

Questions and Answers about the Pancreatic Cancer Investigation Oroville area, Butte County

Summary

In a report released in January 2008, the California Cancer Registry (CCR) of the California Department of Public Health (CDPH) responded to a citizen concern about pancreatic cancers in the Oroville area of Butte County. Some residents were concerned that the number of pancreatic cancers in the community might be unusually high, and that a shared environmental exposure from a wood treatment plant could be the reason. The CCR reviewed information about all persons who were diagnosed with pancreatic cancer cases diagnosed in the area from 1988-2005, and concluded that from 1988 – 2003 the number of pancreatic cancers diagnosed was not greater than the number expected based upon usual patterns. However, the number of cases diagnosed in 2004 – 2005 was significantly greater than the number expected.

In a follow up investigation, the Environmental Health Investigations Branch (EHIB) of the CDPH and the Butte County Public Health Department conducted interviews of people diagnosed with pancreatic cancer or their families to determine whether exposure to the wood treatment plant or any other shared environmental exposure could be related to the cancers. After careful review, EHIB found no link between any common environmental exposure and the pancreatic cancers. EHIB recommends continued follow-up over the next few years to see if the number of pancreatic cancers remain elevated, or whether it returns to the expected range.

The Pancreatic Cancer Investigation

What did CDPH do?

The CCR, a program of the Cancer Surveillance and Research Branch of CDPH, examined all pancreatic cancers reported to the CCR between 1988 – 2005. (At the time of the evaluation, 2005 was the most recent complete year of cancer data available). The CCR concluded that while the number of pancreatic cancers diagnosed was approximately equal to the number that would be expected during the years 1988 – 2003, the number of cases diagnosed during 2004 – 2005 was about twice the number expected.

Because the number was higher than expected, EHIB followed up by looking at the pancreatic cancer cases reported in 2004 and 2005 (24 final total), and also 9 cases that were found from 2006 (a total of 33 cases). Note: Since the time the investigation was completed, an additional case was reported from 2006.

The Butte County Public Health Department and EHIB talked to people diagnosed with pancreatic cancer in those years, or to a close family member. EHIB wanted to find out if the people diagnosed with pancreatic cancer had anything in common with each other, or if they were exposed to harmful chemicals in their environment, or anything else unusual at their job or in the neighborhood. They were also asked if they had relatives who had pancreatic cancer, and about life style choices like smoking and diet. EHIB was able to talk to 25 of the 33 pancreatic cancer patients, or to a member of their family.

Was the increase in pancreatic cancer caused by something in the environment?

EHIB did not find a link between the environment and the pancreatic cancer cases. Some of the people with pancreatic cancer had jobs where they came into contact with chemicals that may have increased their risk for pancreatic cancer, like mechanics or welders. Some had contact with pesticides that may have increased their risk for this cancer. But not many of the people with cancer were exposed to the same things. EHIB did not find a link between things in the environment and the higher numbers of pancreatic cancer cases.

Was the increase in pancreatic cancer caused by chemicals from the Koppers wood treatment plant?

No. Very few people that got pancreatic cancer had contact with chemicals from the Koppers plant. None of the people that got pancreatic cancer lived in a house that used well water affected by contamination from Koppers. Only one person worked at the wood treatment facility and may have had the contaminated well water. Also, only two of the people that got pancreatic cancer lived in the area affected by the Koppers fire in 1987. Most of the people that got pancreatic cancer had little or no contact with chemicals from Koppers.

Koppers Wood Treatment Plant

The Koppers wood treatment plant was in business, from 1955 – 1988. They used chemicals to treat the wood for bugs and other pests. Some of these chemicals can cause cancer. In 1981, one of these chemicals, PCP, got into some private water wells near the plant. PCP did not get into the public water supply. In 1987, there was a fire at the Koppers plant. Chemicals that cause cancer called “dioxins” got into the air during the fire and were carried to the surrounding areas. People that lived in an area south of the Koppers plant were asked to leave until the area was safe. The dioxins got into the dirt in the Oroville area. After the fire, EHIB found that meat and eggs from chickens that peck at the ground have dioxins in them and recommended that people not eat them.

Was the increase in pancreatic cancer related to other sites with environmental contamination such as Louisiana Pacific, Western Pacific Railroad, or Chico Scrap and Metal?

One person had worked for the railroad which is a little north of Koppers, although the work itself was offsite. There was groundwater contamination at the railroad, and if private wells were used for drinking water, exposure could have occurred if the person drank water on-site. One other person worked at a location near these sites, but bottled water was used at the worksite because the water looked and smelled bad. There was also one person who had lived near the sites, and reported using an on-site well there, although we do not know if the water was contaminated, and the person lived at this location for less than a year.

However, almost all of the past residences and work places of the cases were somewhat north or east of the facilities, in the city of Oroville or beyond, away from the direction of the contaminated groundwater. Thus, while it is possible exposure may have affected a few individuals, overall, the information we had did not suggest significant exposures to these sites had occurred to this group as a whole.

These sites and Koppers are being investigated and cleaned up under the direction of federal and state agencies. The regulatory agencies overseeing these sites will have more detailed information about potential exposures (United States Environmental Protection Agency and the state of California's Department of Toxic Substances Control).

