

# P R E S I D E N T ' S C A N C E R P A N E L

NATIONAL CANCER PROGRAM

NATIONAL CANCER INSTITUTE

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

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## **Environmental Factors in Cancer September 16, 2008**

The President's Cancer Panel held the first meeting in its 2008-2009 series on *Environmental Factors in Cancer* on September 16, 2008 in East Brunswick, New Jersey. Participants were invited to address occupational and industrial exposures to toxic chemicals and related cancer risk. Current research, knowledge gaps, and regulatory practices in this area were discussed.

Decreasing workplace exposure to chemical carcinogens is an immediate, feasible, and long overdue action to reduce the burden of cancer. Presenters testified that the Federal response in this area has been inadequate on all fronts—research, regulation, and prevention. It is estimated that at least 20,000 cancer deaths and 40,000 new cases of cancer each year in the U.S. are attributable to occupation-related exposures. Fewer than 2 percent of the chemicals in commercial use in the U.S. have been tested for carcinogenicity; perhaps up to 100,000 chemicals remain untested. Thousands of new, untested chemicals are introduced into both the workplace and the environment and typically remain unregulated until harm is proven (or becomes apparent).

Progress has been hampered by an increasing research backlog; the current approach focuses on single compound testing and expensive, lengthy epidemiological studies to prove human risk. New technology is available to conduct high throughput toxicity screening of large numbers of chemicals concurrently; this may provide a means to widely classify probable human carcinogens. Broad spectrum testing of chemicals, and classification into groups of “possible” or “probable” carcinogens prior to their introduction into use, could accelerate and simplify the regulatory process and better preserve public health. Improved design of epidemiological studies and ways to measure exposure (i.e., development of intermediate endpoints) could help accelerate research, and therefore, appropriate regulation.

The Panel heard that both regulatory reform and a comprehensive cancer prevention strategy are needed to apply research findings and limit harmful chemical exposures. The current reactionary approach to chemical regulation has not been effective in reducing cancer incidence. A new, precautionary approach was suggested to guide regulatory decision-making—if there is uncertainty of risk then regulators should err on the side of “precaution” in order to minimize potential harm. This principle also advocates evaluating the *use* of toxic chemicals with *alternatives* to their use. Primary prevention strategies would reduce exposure to known occupational carcinogens (a complete ban on asbestos use in this country was advocated in this regard). Secondary prevention strategies could include exploring alternatives to known carcinogens (i.e., green chemistry) as well as “designing out” hazards when developing manufacturing processes.

Presenters noted the fine line between occupational and environmental exposures; understanding occupational cancer risks provides insight into more widespread community hazards. There has been an increase in childhood cancer incidence that some attribute to environmental exposures; children are more vulnerable to synthetic chemicals and more susceptible to related disease. Similar to employers, the government plays a critical role in limiting environmental exposures (i.e., through regulation of food, drugs, cosmetics, etc.); agencies such as the Food and Drug Administration, Occupational Safety and Health Administration, Environmental Protection Agency, and the National Institute for Occupational Safety and Health need to coordinate their efforts to provide a safer environment for the entire population to live and work in.

The Panel heard that the workplace is an underutilized source of opportunity for data collection; occupational history is an important health factor that is frequently ignored. It was agreed that public health data must be made available within government and to researchers who can better assess health hazards. Enhanced surveillance would include electronic patient health and medical records, cancer registries, and vital records. Individual privacy concerns have hindered such

data sharing, but with proper regulation, such data could be made available for the greater public benefit.

Americans need to be made aware of the potential carcinogens they are exposed to in the workplace and the environment. Broader policies that promote clean, sustainable production of goods and services can promote health *and* healthy economic development.

The Panel will summarize findings and recommendations from this meeting along with the upcoming meetings in the series in its 2008-2009 Annual Report to the President of the United States.