



Issue Brief: The Role of Exposure Incident Reporting in the Regulation of Pesticides

Approximately one billion pounds of pesticide active ingredients are used annually in the U.S., and over 16,000 pesticide products are on the market. Pesticides can pose grave risks to farmworkers and their families. Studies show that farmworkers suffer serious short- and long-term health risks from pesticide exposure. Short-term acute effects may include stinging eyes, rashes, blisters, blindness, nausea, dizziness, headaches, coma, and death.¹ Exposure to pesticides over the long-term can lead to chronic health effects such as cancer, infertility, birth defects, endocrine disruption, and neurological disorders. Studies have also found that children exposed to pesticides are at a higher risk for asthma, cancer, and neurodevelopmental problems.²

Workers become exposed to pesticides through spills, splashes, defective, missing or inadequate protective equipment, direct spray, aerial drift or contact with pesticide residues on the crops or soil. Families can also be injured when farmworker children play in treated fields, when workers inadvertently take home pesticide residues on their hair, skin or clothing or when airborne pesticides drift onto outdoor play areas and get tracked into homes.

With farmworkers suffering from high rates of pesticide-related illnesses, workers could benefit from clinicians playing a greater role in the diagnosis, reporting and ultimately, prevention of such injuries. Often, just having basic knowledge about relevant laws and policies aimed at protecting workers rights and health and safety can go a long way in preventing job-related illness and injuries.

¹ Calvert GM, Karnik J, Mehler L, Beckman J, Morrissey B, Sievert J, Barrett R, Lackovic M, Mabee L, Schwartz A, Mitchell Y, Moraga-McHaley S. 2008. Acute Pesticide Poisoning Among Agricultural Workers in the United States, 1998-2005, *Am. J. Industrial Medicine* 51(12): 883-898; see also Moses M. 1995. *Designer Poisons: How to Protect Your Health and Home from Toxic Pesticides*. San Francisco: Pesticide Education Center.

² For example, see Mills, P. 2001. Cancer Incidence in the United Farmworkers of America 1987-1997, *Am J. of Ind. Med.* 40:596-603; McCauley LA, Anger KW, Keifer M, Langley R, Robson MG, Rohlman D. 2006. Studying Health Outcomes in Farmworker Populations Exposed to Pesticides. *Environmental Health Perspectives* 114(6):953-960. Infante-Rivard, C. & S. Weichenthal. 2007. Pesticides and Childhood Cancer: An Update of Zahm and Ward's 1998 Review. *Journal of Toxicology and Environmental Health, Part B* 10(81). Bouchard MF, Chevrier J, Harley KG, Kogut K, Vedar M, Calderon N, Trujillo C, Johnson C, Bradman A, Barr DB, Eskenazi B. 2011. Prenatal Exposure to Organophosphate Pesticides and IQ in 7-Year Old Children. *Environmental Health Perspectives* 119(8): 1189-1195. For a comprehensive review of academic literature on health risks associated with pesticides, see *Sanborn, et al, Pesticides Literature Review*, Ontario College of Family Physicians (Toronto 2004), online at <http://www.bvsde.paho.org/bvstox/fulltext/rpesticides.pdf>

Pesticide Incident Reporting

In many states, pesticide-related illness is a reportable condition. As part of its role in regulating pesticide use, the U.S. Environmental Protection Agency (EPA) collects reports of adverse effects from various sources, including pesticide manufacturers, other federal and state agencies, and from individual consumers.

It is difficult to obtain an accurate number of pesticide exposure incidents for farmworkers and their families. An EPA study conducted nationwide in the early 1990s suggested that doctors treat approximately 10,000 to 20,000 cases of pesticide poisoning per year, and possibly as high as 40,000.³ However, a number of studies suggest that the number of pesticide poisonings is much larger than that actually reported. As early as 1992, the EPA estimated that, including unreported and misdiagnosed incidents, “each year farmworkers suffer up to 300,000 acute illnesses and injuries from exposure to pesticides.”⁴ There are several reasons for this discrepancy.

First, **workers face many obstacles when seeking medical care for pesticide-related illnesses**, including language barriers, lack of access to medical care, lack of information about workplace hazards, lack of awareness of poisoning symptoms, and fear of retaliation.⁵ In addition, most farmworkers do not seek medical attention for mild or moderate symptoms.

Furthermore, **clinicians face significant hurdles in identifying and diagnosing pesticide poisoning**. Mild or moderate signs of acute pesticide poisoning, such as nausea, vomiting, diarrhea, and skin rashes, are similar to those caused by other illnesses, and can be easily misdiagnosed. And even if a clinician recognizes a farmworkers’ symptoms to be associated with pesticide exposure, there are currently few tests that can identify the particular type and quantity of pesticides present in the body.

Finally, **there is no national recording or monitoring system for exposure-related injuries**. Many states do not require healthcare providers or public health officials to report pesticide illnesses.⁶ Currently, thirty states have laws that require healthcare professionals to report suspected or confirmed pesticide-related illnesses and injuries. However, only six states (California, Florida, New York, Oregon, Texas and Washington) have established formal

³ US EPA (1992). Regulatory impact analysis of worker protection standard for agricultural pesticides, U.S. Environmental Protection Agency, Office of Pesticide Programs, Washington, D.C.; J. Blondell, [Epidemiology of Pesticide Poisonings in the United States, with Special Reference to Occupational Cases](#), 12 Occupational Medicine State of the Art Reviews 209, 218 (1997); *see also* Natural Resources Defense Council, [Trouble on the Farm: Growing up with Pesticides in Agricultural Communities](#) Ch. 1 (1998), *available at* <http://www.nrdc.org/health/kids/farm/farminx.asp> (last visited May 4, 2012) (discussing exposure to dangerous pesticides by farmers, farm workers, and their children and related health threats).

