



Department of Pesticide Regulation



Mary-Ann Warmerdam
Director

MEMORANDUM

Arnold Schwarzenegger
Governor

TO: George Farnsworth, Environmental Program Manager I
Worker Health and Safety Branch **HSM-10006**

FROM: Kathy Orr, Research Scientist I *(original signed by K. Orr)*
Worker Health and Safety Branch
(916) 445-4196

DATE: September 9, 2010

SUBJECT: PHYSICIAN FEEDBACK - 2007

The Department of Pesticide Regulation's (DPR) physician feedback project was initially established for year 2000 cases to provide feedback to physicians who have properly reported pesticide-related illnesses. Although reporting problems were at least partially addressed by DPR's cooperative effort with California Poison Control System (CPCS) a major criticism of the system was the lack of feedback to the reporting physician regarding the outcome of investigations and the resulting data is underutilized. Hence the physician feedback project was established. Beginning in 2002 with year 2000 data, DPR has sent a letter to physicians who file pesticide illness reports to announce the annual release of the Pesticide Illness Surveillance Program (PISP) report along with an offer to prepare a county specific custom query of the PISP database.

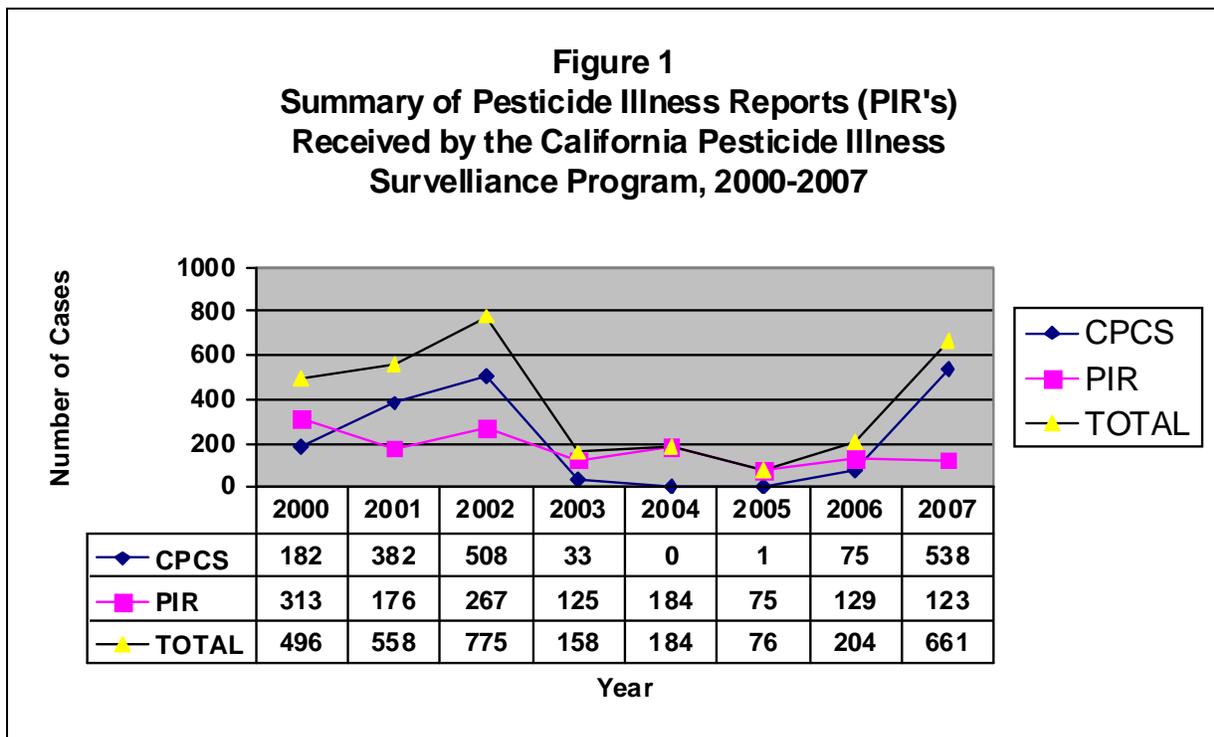
Since 1971, the California Health and Safety Code Section 105200 requires a physician who knows, or has reason to believe, that a patient is suffering from pesticide poisoning, whether occupational or non-occupational, to report the case to the local health officer by telephone within 24 hours. Although 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.

