. Kripke is Professor of Immunology and the Vivian Smith Chair Emerita at the University of Texas M. D. Anderson Cancer Center in Houston. Typically, there is a third member of the President's Cancer Panel who is a public cancer advocate, but this position was vacant during the 2008–2009 period. The panel members were backed by staff at the National Cancer Institute, led by the Executive Secretary of the President's Cancer Panel, Dr. Abby Sandler. Previous reports have had titles such as *Promoting Healthy Lifestyles* [1], *Translating Research into Cancer Care: Delivering on the Promise* [2], and *Living Beyond Cancer: Finding a New Balance* [3]. The 2008–2009 report, *Reducing Environmental Cancer Risk: What We Can Do Now* [4], was prompted by the growing body of research on—and growing public concern about—cancer risks associated with environmental contaminants. The growing body of research has been summarized in review articles which have appeared in U.S. and European journals over the past several years [5-7]. Public concern has grown in parallel with this research. The Panel and the National Cancer Institute staff considered this in the discussions that led them to address the topic in their 2008–2009 report. According to Dr. Margaret Kripke, “this is a subject that's of huge public interest at the moment” [8].

When informed of the proposed topic by a government employee, a group of scientists and cancer prevention advocates associated with the cancer working group of the Collaborative on Health and the Environment (CHE) committed themselves to provide input. The group responded to a call by National Cancer Institute staff for recommendations and nominated a number of individuals, some of whom were eventually invited to make presentations to the Panel. The CHE group also organized a Consensus Statement on Cancer and the Environment [9], which was initially signed by 10 scientists and three organizations prior to the first public meeting of the President's Cancer Panel and eventually by 160 individuals and organizations. This statement was provided to the NCI staff and provided further context for the Panel's work. The following will

describe the process that the Panel followed, the main conclusions of its report with respect to chemicals policy reform, the reactions of major cancer prevention groups in the United States, and the possible ways in which the report may be used in future federal, state, and local initiatives.

THE PROCESS OF GATHERING INFORMATION

Between September 2008 and January 2009, the President's Cancer Panel convened four meetings to assess the state of environmental cancer research and received testimony from 45 invited experts. The first meeting was on the topic of Industrial and Manufacturing Exposures, and the panel heard presentations from a series of scientists from academic institutions, government agencies such as the National Institute of Environmental Health Sciences and the National Institute for Occupational Safety and Health, and nongovernmental organizations. A woman with mesothelioma, who was the wife of an asbestos worker, testified from the audience. In my presentation at this first meeting I recommended, among other things, "a new system to manage chemicals that avoids introducing industrial agents that increase cancer risk into our workplaces and environments . . . [and supports] policy and market-based efforts to identify safer alternatives to known industrial agents that increase cancer risk. . ." Dr. David Kriebel advocated a prevention-oriented and cautionary approach to environmental chemicals policy instead of the current system guided by the "reactionary principle" [10]. Several others pointed to the large numbers of workers exposed to carcinogenic substances, and Dr. Chris Portier, then Director of the National Toxicology Program, described a new way of evaluating the carcinogenicity of whole classes of chemicals. Jeanne Rizzo, President of the Breast Cancer Fund, noted that the personal care and fragrance industry exposes workers and consumers to a large variety of carcinogenic chemicals.

In the following three months, meetings focused on the topics of Agricultural Exposures, Indoor/Outdoor Air Pollution and Water Contamination, and Nuclear Fallout, Electromagnetic Fields and Radiation Exposure. A variety of speakers from academic institutions and government agencies made presentations at these meetings, as well. A particularly important presentation by Dr. Mahadevappa Mahesh emphasized the large doses of radiation being given to patients getting CT scans. Some of the presentations were included in two special issues of *Reviews on Environmental Health* [11, 12]. Summaries and minutes of each meeting were posted on the National Cancer Institute web site, and the NCI staff accepted additional input for approximately six months after the final session in January 2009. The report, which was released on May 5, 2010, summarizes the Panel's findings based on the testimony received and also contains additional information gathered by the Panel and staff itself.

