



# Department of Pesticide Regulation



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## MEMORANDUM

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**HSM-06011**

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*(original signed by K. Orr)*

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SUBJECT: PHYSICIAN FEEDBACK 2004

The physician feedback project was initially established for year 2000 cases (released in 2002) as a mechanism to acknowledge physicians properly reporting pesticide-related illnesses. 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 properly reported cases with information about the availability of the annual report and offer to prepare a custom query of the database for cases in their county. In spite of the fact that California has the most extensive and long-standing reporting system in the United States, pesticide-related illnesses are chronically under-reported by physicians. Some of the speculated reasons for underreporting include lack of training for physicians in the area of recognition, diagnosis and treatment, and unfamiliarity with state reporting requirements.

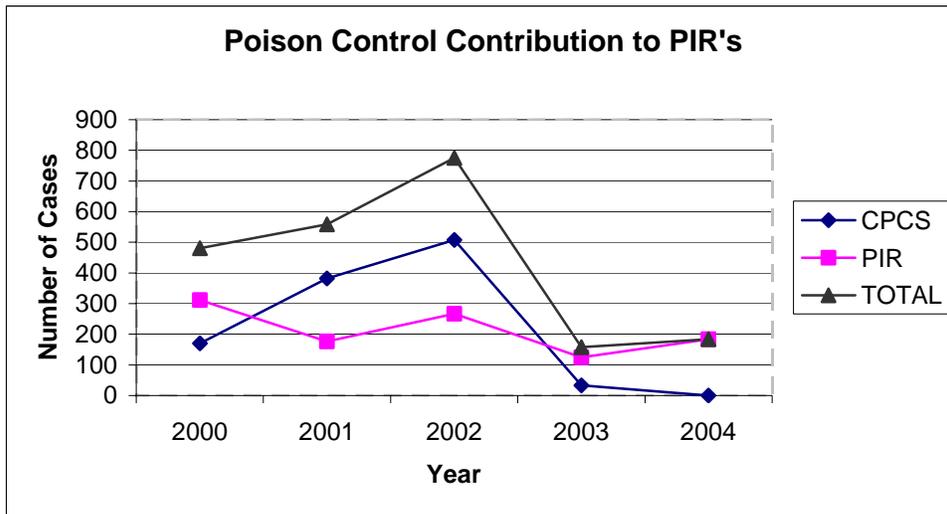
California Health and Safety Code Section 105200 requires a physician who knows, or has reason to believe, that a patient is suffering from pesticide poisoning to report the case to the local health officer by telephone within 24 hours. When this requirement is met, the local health officer (or designated representative) 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 only 15 percent of the cases reported in 2004. The remaining reported cases came from evaluation of workers' compensation documents (Doctor's First Report of Occupational Illness and Injury).

The lack of compliance with the pesticide reporting law has concerned DPR for many years. After exploring several different methods to improve the completeness and timeliness of pesticide illness reporting, the physician feedback project was initiated. In 1994, DPR in an effort to enhance physician reporting and familiarity of the requirement summaries of the reporting requirements for pesticide related conditions were sent to all actively registered physicians within the state of California. As a follow-up, throughout



1995 and 1996, when it was determined that physicians failed to report pesticide-related illnesses DPR sent individual reminders. 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. 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 particularly promising effort in identification of pesticide illnesses provides information faster than all other avenues of reporting. In 2002, DPR assigned 508 cases for investigation based on PIRs that CPCS facilitated (Figure 1). This project was funded through federal grants which expired in 2001 and DPR was not able to identify a funding source when the grant money ended.



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

The 1994 effort revealed several proposed reasons for the failure of physician's to report. Physicians may not recognize that their patients are suffering from pesticide exposure. They may be unaware of the reporting requirement. Lack of clarity regarding what a pesticide is; antimicrobials in particular, present a problem. 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 criticisms of the system was the lack of feedback to the reporting physician regarding the outcome of investigations.

