



Department of Pesticide Regulation



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Director

MEMORANDUM

Arnold Schwarzenegger
Governor

TO: George Farnsworth, Environmental Program Manager I
Worker Health and Safety Branch **HSM-08013**

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SUBJECT: PHYSICIAN FEEDBACK - 2006

The physician feedback project was initially established for year 2000 cases as a mechanism to acknowledge physicians properly reporting pesticide-related illnesses. Beginning with year 2000 data, (released 2002) in conjunction with the annual release of the Pesticide Illness Surveillance Program data, the Department of Pesticide Regulation (DPR) sends a letter to physicians who file pesticide illness reports announcing the availability of the annual report and offer to prepare a county specific custom query of the database. Although California has the most extensive and long-standing reporting system in the United States, physicians chronically under report pesticide-related illnesses. Possible reasons for underreporting include lack of training for physicians in the area of recognition, diagnosis and treatment, and lack of familiarity with state reporting requirements.

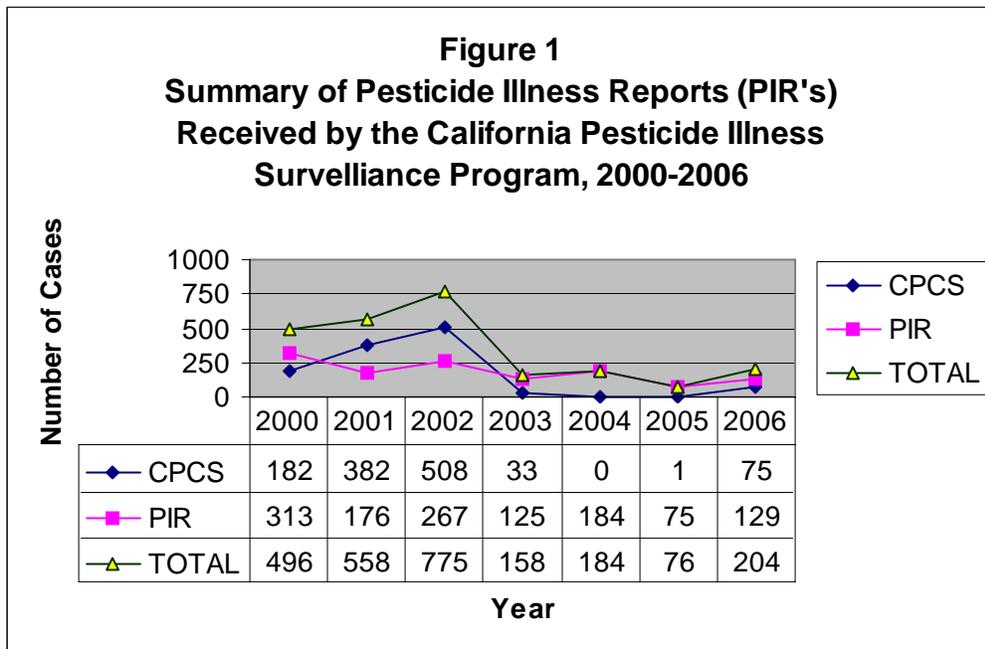
California Health and Safety Code Section 105200 requires a physician who knows, or has reason to believe, that a patient is suffering from pesticide poisoning, whether occupational or non-occupational, to report the case to the local health officer by telephone within 24 hours. When this requirement is met, the local health department informs the county agricultural commissioner (CAC) and also completes a Pesticide Illness Report (PIR), copies of which are distributed to the State Office of Environmental Health Hazard Assessment (OEHHA), to the Department of Industrial Relations (DIR) and DPR. Annual reporting of pesticide incidents by doctors via PIR accounted for 30 percent of the cases reported in 2006, which is a substantial increase from the 6 percent recorded in 2005. The remaining reported cases came from evaluation of workers' compensation documents (Doctor's First Report of Occupational Illness and Injury).

DPR has been concerned with the lack of compliance with the pesticide reporting law for many years. In 1994, DPR in an effort to enhance physician reporting and familiarity of the requirement, sent summaries of the reporting requirements for pesticide related conditions to all actively registered physicians within the state of California. Subsequently, throughout 1995 and 1996, DPR sent individual reminders when it was determined that physicians failed to report pesticide-related illnesses. These physicians were predominantly identified through Doctor's First Report of Occupational Injury or Illness, which physicians are required to file within 5 days of an initial examination, for every occupational injury or illness they encounter. This



notification is part of the workers' compensation program and required for physicians to receive payment from workers' compensation for treatment. Although this project improved reporting, it was very resource intensive and didn't foster good will amongst physicians.

