



## Testimony

Before the Economic and  
Environmental Affairs Committee,  
the Senate of Maryland

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# INFORMATION ON PESTICIDE ILLNESS REPORTING SYSTEMS

Statement of John B. Stephenson,  
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**G A O**

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Mr. Chairman and Members of the Committee:

My name is John Stephenson, and I am a Director with the Natural Resources and Environment team of the U.S. General Accounting Office (GAO). As you may know, GAO conducts audits, evaluations, and investigations for the U.S. Congress. I am here today at the request of U.S. Senator Barbara Mikulski and Maryland State Senator Paul Pinsky to discuss findings from a recent GAO report that relate to the “Pesticides–Education and Reporting” bill (S.B. 654) pending before this committee.

Our report, issued in March 2000, is entitled *Pesticides: Improvements Needed to Ensure the Safety of Farmworkers and Their Children* (GAO/RCED-00-40). While our report addressed a number of issues, I will focus on the sections that are most closely related to the subject bill and that pertain not only to farmworkers, but to the general public. My intention is not to comment on specific aspects of the proposed legislation, but rather to provide information from our work that may be useful in your deliberations. As will be evident from my testimony today, GAO has long supported federal and state efforts to improve pesticide illness reporting systems.

Although pesticides play a significant role in increasing food production and eliminating diseases, exposure to pesticides can be harmful to humans. The ill effects of pesticides may follow from short- or long-term exposure through skin contact, inhalation, or ingestion. Acute symptoms—those which may be tracked in a pesticide illness reporting system—range from relatively mild symptoms, such as headaches, fatigue, nausea, skin rashes, and eye irritation, to more serious symptoms, such as burns, paralysis, and even death in extreme situations. In 1999, the U.S. Environmental Protection Agency (EPA) estimated that, nationwide, there were 10,000 to 20,000 incidents of physician-diagnosed pesticide illnesses and injuries per year in farm work alone. However, EPA recognized that its estimate represents significant underreporting and that no comprehensive national data are available on the extent of pesticide illnesses.

About 1.2 billion pounds of pesticides are used annually in the United States. About three-fourths of this amount is used in agriculture—the remainder is used in urban or suburban settings such as homes, businesses, schools, parks, and other public places. However, the human health risks associated with pesticide use involve numerous factors other than the amount used. These factors include the extent and type of exposure, the toxicity of the pesticides used, and the age and physical condition of affected people. Because of the complexity involved in analyzing human health risks from pesticides, monitoring pesticide illnesses is an essential step to providing an effective, comprehensive public health response to pesticide risks.

In 1993, GAO reported that the existing sources of information on pesticide illnesses were limited in coverage, comprehensiveness, and quality.<sup>1</sup> In that report, we concluded that without a valid system of monitoring pesticide illnesses, there was no way to identify problems that may occur with the different uses of pesticides or to determine whether practices intended to manage pesticide risks are effective in preventing hazardous exposure incidents. In our March 2000 report, we found that little had changed since 1993. While EPA uses four databases to provide some indication of the extent of pesticide illnesses, each of these databases has serious limitations. The lack of comprehensive nationwide data on pesticide illnesses remains largely unaddressed.

To determine how the nation's information on pesticide illnesses could be improved, we have worked with two agencies of the U.S. Government's Centers for Disease Control and Prevention (CDC)—the National Institute for Occupational Safety and Health (NIOSH) and the National Center for Environmental Health (NCEH). Both of these agencies have been working for years to improve pesticide illness reporting. These agencies told us that establishing state pesticide illness reporting systems are key to improving the national information on acute pesticide illnesses. For example, according to NIOSH, state-based reporting systems are the best available data source for identifying

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<sup>1</sup>See *Pesticides on Farms: Limited Capability Exists to Monitor Occupational Illnesses and Injuries* (GAO/PEMD-94-6, Dec. 15, 1993).

epidemics, clusters of diseases, emerging pesticide problems, and populations at risk. Currently, about half the states have some requirement that pesticide incidents be reported. However, only six states have a formal pesticide illness reporting and investigation system, and another three states have more limited systems.