The physician outreach project began in 1994 when DPR, in an effort to enhance physician reporting and familiarity with the requirement, sent summaries of the reporting requirements for pesticide related conditions to all actively registered physicians within California. Subsequently, throughout 1995 and 1996, DPR also sent individual reminders to physicians, identified through Doctor's First Report of Occupational Injury or Illness, who failed to report pesticide-related illnesses. Although this project improved reporting, it was very resource intensive and didn't foster good will amongst physicians.

Over the years, DPR has made efforts to improve reporting of pesticide illnesses and injuries including a cooperative agreement with the CPCS that began in the end of 1998. An important component of the cooperative agreement involves CPCS staff offering to report a pesticide illness or injury on behalf of the physician. The trained CPCS staff can also assess general public



calls and recommend that a caller seek medical help if they suspect pesticide involvement. In 2002, federal funding from the U.S. Environmental Protection Agency (U.S. EPA) for this cooperative agreement expired. From 2003 and 2004, we observed a significant drop in the number of cases assigned for investigation resulting from CPCS Pesticide Illness Report's (PIR's). There were zero cases for investigation from CPCS in 2004. DPR renewed the contract with CPCS in 2006. That year, we had 75 cases for investigations. The number of cases stemming from CPCS PIR's improved significantly in 2007 with 538 cases. These findings are summarized in figure 1.



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

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 2007 report availability.

The “feedback” letters acknowledges the fact that 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 – 2007. The letter advises them that the case(s) was thoroughly investigated by the local County Agricultural Commissioner (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 is pointed out the data is used to identify pesticide-related illness trends and evaluate the effectiveness of our regulatory program.

In 2007, a total of 1,479 potentially pesticide-related illnesses were reported to DPR via all mechanisms. Two hundred sixteen individual physicians filed 661 PIRs. Eighty one percent of the PIRs were facilitated by CPCS.

A total of 216 letters announcing the release of the 2007 data were sent out to 2007 filers where the physician was identified. One hundred fifty seven additional notification letters were sent out to those physicians who requested to remain on the list from previous. Forty-Four postcard responses were received from physicians with 14 data requests, 10 requests to remain on list, and 20 requesting to be removed from the list. Data requested included county summaries for Fresno, Kings, Madera, Monterey, Orange, Santa Cruz, Stanislaus, Tulare 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 2007 feedback project was 20 percent of which 32 percent requested data. Fifty-eight letters from both the 2007 filers and those requesting to remain on the list were returned to sender as undeliverable.

Eighteen percent of the cases reported via PIR were related to agricultural pesticide use in contrast to seventy-six percent related to non-agricultural pesticide use. The remaining cases were not classified as either agricultural or non-agricultural because it was either unknown or an unrelated case. Thirty-four percent of the cases were occupational in nature, with fifty eight percent being a non-occupational exposure. For the rest of the cases it either could not be determined whether it was occupational or non occupational, or the case was unrelated to pesticide exposure. Table 1 contains statistics of the cases reported by physicians via PIR in 2007.

Table 1: Summary of Case Reports Received by the California Pesticide Illness Surveillance Program in 2007 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	5	0	0	5	0	0	2	1	1
Applicator	58	1	25	30	2	9	9	41	4
Mechanical	1	0	2	3	0	0	4	0	0
Packaging/Processing	17	0	0	1	0	0	0	0	0
Field Worker	38	22	0	0	1	0	0	1	3
Routine Indoor	17	51	7	7	38	5	5	11	9
Routine Outdoor	11	14	6	3	10	1	7	3	4
Transport/Storage/Disposal	0	0	0	6	0	0	2	2	0
Emergency Response	0	0	0	0	0	0	1	0	0
Other	9	15	2	14	42	17	4	5	4
Unknown	6	4	3	1	5	1	2	20	1
Total Cases	162	107	45	70	98	33	36	84	26

¹ **Source:** California Department of Pesticide Regulation, Pesticide Illness Surveillance Program. A total of 1479 reports were received via all methods; 45% (661) 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).
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

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.

George Farnsworth
September 9, 2010
Page 6

DPR continues exploring methods to improve reporting to increase capturing illness data to assure an accurate account of pesticide-related health problems in California. Cooperation with CPCS is 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, CPCS again began offering to report pesticide-related illnesses for doctors. The reporting system is computer based so notification to the CACs will be quite prompt.

This physician feedback project will be continued in 2010 for the 2008 data. Reporting physicians will again be offered follow-up information regarding cases they have reported through the system.