There have been reports of PCBs at the Chico Scrap Metal site in Oroville and in the Feather River. Could PCB exposure from these sites have caused the increase in pancreatic cancer?

We did not find a clear link to PCB exposure as a cause of the occurrence of the cluster. Persons could have been exposed to PCBs if they touched soil at a contaminated site, or from air that may have contained small amounts of PCBs. No one in our group of cases worked at the scrap metal site, although one person worked and one lived near the sites (these are included in the discussion above). Depending on their activities in these locations, they may have had exposure from dust or soil.

Generally, most PCB exposures are from food because PCBs stay in the environment and they build up in the fat of animals or fish. However, we did

What are PCBs? Can PCBs cause pancreatic cancer?

PCBs (polychlorinated biphenyls) are part of a group of man-made chemical compounds, called chlorinated hydrocarbons. They were mainly used in manufacturing electrical components until they were banned in the 1970s. PCBs are considered probably carcinogenic. Most studies of PCBs in humans were done with workers in the electrical industry, although most of these studies do not show increases in pancreatic cancer specifically.

not find that most people in the group of persons with pancreatic cancer ate locally caught fish (see the following Q&A on this).

Nevertheless, the lack of a connection between our investigation of pancreatic cancer does not imply that the sites are safe, and we fully support Butte County's effort to ensure that the local environment is cleaned up to current safety standards.

Could eating fish that was caught locally in the Oroville area be the cause of the increase in pancreatic cancer?

No. Most of the people diagnosed with pancreatic cancer did not eat fish caught in the Oroville area. Of those that did eat fish caught in the area, most did not eat them very often.

Eating fish is good for health in many ways. However, it is true that certain fish in many parts of California have harmful chemicals in them. Advisories about fish consumption have been issued for the lower Feather River and several reservoirs and rivers in the Feather River watershed. Mercury is usually of greatest concern, especially in women of childbearing age, because mercury can affect brain development and the nervous system. For more detailed information, see the Appendix of the document and/or go to: http://www.oehha.ca.gov/fish/so_cal/Featherdraft081006.html and http://www.oehha.ca.gov/fish/so_cal/nosierra.html.

Why didn't EHIB find a cause for the higher number of pancreatic cancer cases?

It is very difficult to find out what causes higher rates of cancer. Rates typically vary from year to year, so it is hard to know if the cancers are higher just by chance or because of some other reason. These pancreatic cancers, like most cancers, were most likely caused by a combination of genetic, environmental, and lifestyle factors (such as diet or exposure to tobacco smoke). EHIB examined known risk factors for pancreatic cancer and also factors suspected by the community to be the cause. Also, because cancers typically take many years to develop, some exposures may have happened many years before a person is diagnosed with cancer. Often, the number of cancer cases in a community is high just by chance, and no specific reason is ever found.

Are there still more people than expected getting pancreatic cancer in the Oroville area?

There were 10 cases of pancreatic cancer in the Oroville area in 2006 (one additional case was reported after the 9 were originally identified for the investigation). This is less than the number of cases in 2004 or 2005 (24 cases over two years), but a few cases more than what we would expect. However, the number of cases usually changes from year to year, so 10 cases may not be an unusual number.

We do not have all the cancer information for 2007 yet. It takes about two years for all the cancer information to become available.

What's next?

EHIB recommends checking pancreatic cancer in the Oroville area over the next few years to see if the number of cases goes back down to what we would expect.

How can I keep from getting pancreatic cancer?

There is no proven way to keep from getting pancreatic cancer, but it is possible to take steps to lower your risk:

- -Quit smoking, if you are a smoker. Talk to your doctor about ways to help you quit.
- -Stay at a healthy weight.
- -Get exercise every week.
- -Eat a healthy diet. A diet full of colorful fruits and vegetables and whole grains may help lower your risk of cancer.

Note: This advice is from the Mayo Clinic Website:

<http://www.mayoclinic.com/health/pancreatic-cancer/DS00357/DSECTION=prevention>.

Information About Pancreatic Cancer

What is a pancreas?

The pancreas is an organ in the body that makes several important hormones, like insulin, and enzymes that help the body break down food. It is located behind the stomach and is about 6 inches long.

What is pancreatic cancer?

Pancreatic cancer is a disease where the cells in the pancreas begin to grow out of control. Pancreatic cancer is hard to diagnose and treat. Most people are over 60 years old when they get diagnosed with pancreatic cancer. In California, pancreatic cancer is the fourth leading cause of cancer deaths.

How can I find out if I have pancreatic cancer?

Only a doctor can tell if you have pancreatic cancer. Pancreatic cancer is hard to find early because many of the symptoms of early pancreatic cancer are common, like back pain, stomach pain, nausea, diarrhea, constipation, and problems sleeping. Other symptoms are loss of appetite, weight loss, yellow skin and eyes, and very bad itching. These symptoms can be caused by many other health problems and do not mean that you have pancreatic cancer. Pancreatic cancer is also hard to find because the pancreas is deep inside the body, and tumors cannot easily be felt or seen. Call your doctor if you are worried that you might have pancreatic cancer. Your doctor can check your health and order special tests to find out.

For More information

For more information, please call or write to:

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