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EPA Seeks Public Health Views on New Pesticide Law

On August 3, 1996, President Clinton signed a landmark pesticide bill with major public health implications. The new law, known as the Food Quality Protection Act of 1996, gives the Environmental Protection Agency (EPA) new tools to use in protecting the public from harmful pesticides. Many of the provisions are limited to pesticides used in agriculture; some sections of the law apply to all pesticides, which have such disparate uses as controlling pests on lawns and in the home, preventing infections in medical settings, and retarding fungal growth in paints. To resolve the complex issues that will arise as EPA overhauls current pesticide policies, we at EPA have launched a vigorous effort to involve all concerned groups, especially the public health community, in our deliberations.

EPA's Office of Pesticide Programs is responsible for approving all pesticides used in the United States. To gain approval for the use of a chemical as a registered pesticide, companies submit a set of data showing that the chemical will be safe for its intended use. Registration generally takes one to three years but can take much longer. Because it is illegal to sell or use an unregistered pesticide, both manufacturers and users would like a quicker registration process that still ensures that the pesticides are safe for both children and adults.

I believe that the new requirements in the Food Quality Protection Act will improve our ability to protect the health of the U.S. population. Some of the Act's more important public health provisions require EPA to determine pesticide risks to infants and children, ensure that pesticides already in use meet current safety standards, identify chemicals that may be hormone disrupters, and speed the registration process for hospital disinfectants.

Special Protection for Infants and Children

One of the most important provisions of the Food Quality Protection Act requires EPA to have positive evidence of safety for children before it can register or re-register a pesticide for use on food. The new law requires careful review of prenatal and postnatal risks as well as use of up to an additional tenfold margin of safety for children when data are incomplete or raise concerns. Additionally, all food uses currently on the books will be reviewed over a 10-year period to ensure they meet the new standard.

A major catalyst for the Act's emphasis on infants and children was a report published three years ago by the National Academy of Sciences (NAS) titled *Pesticides in the Diets of Infants and Children.* The report was written by an NAS committee chaired by Philip Landrigan, MD, of Mt. Sinai School of Medicine, a pediatrician by training. It concluded that pesticide standards then in effect did not adequately protect children's health. The committee recommended improved methods for estimating pesticide exposure and for determining levels of pesticide residues in food that are safe for infants and children. Many of the NAS committee's recommendations are incorporated in the new law.

Within one week of the release of the NAS report, EPA Administrator Carol Browner announced a new EPA program to implement the report's recommendations and to reduce the use of pesticides. She also announced that the President had decided to nominate me to lead EPA's Office of Prevention, Pesticides, and Toxic Substances because of my pediatric and public health expertise.

A basic tenet of pediatrics is that children are not simply little adults. Children are more susceptible than adults to chemical residues in foods for several reasons. Per pound of body weight, children eat more food, breathe more air, and drink more water than adults. Because their bodies are undergoing rapid development, children may suffer permanent developmental damage at doses of chemicals that do not affect adults. Such effects can involve birth defects and other chronic effects such as neurologic, endocrine, and immune damage. Furthermore, children's food consumption patterns differ markedly from those of adults. The NAS report concluded that more detailed data are needed on the food consumption of infants and children at different ages between birth and five years. EPA is working to obtain better data on pesticide residues in foods consumed in relatively large amounts by infants and children, such as apples, pears, and milk. Only with such data can we know if we are protecting children adequately.

EPA is also charged with analyzing all sources and routes of children's exposure to a given pesticide and its close relatives so that the total exposure—not just the intake from food—will be safe. Researchers are carrying out studies to answer such questions as "How much pesticide does a diapered baby absorb when she spends time on a treated lawn or carpet or clings to a Labrador retriever wearing a flea collar?" Determining children's pesticide exposures through eating, drinking, breathing, and touching will be crucial in protecting them.

Periodic Review of Registered Pesticides

A problem today is that many older pesticide registrations do not meet current health and safety standards. Under the Food Quality Protection Act, EPA for the first time will be required to review registered pesticides at regular intervals. The goal is to do so every 15 years. This provision will ensure that pesticides meet safety standards based on current scientific knowledge. Under the 1988 amendments to the EPA pesticide law, the Office of Pesticide Programs is already conducting a one-time review of all pesticides approved before 1984 to ensure that they meet current safety standards; the new law allows us to continue collecting the fees needed to complete this review. The cycle of renewing the registrations of all pesticides every 15 years should commence in the year 2000.

Preventing Risks from Endocrine Disrupters

An endocrine disrupter is a chemical that blocks or mimics the activity of a naturally occurring hormone. Both the Food Quality Protection Act and another major piece of legislation, the Safe Drinking Water Act Amendments of 1996, require EPA to address the health risks associated with endocrine disrupters, demonstrating the high priority status of this class of chemicals. Both laws require EPA to develop a testing and screening program for these chemicals. EPA had already initiated a project to study endocrine disrupters; these two new laws will strengthen our existing authority under the Federal Insecticide, Fungicide, and Rodenticide Act and the Toxic Substances Control Act to protect the public against endocrine disrupters in our food and drinking water.