In brief, the Panel found that the true burden of environmentally induced cancer has been grossly underestimated. *Reducing Environmental Cancer Risk* states that the National Cancer Program has not adequately addressed the “grievous harm” from environmental carcinogens. It calls the burden of cancer resulting from environmental and occupational exposures “unacceptable,” noting that these cancers are preventable through national action. The main text of the report concludes with the following statement: “The requisite knowledge and technologies exist to develop alternatives to many currently used chemical agents known or believed to cause or promote cancer. Many chemists require additional training to understand environmental hazards and reformulate products. Importantly, ‘green chemistry’ alternative products themselves require longitudinal study to ensure that they do not pose unexpected health hazards” [4, p. 100].

The report then continues with its first recommendation: “1. A precautionary, prevention oriented approach should replace the current reactionary approaches to environmental contaminants in which human harm must be proven before action is taken to reduce or eliminate exposure. Though not applicable in every instance, this approach should be the cornerstone of a new national cancer prevention strategy that emphasizes primary prevention, redirects accordingly both research and policy agendas, and sets tangible goals for reducing or eliminating toxic environmental exposures implicated in cancer causation. The proposed Kid Safe Chemicals Act introduced in the 110th Congress, or similar legislation, has the potential to be an important first step toward a precautionary chemicals management policy and regulatory approach to reducing environmental cancer risk. Optimally, it should shift the burden of proving safety to manufacturers prior to new chemical approval, in mandatory post-market studies for new and existing agents, and in renewal applications for chemical approval” [4, p. 103]. The recommendation also lists the agencies and stakeholders that the panel suggests should be involved in establishing these new policies. They start with the President, Congress, and then agencies such as the EPA, OSHA, the FDA, the Department of Agriculture, state governments, and industry. Ten additional policy recommendations are made, covering topics such as the need to harmonize regulation of carcinogens by different agencies, the need to reduce unnecessary medical radiation exposures, the need to address the unequal burden of carcinogenic exposures by vulnerable populations and in high-poverty areas, and support for green chemistry.

PUBLIC HEALTH VIEW

This President’s Cancer Panel report reflects the basic attitude and principles of public health, and environmental and occupational health in particular. The concept of primary prevention, or preventing harmful exposures from occurring in the first place, is fundamental to public health. The adage, “an ounce of

prevention is worth a pound of cure” is embedded in the teaching of public health and is implied in the hierarchy of controls practiced in the field of industrial hygiene. It is sometimes noted that the major improvements in population health over the past two centuries have occurred after implementing primary prevention measures such as water disinfection, food hygiene practices, and safe handling of human wastes. The Panel’s call for safer alternatives to chemical carcinogens in products and processes is a modern version of the long-standing call for primary prevention that resonates well in the public health community. This is especially pertinent in the United States, where cancer is the second leading cause of death and the most feared disease in the public’s mind. The Panel’s support for a new chemicals policy parallels similar developments in the European Union (most notably, the Registration, Evaluation, Authorization and Restriction of Chemicals, or REACH¹, and the Paris Appeal²) and in Canada.³

MEDIA AND PUBLIC RESPONSE

One of the first commentaries on the Panel’s report came from Nicholas Kristof in his May 5th *New York Times* column [13]. He noted, among other things, that the “President’s Cancer Panel is the Mount Everest of the medical mainstream.” He said the report “calls on America to rethink the way we confront cancer, including much more rigorous regulation of chemicals . . . The report blames weak laws, lax enforcement, and fragmented authority, as well as the regulatory presumption that chemicals are safe unless strong evidence emerges to the contrary.” Kristof notes that the report addresses bis-phenol A (BPA) as a substance that has “raised alarm bells for decades” and that “the panel’s point is that we should be prudent in such situations, rather than recklessly approving chemicals of uncertain effect. The Cancer Panel report will give a boost to Senator Feinstein’s efforts [to ban BPA from food and beverage containers]. It may also help the prospects of the Safe Chemicals Act, backed by Senator Frank Lautenberg and several colleagues, to improve the safety of chemicals on the market.”

On the same day, the report was publicly attacked by epidemiologist Dr. Michael Thun of the American Cancer Society, by epidemiologist Dr. Graham Colditz, at the Washington University School of Medicine, and by Dr. Elizabeth Whelan, president of the industry-funded American Council on Science and

¹ REACH is the new European Community Regulation on chemicals and their safe use (http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm).