⁴ *See* U.S. General Accounting Office, Pub. No. GAO/HRD-92-46, *Hired Farmworkers: Health and Well-being at Risk*, 13 (1992), *available at* <http://archive.gao.gov/t2pbat7/145941.pdf> (discussing farm worker’s exposure to pesticides in the context of determining the extent to which the health and well-being of such laborers are protected by federal laws, regulations, and programs).

⁵ Geoffrey M. Calvert et al., *Acute Pesticide Poisoning Among Agricultural Workers in the United States, 1998 – 2005*, 51 AM. J. INDUS. MED. 883, 890 (2008).

⁶ U.S. General Accounting Office, Pub. No. GAO/PEMD-94-6, *Pesticides on Farms: Limited Capability Exists to Monitor Occupational Illnesses and Injuries*, 9 (1993), *available at* <http://archive.gao.gov/t2pbat4/150612.pdf>.

reporting and investigation systems, and another three states (Arizona, Louisiana and New Mexico) have more limited systems. Thirteen states, including Alabama, have no laws requiring pesticide reporting.

Farmworker Justice and the Migrant Clinicians Network developed an [interactive map](#) that details the pesticide reporting requirements in each state, in addition to legal resources for farmworkers and enforcement agencies for pesticide and field sanitation laws.

The Impact of Incident Reports

The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) gives the EPA the authority to regulate the use and sale of pesticides. FIFRA requires the EPA to register (license) all pesticides distributed or sold in the U.S. Companies wishing to market a pesticide must show that use of the product in a specified manner will not “generally cause unreasonable adverse effects on the environment.” When applying for registration, pesticide manufacturers (or “registrants”) are often required to submit a series of environmental, health, and safety data on the product. This information determines many factors that can have an impact on the health of workers handling or working in fields treated with the pesticide, including how and under what conditions pesticides can be applied, mixed, stored, loaded or used; necessary personal protective equipment; when treated fields can be re-entered after application; and when crops can be harvested.

Once registered, pesticides are subject to continued scrutiny. The EPA periodically reviews pesticide registrations in light of new data, with a goal of review every 15 years. At any time, the EPA may propose cancellation of a registration and initiate cancellation proceedings if there is evidence that a pesticide does not comply with FIFRA, or if it generally causes unreasonable adverse effects on the environment. Registrants must also notify the EPA of any newly uncovered facts concerning adverse environmental or human health effects. *Such adverse effects include reports from healthcare providers about suspected illnesses related to the product.*

There are several examples where incident reporting influenced policy decisions regarding the use of a pesticide. In the late 1980’s a sudden increase in skin burns caused by Omite (also known as propargite) led to the discovery that manufacturers had changed the inert ingredients, requiring an increase in the restricted entry period from 7 to 42 days.⁷ In Washington State in 1993, physicians filed 26 reports of phosdrin poisoning among farmworkers who had been applying the insecticide in apple orchards. After an investigation by the Centers for Disease Control and Prevention (CDC), the EPA banned the use of this pesticide.⁸

Steps to Protect Workers from Hazardous Exposures

- ***Report any suspected pesticide-related injuries or illnesses***

⁷ Epidemiologic Notes and Reports: Outbreak of severe dermatitis among orange pickers - California. (1986, July 18) *MMWR: Morbidity and Mortality Weekly Report*, 35(28), 465-467. Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/00000768.htm>

⁸ Occupational pesticide poisoning in apple orchards - Washington, 1993. (1994, January 7) *MMWR* 42(51-52): 993-995). Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/00023208.htm>

Clinician reporting can help bring dangerous products and hazardous practices to the attention of state agencies and the EPA so that these agencies can take prompt action to address those risks.

Each pesticide causes different health effects and proper diagnosis and treatment should begin with the identification of the specific pesticide which may have been involved. Farmworkers, however, rarely know the name of the product to which they were exposed at work. FIFRA gives health professionals the authority to request pesticide application and label information from employers and commercial users when needed to treat possible pesticide poisoning victims.⁹ Because workers fear retaliation, they may be reluctant to request this information themselves. Healthcare providers need not reveal the name of the patient when contacting an employer.

In addition to reporting adverse incidents to the proper state authorities, the EPA recommends that clinicians also report such incidents to the National Pesticide Information Center (NPIC) at [1-800-858-7378](tel:1-800-858-7378). More information is available on the NPIC website at <http://npic.orst.edu/reportprob.html>.

- ***Promote training on pesticide safety to farmworkers***

Apart from incident reporting, clinicians can also play a role in educating their patients on important safety information related to pesticides, including how they and their families can prevent exposure to pesticides.

Promotores de salud (community health workers) and outreach staff can play a vital role in educating farmworkers about pesticide safety. Through outreach and education, farmworkers are better equipped to recognize and avoid hazardous situations, and to seek appropriate treatment if they are injured from pesticide exposure.

More information about pesticide safety resources can be found on the Farmworker Justice web site at <http://farmworkerjustice.org/resources/health-and-safety-resources>. You can also contact Alexis Guild at aguild@farmworkerjustice.org.

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⁹ 40 C.F.R. §170.160 and 7 C.F.R. §110