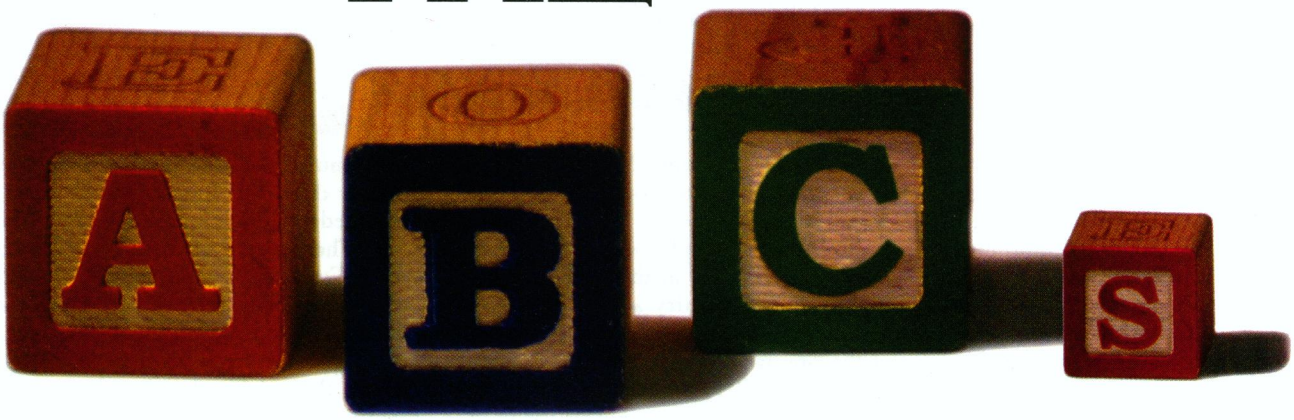
THE ABCs OF PROTECTING KIDS



In a move perceived by some as a welcome shift in environmental policy and by others as mere political expedience, the Clinton administration has mandated that federal agencies "place children first" in the development of environmental standards and regulations. This mandate, embodied in Executive Order No. 12606, entitled "Protection of Children from Environmental Health Threats" and issued by the President on 21 April 1997, crystallizes the administration's agenda in the area of children's environmental health and builds on a national policy announced in 1995 by Carol Browner, administrator of the EPA, to "consistently and explicitly take into account health risks to children and infants from environmental hazards when conducting assessments of environmental risks."

The administration is riding a wave of popular national interest on the issue. Children's environmental health is the subject of three newly introduced bills: the Children's Environmental Protection and Right to Know Act (Congressmen Henry Waxman [D-California] and Jim Saxton [R-New Jersey]), the Children's Environmental Protection Act (Senator Barbara Boxer [D-California]), and the Pediatric Research Initiative Act (Congressman James Moran [D-Virginia]). The growing movement has also enjoyed the support of celebrities such as Robert Redford and Olivia Newton-John, who recently participated in a symposium entitled "Bridging the Gap Between Children's Health and the Environment" that was held in Sundance, Utah, in April of this year. The symposium was sponsored by the Children's Environmental Health Coalition, an advocacy group based in Malibu, California.

The executive order has a number of specific mandates. These include the creation of a multi-agency federal strategy to protect children from environmental threats, the establishment of research programs focusing on children's environmental health issues, the accumulation of more complete information on how multiple chemical exposures and cumulative risks affect infants and children, the promulgation of standards that protect children, and the creation of a multi-agency Children's Environmental Health Council, to be chaired by Browner and Donna Shalala, secretary of the Department of Health and Human Services (DHHS). These mandates are designed to address the recommendations made by the EPA in its September 1996 report *Environmental Health Threats to Children.* In that report, the EPA states clearly that attention must be paid to children's environmental health needs, and that standards set by the agency must be revised or developed to meet those needs.

"We're very excited about this," said Joy Carlson, executive director of the Children's Environmental Health Network (CEHN), a national project based in Emeryville, California, that is dedicated to pediatric environmental health. "We're seeing the beginning of a structure that can implement some of the recommendations that we've been making for years."

The executive order applies to so many federal agencies and has such a far-reaching scope that many government groups working on it will spend the bulk of this year on organizational activities, with most research programs not slated to begin until 1998. "We're calling 1997 a 'ramp-up' year," said Karen Hammerstrom, assistant

center director for pest-tox, planning, and coordination at the National Center for Environmental Assessment at the EPA's Office of Research and Development (ORD). Under the new initiatives, the ORD will build on its current research programs, which focus on aggregate exposures to pesticides in children, and comparative studies of the effects of toxic chemicals on young and adult animals.