² The Paris Appeal was launched in 2004 by the French-based Association for Research and Treatments Against Cancer (<http://www.ideaireland.org/parisappeal.htm>).

³ Likewise, the Canadian Cancer Society has issued its own precautionary appeal (http://www.cancer.ca/British%20Columbia-Yukon/Prevention/Environment%20and%20you.aspx?sc_lang=en).

Health. All three critics defended the outdated estimates of the proportion of cancer from occupational and environmental exposures. Colditz explicitly warned that talking about environmental and occupational exposures would distract the public from the important causes of cancer such as smoking, diet, and lack of exercise. This debate was repeated in news stories, editorials, commentaries, radio interviews, and blogs for several weeks following the initial release. Cancer organizations such as the Lung Cancer Alliance and the Breast Cancer Fund praised the report. Medical journals such as *The Lancet*, *JAMA* and the *Journal of the National Cancer Institute* carried brief accounts and commentaries. National media such as *Time*, *USA Today*, *Business Week*, and the Public Broadcasting System ran stories or interviews. Alternative media such as the Huffington Post, the Daily Kos, and In These Times ran longer pieces. Countless local newspapers and organizational blogs carried stories about the report.

Environmental organizations and individuals in the Collaborative on Health and the Environment participated in a May 18, 2010 conference call with Dr. Abby Sandler in which she discussed the main findings and recommendations of the report. She noted that although the Panel and staff are located within and get support from the National Cancer Institute, their reports are advisory to the President and do not necessarily reflect government policy. She said that the Panel itself would not be actively involved in trying to implement the recommendations of the report, because “that’s not what they do.” The impact of the report will depend on what people in the advocacy community and others make of it. She noted that other reports by the President’s Cancer Panel, including the one titled *Translating Research into Cancer Care*, had made a substantial impact, and a previous report on lifestyle factors has provided strong support for tobacco taxes in many states.

The implications of the recommendations of the President’s Cancer Panel for chemicals policy reform are clear. The current system under the Toxic Substances Control Act (TSCA), for example, exemplifies the reactionary principle of requiring incontrovertible proof of harm in humans before a chemical can be restricted or banned. It puts the burden on the public, or government agencies, to marshal the evidence, and it has clearly failed in respect to pervasive and persistent chemicals such as BPA and perfluorinated compounds. The precautionary approach recommended by the Panel would instead require acting on early warnings without waiting for incontrovertible proof of harm, putting the burden on the chemical manufacturers to marshal the evidence, supporting more vigorous alternatives assessment and green chemistry, and involving the affected public more deeply in the decision-making process. This would indeed be a paradigm shift for chemicals policy in the United States, and it would parallel efforts in Europe and in some individual states.

At this point, barely a year after its release, it is difficult to judge the overall impact of the report and the subsequent publicity on the overall effort to reform

chemicals policy in the United States. One organization, Health Care Without Harm, issued a news release on July 28, 2010, the day before hearings on the Toxic Chemicals Safety Act of 2010 [14]. In their release, they noted that “Earlier this year, the President’s Cancer Panel issued a dire warning about the role chemicals play in the development of some cancers, and called on the president to use the power of his office ‘to remove the carcinogens and other toxins from our food, water and air that needlessly increase health care costs, cripple our Nation’s productivity, and devastate American lives’” [15]. Although the 111th Congressional session ended without action on the proposed Act, this is the type of statement that will undoubtedly recur in future hearings on chemicals reform bills. In the meantime, progress may continue to be made at the state and local levels. This has been the case in other areas, such as childhood lead poisoning prevention efforts in cities and states in the 1970s, the Massachusetts Toxics Use Reduction Act in the 1980s, and the California Green Chemistry Initiative in the past decade. There are ample opportunities for the President’s Cancer Panel 2008–2009 report to provide support for chemicals policy and cancer prevention initiatives at the local and state levels. In addition, several of the individuals and organizations providing input to the President’s Cancer Panel have given briefings and testimony in the past year and will continue to urge chemicals policy reform in the coming decade.

ACKNOWLEDGMENTS

The author thanks Steve Heilig and Dr. Ted Schettler for helpful comments on the manuscript.

NOTES

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Direct reprint requests to:

Richard Clapp
24 Holbrook Street
Jamaica Plain, MA 02130
e-mail: Richard.clapp@gmail.com