A successful effort to improve reporting resulted from the cooperative agreement between DPR and the California Poison Control System (CPCS). CPCS facilitated the reporting of potential pesticide exposures cases. Software enhancements alert poison control specialists upon case login that the substance may be a pesticide and therefore a PIR is required. The phone technician then may offer to report the case for the physician. Potential pesticide cases were identified for reporting utilizing the following criteria: a) exposures to an identified pesticide b) patient was symptomatic and c) patient was seen by a health care provider. This effort is particularly promising in identification of pesticide illnesses and provides information faster than all other avenues of reporting. This project was funded through federal grants that expired in 2002. A significant drop in the number of cases assigned for investigation resulting from PIR's occurred in 2003 declining to zero cases from CPCS in 2004. However, DPR renewed its' contract with CPCS to facilitate pesticide illness reporting again in October 2006, resulting in 75 cases for the year. Previously funded by the United States Environmental Protection Agency, the new contract is funded by DPR. These findings are summarized in figure 1.



CPCS – California Poison Control System (facilitated physician reporting).
 PIR – Pesticide Illness Report (physician reporting).

Several proposed reasons for the failure of physician's to report were revealed in the 1994 effort. Physicians may not recognize that their patients are suffering from pesticide exposure or may be unaware of the reporting requirement. In some cases, physicians do not understand what constitutes a pesticide; antimicrobials in particular. In addition, although a physician need only report to the local health officer, the process has too many parts including three reports and telephone calls. These problems were at least partially addressed by the cooperative effort with CPCS. However, one of the biggest criticisms of the system was the lack of feedback to the reporting physician regarding the outcome of investigations and the resulting data is underutilized.

The ongoing physician feedback project was developed in response to physicians expressing interest in learning the outcome of pesticide related illnesses that they have reported to DPR. Each physician or their staff member was sent a summary letter describing our objective with a prepaid response card offering them the opportunity to accept or decline further information when the next year's data is released. The option of requesting a printed copy of our illness surveillance program description, an annual pesticide incident summary, statewide pesticide summary tabulations, and county specific pesticide illness profiles was provided. Physicians that requested to remain on the mailing list in previous years were sent a slightly different summary letter notifying them of the 2006 report availability.

The "feedback" letters acknowledged the fact the medical provider reported a pesticide-related illness or injury case(s) to the local health officer in accordance with the Health and Safety Code section 105200 during the years 2000 - 2006. The letter advises them that the case(s) was thoroughly investigated by the local CAC and the resulting data from the investigation was combined with the medical records and entered into our pesticide illness surveillance database. In addition, it was pointed out the data is used to identify pesticide-related illness trends and evaluate the effectiveness of our regulatory program.

In 2006, a total of 681 potentially pesticide-related illnesses were reported to DPR via all mechanisms. Ninety-one individual physicians filed 204 PIRs. Thirty seven percent of the PIRs were facilitated by CPCS.

A total of 91 letters announcing the release of the 2006 data were sent out to 2006 filers where the physician was identified. One hundred forty eight additional notification letters were sent out to those physicians who requested to remain on the list from previous. Twenty-one postcard responses were received from physicians with ten data requests. Data requested included county summaries for Fresno, Merced, Sonoma, Stanislaus, and Yolo. In addition requests were made for copies of the program description, annual narrative summary and statewide summary tabulations.

The overall response rate for 2006 feedback project was 23 percent of which 48 percent requested data. Thirty letters from both the 2006 filers and those requesting to remain on the list were returned to sender as undeliverable.

Thirty-one percent of the cases reported via PIR were related to agricultural pesticide use in contrast to fifty-eight percent related to non-agricultural pesticide use. Seven percent of cases were not classified as either agricultural or non-agricultural because it was determined that no pesticide application had taken place. It was not known whether or not a pesticide was involved in the remaining three percent of cases. Forty six percent of the cases were occupational in nature, with forty-five percent being a non-occupational exposure. Seven percent of the cases were determined to not be pesticide related and therefore the occupational status was classified as not applicable. For two percent of the cases it could not be determined whether or not it was work related. Table 1 contains statistics of the cases reported by physicians via PIR in 2006.

Table 1: Summary of Case Reports Received by the California Pesticide Illness Surveillance Program in 2006 For Which Pesticide Illness Reports Were Submitted by Type of Activity and Exposure¹

Type of Activity ²	Type of Exposure ³								
	Drift	Residue	Direct Spray/Squirt	Spill/Other Direct	Ingestion	Multiple	Other	Unknown	Not Applicable
Mixer/Loader	2	0	2	5	1	0	1	1	0
Applicator	12	0	7	8	0	1	3	9	4
Packaging/Processing	0	0	0	0	0	0	0	0	2
Field Worker	25	9	0	0	0	0	0	0	1
Routine Indoor	3	6	1	2	14	1	1	3	3
Routine Outdoor	4	2	0	3	1	0	16	1	0
Transport/Storage/Disposal	0	0	0	0	0	0	0	0	2
Other	0	0	0	2	0	1	4	0	0
Unknown	0	0	0	0	0	0	2	0	0
Total Cases	50	18	12	28	32	4	28	18	14

¹ **Source:** California Department of Pesticide Regulation, Pesticide Illness Surveillance Program. A total of 681 reports were received via all methods; 30% (204) were properly reported.