Much of the implementation of the executive order will be coordinated by the EPA's newly established Office of Children's Health Protection (OCHP), headed by Ramona Trovato. The advisor to the administrator for children's health protection is Philip Landrigan, a pediatrician and chair of the Mount Sinai Medical Center Department of Community Medicine, who will have a central role in setting policy at the OCHP. Landrigan also chaired the committee that prepared the 1993 National Research Council (NRC) report *Pesticides in the Diets of Children and Infants*, which has had considerable influence in increasing the scope of the EPA's children's environmental health policies.

The major theme of the NRC report is that children have not been adequately protected by current pesticide tolerances because the risk assessments used to set the standards were designed to protect adults. In particular, the report found that age-related differences in exposure, as well as variation in susceptibility and toxicity, were not adequately accounted for in the setting of pesticide tolerances. For example, children consume more food and drink per pound of body weight than do adults, and their diet generally consists of more fruits, fruit juices, and processed foods. The report went on to suggest that certain basic differences between children and adults, both as they relate to exposure and (in certain cases) mechanisms of pesticide metabolism and toxicity, were not being adequately assessed in the standard-setting process. "The principles of the NRC report will be the compass by which we steer [the OCHP]," said Landrigan. "Basically we function as a catalyst for children's health protection within the agency," said Margaret Kelly, who heads the regulatory team at the OCHP. "We have a role in coordinating children's health issues both within [the EPA] and between the EPA and the other agencies."

Landrigan noted that the incidence of a number of childhood diseases that are known or suspected to be related to environmental exposures appears to be rising. "Even though overall death rates are decreasing due to improved treatment, we've seen aggregate increases of 25–30% over the last couple of decades in the incidence of two types of childhood leukemia: acute myelogenous and acute lymphocytic leukemia. We're also seeing an increase in brain tumors, as well as a birth defect known as hypospadias, which is a shortening of the urethra in boys," he said. "One of the functions of this office will be to increase the level of research on factors in the environment that may be causing cancers in children."

According to Gary Guzy, a counselor to Browner who works with the OCHP, the office will attempt to focus its efforts by bridging clinical work and research in a number of areas related to children's environmental health, such as respiratory illness. This will be accomplished in part by the establishment of 2–6 national centers for excellence, specialized facilities that will develop basic research and community-based prevention research programs. The number of centers established will depend on the amount of funding received. Guzy noted that the proposed centers have elicited a tremendous amount of interest from a number of research institutions who might wish to host such a project. The OCHP plans to advertise requests for proposals this year for funding in 1998. Funding will come from the ORD, with the OCHP playing a key role in coordinating the centers. The process for establishing the centers is not yet defined but is being worked out in a joint effort between the OCHP, the NIEHS, and the ORD.

The DHHS is also a key player in the children's health initiatives. According to Richard Jackson, director of the National Center for Environmental Health at the Centers for Disease Control and Prevention, the DHHS will be committing significant resources toward the problem of asthmatic children. "There are currently 15 million asthmatics in the U.S.," he said, "of which 5 million are children." He added that "asthma costs are expected to run $15 billion by the year 2000." Through a newly established asthma initiative, the DHHS will work to increase awareness among homeowners about domestic risk factors, such as old furnace filters, dirty rugs, and household pests, by interacting directly with the target communities through state and local health departments. In a related project known as the Healthy Homes Initiative, the DHHS will work to promote awareness of environmental health threats in the entire house, rather than isolated threats such as lead or household chemicals.

Revision of Standards

Among the most politically sensitive issues of the children's environmental health initiatives is the revision of environmental standards. Toward this end, the OCHP

Executive Order No. 12606

Protection Of Children From Environmental
Health Risks And Safety Risks

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Policy.

1-101. A growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because: children's neurological, immunological, digestive, and other bodily systems are still developing; children eat more food, drink more fluids, and breathe more air in proportion to their body weight than adults; children's size and weight may diminish their protection from standard safety features; and children's behavior patterns may make them more susceptible to accidents because they are less able to protect themselves. Therefore, to the extent permitted by law and appropriate, and consistent with the agency's mission, each Federal agency:

(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and

(b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

plans to work with the other EPA offices in an effort to ensure that standards are only set after potential effects on children have been evaluated. As a preliminary measure, the OCHP will be involved in the identification and revision of a sample of five environmental standards that are thought to be insufficiently protective of children. The methods by which these standards are revised could be the basis of a model for the revision of additional standards in the future. Although they may be chosen from the entire spectrum of currently existing standards, including those for air, water, soil, and food products, Landrigan stated that it is premature to speculate on which specific standards will ultimately be chosen for review. "It is probably safe to say that specific chemicals rather than classes of chemicals will be chosen," he said.

