Surveillance of Pesticide-Related Illness and Injury

Florida Department of Health
Chemical Disease Surveillance Program

1. What is the purpose of the surveillance program?

The primary purpose of the surveillance program is to identify the magnitude and distribution of acute pesticide-related illness and injury and to implement prevention and intervention activities aimed at reducing the occurrence of pesticide poisonings.

2. What type of injuries and illnesses are investigated?

The Florida Department of Health (DOH) investigates reports of acute adverse health effects resulting from exposure to pesticides. The types of reports that are investigated include illness and injury from:

- Exposure to insecticides, herbicides, fungicides, rodenticides, and any other pesticides defined under federal law in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) http://www.epa.gov/pesticides/regulating/laws.htm
- Exposures to pesticides in public places (e.g., roadways, parks)
- Exposures to general-use (over-the-counter pesticides) and restricted-use pesticides
- Workplace and residential exposures to pesticides
- Workplace exposures to antimicrobials (e.g., detergents)
- Exposure to pesticides during an emergency response

3. Who must report?

Pesticide illness and injury is listed as a notifiable disease in the State of Florida under Statute 381.0031, Rule 64D-3, *Florida Administrative Code* (*F.A.C.)*. Healthcare providers, laboratories, and other public health personnel are required to report the occurrence of notifiable diseases as defined in the rule. Information about disease reporting in Florida can be found at: http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/index.html . The program also accepts reports from other entities such as exposed person(s), witnesses, legal services, farmworker advocacy groups, other state agencies, media, and others willing to report. Reports can be made to DOH at **1-800-606-5810** or by contacting your local county health department.

4. How are investigations conducted?

The typical case investigation involves:

A. Interviews with symptomatic persons and/or witnesses to get information regarding:
   - When the exposure occurred
   - Type of symptoms experienced
   - Activities of the exposed person(s)
   - Where the exposure occurred (e.g., work, home, school, roadway)
   - Medical care that was sought and what type (e.g., skin decontamination, airway protection)
   - Other persons potentially exposed

B. Review of the exposed person(s) medical records and clinical or laboratory test results to:
   - Determine the type of test performed
   - Interpret test results
   - Determine medical diagnosis and treatment
   - Determine other possible cause of the illness or injury, if not pesticide poisoning

C. Review of pesticide field investigation or environmental laboratory analysis records from the regulatory agency to:
   - Determine if a pesticide application did occur and there was indeed a possibility of exposure
   - Determine how the exposure actually occurred
   - Confirm the pesticide product involved in the exposure

Interviews may be conducted by phone or in person. DOH does not have a laboratory for processing environmental or biological samples, but will review the results of tests conducted by approved laboratories operating within the state. Case investigation may be done in collaboration with the regulatory agency (e.g., Department of Agriculture and Consumer Services), especially when there is a suspected pesticide use violation.

5. How are cases classified?

DOH uses a standard protocol for classifying cases as to the likelihood that the symptoms reported are related to a pesticide exposure. This protocol was developed by the National Institutes of Occupational Safety and Health/Sentinel Event Notification System for Occupational Risk (NIOSH/SENSOR) program and is used by most states that conduct pesticide-related illness and injury surveillance. The full protocol is available at http://www.cdc.gov/niosh/topics/pesticides/. All cases investigated by DOH are subjected to internal and NIOSH review to ensure accuracy in coding and case classification. The case classification criteria for acute pesticide-related illness and injury are based on evidence of exposure, presence of adverse health effects, and causal relationship between the pesticide and the symptoms.

6. What are the limitations of the surveillance data?

The data collected by DOH have limitations because:

A. The surveillance program investigates only acute illnesses and injuries. Acute illnesses and injuries usually occur between 24-48 hours after the pesticide exposure. The program does not routinely investigate cases of chronic illness or injury that may be related to pesticide exposure. The program refers chronic cases to other DOH programs that study these latent effects of pesticide exposures and collaborates on investigations as needed.

B. Not all cases of pesticide-related illness or injury are reported to DOH. This occurs when the ill/injured person does not seek health care; if health care is received, but the health care provider fails to recognize it as pesticide-related; or if the health care provider does not report the case as required. Under-reporting is a common problem among all states that monitor pesticide-related illness and injury. In general, passive surveillance systems usually do not capture all cases as they rely almost exclusively on reporting. Information received on pesticide exposure incidents may be insufficient to investigate and/or classify the case.

C. DOH staff may not be able to locate a seasonal or migrant farm worker for interview, persons may not have sought medical care, or they may not have considered it necessary to report a mild illness or injury. In some instances, the identity of the pesticide product may not be known. Such cases are entered into the DOH database but are not included in the analyses that are posted on the pesticide website.

7. How is the surveillance data used?

DOH analyzes the data collected on pesticide exposures to determine risk factors, identify populations at risk, identify areas for further investigation, and determine prevention and intervention activities that are needed to stop further exposures. DOH intervenes through education and outreach activities and also makes recommendations for regulatory actions and changes.

The data (without identifying information) is reported annually to NIOSH and compared to that of the other states participating in the NIOSH/SENSOR program. The data is then shared with other federal agencies such as the Environment Protection Agency (EPA) and the National Center for Environmental Health (NCEH) at the Centers for Disease Control and Prevention (CDC). This helps in the assessment of pesticide poisonings from a national perspective and facilitates the sharing of knowledge and expertise among participating states.