² **Type of Activity:** Activity of the injured individual at the time of exposure

- Mixer/Loader : Mixes and/or loads pesticides. This includes: (1) removing a pesticide from its original container, (2) transferring the pesticide to a mixing or holding tank, (3) mixing pesticides prior to application, (4) driving a nurse rig, or (5) transferring the pesticide from a mix/holding tank or nurse rig to an application tank.
- Applicator : Applies pesticides by any method or conducts activities considered ancillary to the application (e.g., cleans spray nozzles in the field).
- Packaging/
Processing : Handles (packs, processes or retails agricultural commodities from the packing house to the final market place. Field packing of agricultural commodities is classified as FIELD WORKER.
- Field Worker : Works in an agricultural field performing tasks such as advising, scouting, harvesting, thinning, irrigating, driving tractor (except as part of an application), field packing, conducting cultural work in a greenhouse, etc. Researchers performing similar tasks in an agricultural field are also included.
- Routine Indoor : Conducts activities in an indoor environment with minimal expectation for exposure to pesticides. This includes people in offices and businesses, residential structures, etc. who are not handling pesticides.
- Routine Outdoor : Conducts activities in an outdoor environment with minimal expectation for exposure to pesticides. This excludes field workers in agricultural fields. This includes gardeners who are not handling pesticides.
- Transport/
Storage/
Disposal : Transports or stores pesticides between packaging and preparation for use. This includes shipping, warehousing and retailing as well as storage by the end-user prior to preparation for use. Disposal of unused pesticides is also included in this activity. This excludes driving a nurse rig to an application site.
- Other : Activity is not adequately described by any other activity category. This includes but is not limited to: 1) being inside a vehicle; 2) dog groomers not handling pesticides; 3) individuals handling pesticide treated wood; 4) two or more activities with potential for pesticide exposure.
- Unknown : Activity is not known

³ **Type of Exposure:** Characterization of how an individual came in contact with a pesticide.

- Drift : Spray, mist, fumes, or odor carried from the target site by air. Drift must be related to an application or mix/load activity.
- Residue : The part of a pesticide that remains in the environment for a period of time following an application or drift. This includes odor after the completion of an application.
- Direct
Spray/Squirt : Material propelled by the application or mix/load equipment. Contact with the material can be by direct projection or ricochet. This includes exposure of mechanics working on application or mix/load equipment when the material is forced out by pressure.
- Spill/Other Direct : Any of the following: 1) Contact made during an application or mixing/loading operation where the material is not propelled by the equipment; 2) Expected direct contact during use (e.g. washing dishes in a disinfectant solution); 3) Leaks, spills, etc. not related to an application.
- Ingestion : Intentional or unintentional oral ingestion.
- Multiple : Contact with pesticides occurred through two or more mechanisms.
- Other : Other known route of exposure not included in other exposure categories. This includes, but not limited to: 1) Residue from a spill and 2) Exposure to smoke or pyrolytic products from a fire where pesticides are burning.
- Unknown : Route of exposure is not known.

DPR continues exploring methods to improve reporting and increase the capturing of illness data to assure an accurate account of pesticide-related health problems in California. Cooperation with CPCS has been the most promising method for identifying otherwise missed pesticide illnesses. As previously noted, from 1999 through 2002, CPCS facilitated pesticide illness reporting through November 2002. Beginning in October of 2006, the California Poison Control Systems again began offering to report pesticide-related illnesses for doctors. The reporting

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system is computer based so notification to the County Agricultural Commissioners should be quite prompt.

DPR continues working with OEHHA on a project initiated in 2004 to improve the timeliness, quality, and completeness of illness reporting. Training for physicians to better recognize and report suspected pesticide illnesses is an important component of this project. Under a web-based reporting mechanism, physicians will be able to submit reportable diseases, including pesticide-related illness, via a normal reporting mechanism (California Morbidity Report) through the internet to the local health officer. This may result in significant improvements in information exchange among physicians, poison control centers, local health officers, CACs, and state regulatory and public health agencies. In addition, timely illness investigations by the appropriate local and state agencies will result in more meaningful findings. San Diego County will soon commence a live test of this system.

This physician feedback project will be continued in 2009 for the 2007 data. Reporting physicians will again be offered follow-up information regarding cases they have reported through the system.