"We will be working with the [EPA] offices to take a retrospective look at existing regulations, and asking administrators within each media program to nominate standards for review," said Kelly, who went on to add that "the five standards will be selected and revised in an open process with significant stakeholder involvement." The paradigm by which the various standards could be revised may follow the example of the newly enacted Food Quality Protection Act, which Landrigan has proposed as a model he would like to see applied to other programs. This law requires major changes in the setting of pesticide tolerances, and states explicitly that infants and children have special sensitivities to pesticide exposures. Under the law, the EPA is reevaluating all existing pesticide tolerances, a monumental task that will require examination of approximately 9,000 separate standards over a 10-year period.

Some within both industry and the government counter that there is already a framework in place to account for children's health in the standard-setting process, and that major changes are unnecessary. For example, reference doses (EPA toxicity values commonly used in the setting of food tolerances) are established using an interindividual uncertainty factor of 10. The interindividual uncertainty factor is a value that is incorporated into the derivation of the reference dose with the purpose of protecting sensitive subpopulations, such as children. The existence of the current factor notwithstanding, the Food Quality Protection Act directs the EPA to use an additional uncertainty factor ranging from 3 to 10 in the setting of tolerances to account for insufficient data on developmental or reproductive effects, which some consider to be redundant. In another example of how children are already protected under the current system, some point to the establishment of site-specific cleanup levels for environmental contaminants under the Superfund program, which are frequently determined by childhood exposures such as soil ingestion.

"The food industry is very sensitive to protecting all individuals, children just as much if not more so," said Karen Morgan, vice president for government relations at the American Meat Institute, a trade association located in Arlington, Virginia. "However, the current standard-setting mechanism already takes children's health into account. We want decisions to be made based on sound scientific judgment, and not engage in debate over bright lines that may not be scientifically based."

Some of those monitoring the recent developments believe they may be more politically motivated than they are scientifically based. "It's easy to say that you love children and want to protect them," said Edward Grey, a consultant with Jellinek, Schwartz, and Connolly, Inc., an environmental consulting firm in Washington, D.C., that frequently advises the food industry. "But what happens when all of a sudden to do that you're putting a bunch of people out of business? The predictable thing that could happen is that kids won't get any additional protection, and the process will simply go into gridlock."

Others wonder if it is appropriate for the administration to focus its attention on children in the standard revision process as opposed to other sensitive groups. "I don't think anyone would want to say that we don't want to protect children," said Mary Bernhard, manager of environment policy at the resources policy department of the U.S. Chamber of Commerce, headquartered in Washington, D.C. "But it's not just children you need to look at. You have to look at other sensitive subpopulations, like the elderly, as well."

The Canadian Perspective

Concern over children's environmental health has also been gaining momentum in Canada, where a large symposium on the impacts of environmental contaminants on child health entitled "What on Earth?" was held in May 1997. "You in the U.S. are a couple of years ahead of us," said Denise Avard, executive director of the Ottawa-based Canadian Institute of Child Health (CICH), the nonprofit organization that sponsored the symposium. "However, we are following in your footsteps." The CICH plays a large role in coordinating and disseminating information on children's environmental health in Canada, and works closely on children's health issues with the government departments Health Canada and Environment Canada. The primary goals of the CICH are to promote awareness of children's environmental health and to work on the prevention of factors that lead to a reduced quality of health for children. The CICH solicits equal representation from Canadian industry, consumer groups, academics, and government in order to serve children's health issues most equitably.

"The awareness-building that we are seeing in the U.S. is giving us food for thought," said Vic Shantora, director general of the Toxics Pollution Prevention Directorate at Environment Canada. "We do make the attempt to look at children as a specific subset of the population. My sense is that we need to do that more pro-actively." Echoing the words of Avard, he stated that the ministries will be carefully watching developments as they unfold in the U.S. "We'll be watching how standards are set in the U.S. and will be making sure there is a consistency between the two countries."

The Potential for Change

The children's health initiatives could spell out profound changes in the way that environmental policies are set in the United States. Behind the initiatives is a passionate group of individuals backed by the current administration and in possession of a legislative mandate from which to steer their agenda. "We had an intellectual revolution in the 1993 NRC report. This revolution was enshrined in the Food Quality Protection Act, and embodied in the executive order," said Landrigan. "We have an intellectual realization that kids are different than adults, and concurrently we're seeing the increase in the incidence of a number of diseases. We don't know whether these diseases are related to environmental causes, but [such causes] may, in fact, be responsible."

While the protection of children's health is a banner around which all involved in the legislative process would claim to rally, the revision of environmental standards is politically volatile, and the degree to which the changes are actually implemented remains to be seen. "There is a lot of uncertainty in how things are going to shake out," said John McCarthy, a policy analyst with the American Crop Protection Association, a trade association based in Washington, D.C. "Probably there will be some casualties. Is the sky going to fall out? I hope not, but nobody knows the answer. We just have to use the best science and let the chips fall where they may."

Charles W. Schmidt