If Maryland decides to develop a formal pesticide illness reporting system, you may wish to consider some important recommendations made by experts from a number of federal agencies. Specifically, both NIOSH and NCEH have identified steps that are prerequisites to establishing effective state pesticide illness reporting systems, including the following:

- Passing laws that make pesticide-related illness and injury conditions that health care professionals are required to report.
- Improving the training of health care professionals in pesticide incident handling. Acute pesticide incidents often go unreported because health care professionals misdiagnose such incidents. Training is needed to help health care professionals recognize, manage, and prevent acute pesticide illnesses and injuries.

Besides these steps, NIOSH, NCEH, and EPA support standardizing pesticide incident definitions so that data can be compared and aggregated across states to assess trends, determine magnitude, and identify emerging problems. Through this effort, several state systems have begun to collect standardized information on occupational pesticide incidents such as the location of the incident, the demographics of the victim, the industry or occupation of the victim, the type of exposure that occurred, the chemicals involved, and the health effects that occurred. After such data are collected and tabulated, states then obtain additional information to confirm the pesticide incidents and develop preventive interventions.

NCEH emphasizes that states need to design reporting systems that track not only occupational illnesses, but also illnesses that affect non-working family members and the general public. NCEH told us that the general public may be exposed to pesticides

through drift from agricultural and forestry activities, through residues in food and water, and through applications of pesticides in homes and gardens. NCEH also stated that non-occupational pesticide illnesses and injuries outnumber those that are work related. Consequently, NCEH has proposed establishing a pesticide illness reporting system that would complement NIOSH's occupational system. Such a system is being piloted in Texas. As part of this pilot, the Texas Department of Health is required to actively search existing data sources (such as poison control center data) for cases of non-occupational pesticide incidents and to investigate those cases.

If Maryland's pesticide education and reporting bill is enacted, and you decide to implement a pesticide illness reporting system, federal agencies have developed tools and resources that could assist the state in its efforts. Specifically:

- NIOSH has recently released a software database that states may use to enter data on each individual pesticide incident. The software makes it possible for states to collect, manage, and report in a standardized fashion all pertinent information needed by NIOSH and EPA to conduct surveillance on acute pesticide illnesses.
- NIOSH is developing a "How To" manual for states that are considering implementing a pesticide illness reporting system. The manual is currently in draft and is expected to be published later this year.
- EPA has issued a fifth edition (March 1999) of its manual entitled "Recognition and Management of Pesticide Poisonings." This manual provides health professionals with information on the health hazards of pesticides currently in use and recommendations for the management of poisonings and injuries caused by them.
- EPA, in cooperation with several federal agencies, has undertaken an initiative to give all primary care providers a basic knowledge of the health effects related to pesticide exposures and an ability to treat such effects through clinical and preventive strategies. A final version of the document summarizing the initiative—

Pesticides and National Strategies for Health Care Providers: Draft Implementation Plan”—is scheduled to be published this year.

In addition, several other states have experience with implementing pesticide illness reporting systems. According to EPA, California, Florida, New York, Oregon, Texas, and Washington have established formal reporting systems, while Arizona, Louisiana, and New Mexico have more limited systems. These states have learned lessons in establishing their pesticide illness reporting systems that may be useful to Maryland. For example, Florida has found that it can strengthen its pesticide illness reporting system through the cooperation of several state and local agencies. While the reporting system in Florida is spearheaded by the department of health, other entities (including the State Department of Agriculture, poison information centers, and county health departments) have reported potential pesticide cases. Texas has found that closer cooperation between the state health department and the state agriculture department resulted in increased detection of pesticide incidents.

I will provide the committee with copies of the documents discussed in this testimony, as well as federal and state contacts that may be helpful to you in your deliberations on the proposed legislation. I hope that my testimony and this information will be helpful to you. If Maryland decides to establish a state pesticide illness reporting system, the information generated would be useful not only to the citizens of Maryland, but it would also help to address the nationwide shortage of information on pesticide incidents.

I will be happy to address any questions that the members of the committee may have.

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