Exposure of humans in utero or at an early age to endocrine disrupters may cause reproductive, thyroid, or other hormone problems, which sometimes do not show up until decades later. Many chlorinated pesticides that EPA has banned are suspected of being endocrine disrupters. These chemicals, such as DDT, may harm nontarget animals by altering the delicate balance of their sex hormones (that is, by acting as estrogens or as antiandrogens). EPA has already proposed more effective tests for the reproductive and developmental effects of chemicals, which should help us to identify potential endocrine disrupters. We need a great deal of research to learn how these chemicals act biologically and to further refine our testing methods.

To ensure that all of the public health issues associated with endocrine disrupters are addressed, EPA plans to seek advice from people in all sectors and all relevant fields inside and outside the government. Among the experts who will be consulted are reproductive physiologists, endocrinologists, pediatricians, public health officials, ecologists, toxicologists, and chemists.

Disinfectants Used in Hospitals

Readers may be surprised to learn that the disinfectants used in hospitals and other medical settings are classified as pesticides and are therefore regulated by EPA. To be registered as a hospital disinfectant, a chemical must kill or permanently inactivate all microorganisms present under specified test conditions. Used primarily on linens and accessible surfaces such as walls, floors, and countertops, hospital disinfectants are expected to prevent contamination via touch or skin. They are considered crucial in preventing nosocomial (hospital-acquired) infections, which affect two million patients and contribute to more than 60,000 deaths annually in this country.

Ensuring the efficacy of hospital disinfectants is, therefore, indispensable to protecting patients. To guarantee that the safest and most effective hospital disinfectants come into use quickly, we will be streamlining our registration procedures to meet a shortened timeline mandated in the Food Quality Protection Act. It will be critical that we do so in a way that does not shortcut public health protection. The medical and public health communities may be able to help in the long-term evaluation of hospital disinfectants by making sure that their medical institutions keep accurate records about nosocomial infections and disinfectants in use.

Soliciting the Public's Views

Implementing the Food Quality Protection Act entails a substantial overhaul of our varied pesticide activities. To obtain a broad perspective early in the process, EPA moved quickly to create a Food Safety Advisory Committee with a diverse membership to provide advice on ways to fulfill the law's requirements. Members of this committee include senior representatives from public interest groups, the chemical industry, academia, Federal and state governments, and the med-

ical and public health communities. The committee will ensure that there is an open and public implementation process for the new law by soliciting views from all stakeholders. Readers who are interested in attending Advisory Committee meetings in November or December in Washington, DC, or giving oral or written testimony may contact Margie Fehrenbach or Carol Peterson at EPA (tel. 703-305-7090) for further information.

As we proceed in developing the policies, guidelines, and rules required by the new food law, there will be ample opportunity for public participation at all stages. A number of approaches may be used, including public meetings; focus group discussions; talks at professional and other association meetings; and exchanging written, e-mail, and oral comments. I am looking forward to receiving many good ideas as we employ an open process for developing safer pesticides. We will also actively share decisions with the public as we make them.

The Food Quality Protection Act emphasizes the principles that already guide many of our activities at EPA. The Clinton Administration is committed to increasing our efforts to prevent pollution and disease; to protect infants, children, and other vulnerable groups; and to provide consumers with the information they need to make informed choices. We at EPA are seeking better ways to obtain input from all groups who share these goals and want to work with us to improve the public's health.

I want especially to call on the public health community to participate in this process—this is the first time any environmental law has required an agency to make a positive finding that children are protected. We need the public health community to help with questions such as "How do we make a finding of no prenatal or postnatal risks for children?" "How do we address multiple exposures to the same pesticides from different sources, to different pesticides that act via similar mechanisms, or to different pesticides that cause the same adverse effect, albeit by different mechanisms?" "How do we sensibly provide the public with the information it needs about pesticides in the home and on food so that people can protect themselves and their families?" These are questions that do not have easy answers—they need the public health perspective as well as the best available science.

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Putting Environmental Risks in a Public Health Context

Most environmental regulations are aimed at protecting the health of workers or the general public. Unfortunately, in the 1960s and 1970s, the role of public health agencies in environmental health receded as new agencies were formed, from the Environmental Protection Agency, Occupational Safety and Health Administration, and Consumer Protection Safety Commission at the national level to their counterparts in states and local jurisdictions. Our present regulatory system is dominated by actions directed at one chemical, one health risk, and one medium (air, water, food, soil) at a time, reflecting current statutes and the organization and orientation of environmental regulatory agencies. Wider use of public health concepts of total exposure and attributable risk and much greater engagement of public health agencies are needed.

A new Framework for Risk Management has been proposed by the Commission on Risk Assessment and Risk Management. The Commission, mandated by Congress as part of the 1990 amendments to the Clean Air Act, has six members appointed by the Congress, three by the President, and one by the National Academy of Sciences. The Commission issued its *Report* for public comment in June 1996 after two years of meetings and public hearings around the country. The Commission's *Report* emphasizes risk management, with a six-stage process that begins by putting every environmental problem into a broad public health or ecosystem health context (see Figure). At the center are stakeholders, including local elected officials, public health officers, and people from communities and tribal nations affected or potentially affected by the environmental pollutants as well as regulatory agencies, the scientific community, labor and environmental groups, and regulated parties. The emphasis on community stakeholders reflects not only