The ongoing physician feedback project was developed in response to physicians expressing interest in knowing the outcome of pesticide related illnesses that they have reported to DPR. Individual physicians or their staff members were sent a summary letter describing our efforts with a prepaid response card offering them the opportunity to accept or decline further information. 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 2004 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 - 2004. They were advised 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 2004, a total of 1238 potentially pesticide-related illnesses were reported to DPR via all mechanisms. Seventy-two individual physicians filed 184 PIRs.

A total of 72 letters announcing the release of the 2004 data were sent out to 2004 filers. All physician addresses were identified. An additional 127 notification letters were sent out to those physicians who requested to remain on the list from previous mailings. Twenty-five postcard responses were received from physicians with 8 requests for 8 distinct counties (Table 1). Thirteen physicians requested to remain on the list. The overall response rate for 2004 feedback project was 35 percent of which 44 percent requested data. Only 12 letters from both the 2004 filers and those requesting to remain on the list were returned to sender as undeliverable.

**Table 1: Summary of Physician Requests for 2003 County Specific Data**

County	Number of Requests	County	Number of Requests
El Dorado	1	Merced	1
Imperial	1	Riverside	1
Kern	1	Sonoma	1
Madera	1	Stanislaus	1

Fifty-eight percent of the cases reported via PIR were related to agricultural pesticide use in contrast to 36 percent related to non-agricultural pesticide use. The remaining 6 percent of cases were not classified as either agricultural or non-agricultural because it was determined that no pesticide application had taken place. Seventy-nine percent of the cases were occupational in nature, with the 14 percent being a non-occupational exposure. For one case, it could not be determined whether or not the case was occupational in nature. The remaining cases were determined to not be pesticide related and therefore the occupational status was classified as not applicable. Table 2 contains statistics of the cases reported by physicians via PIR in 2004.

**Table 2: Summary of Case Reports Received by the California Pesticide Illness Surveillance Program in 2004 For Which Pesticide Illness Reports Were Submitted**  
**Type of Activity and Exposure**  
**2004**

Type of Activity <sup>2</sup>	Type of Exposure <sup>3</sup>								
	Drift	Residue	Direct Spray/Squirt	Spill/Other Direct	Ingestion	Multiple	Other	Unknown	Not Applicable
Mixer/Loader	1	0	1	3	0	0	0	1	0
Applicator	15	0	2	7	0	2	2	9	5
Mechanical	0	0	0	1	0	0	0	0	0
Packaging/Processing	0	2	0	0	0	0	0	0	1
Field Worker	49	27	0	0	0	0	0	1	3
Routine Indoor	2	4	0	0	5	1	1	1	3
Routine Outdoor	2	1	1	0	0	1	1	0	0
Transport/Storage/Disposal	0	0	0	2	0	0	0	2	0
Emergency Response	0	0	0	0	0	0	0	0	0
Other	2	3	2	2	5	3	3	2	0
Unknown	0	0	0	0	2	0	0	1	0
<b>Total Cases</b>	<b>71</b>	<b>37</b>	<b>6</b>	<b>15</b>	<b>12</b>	<b>7</b>	<b>7</b>	<b>17</b>	<b>12</b>

<sup>1</sup> **Source:** California Department of Pesticide Regulation, Pesticide Illness Surveillance Program. A total of 1232 reports were received via all methods; only 13% (158) were properly reported.

<sup>2</sup> **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).
- Mechanical : Maintains (e.g. cleans, repairs or conducts maintenance) pesticide contaminated equipment used to mix, load or apply pesticides as well as the protective equipment used by individuals involved in such activities. This excludes the following: 1) maintenance performed by applicators on their equipment incidental to the application; 2) maintenance performed by mixer/loaders on their equipment incidental to mixing and loading; 3) decontamination by HAZMAT teams.
- 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.
- Emergency Response : Emergency Response Personnel (Police, fire, ambulance and HAZMAT personnel) responding to a fire, spill, accident, or any other pesticide incident in the line of duty.
- 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

<sup>3</sup> **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 will again be offering to report pesticide-related illnesses for doctors. The reporting 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.

This physician feedback project will be continued in 2006 for the 2005 data.