

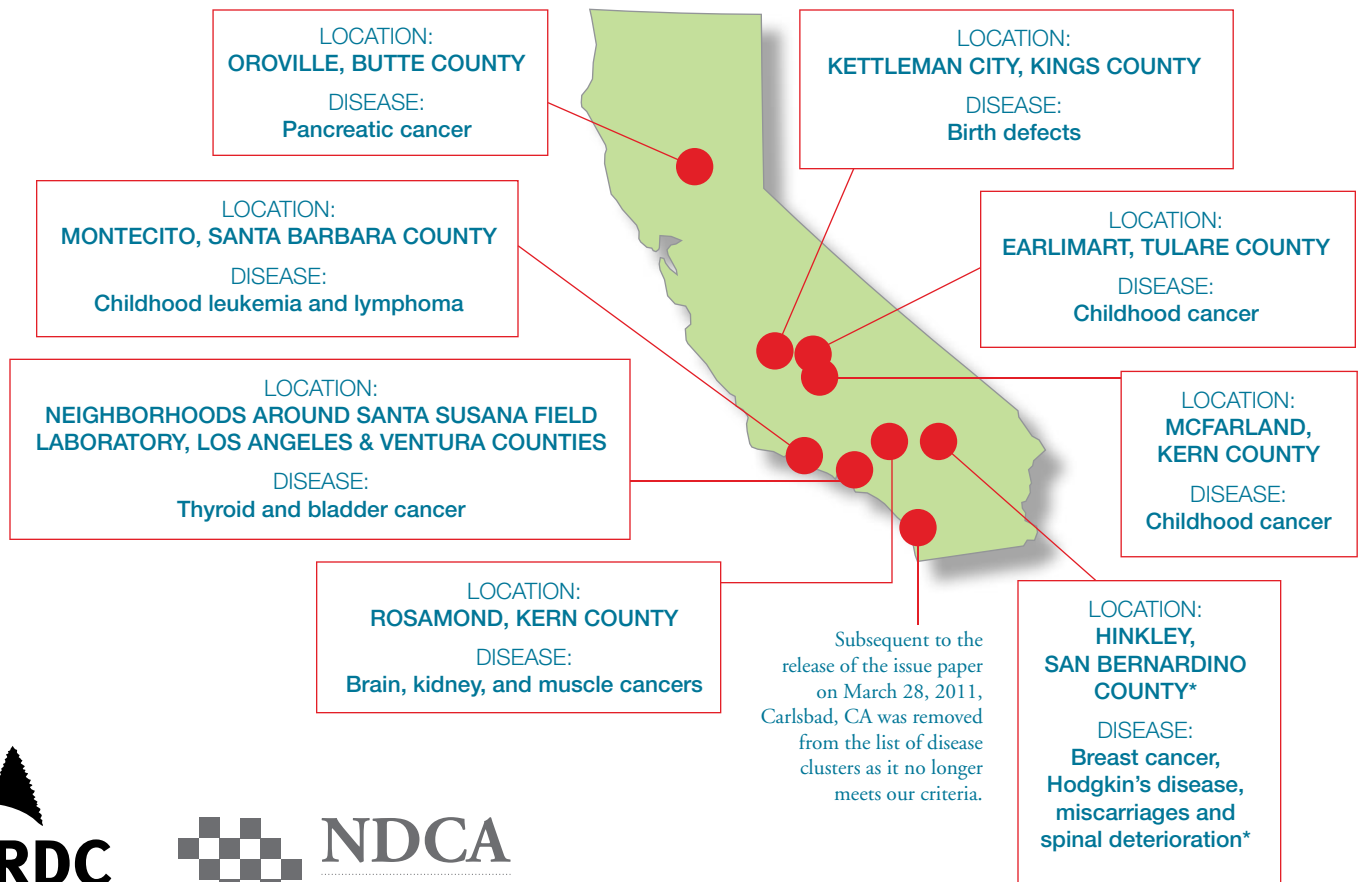
**Stop disease clusters.  
Protect people.  
Control toxic chemicals.**

# Disease Clusters in California

An unusually large number of people sickened by a disease in a certain place and time is known as a 'disease cluster'. Clusters of cancer, birth defects, and other chronic illnesses have sometimes been linked to chemicals or other toxic pollutants in local communities, although these links can be controversial. There is a need for better documentation and investigation of disease clusters to identify and address possible causes. Meanwhile, toxic chemicals should be identified and controlled through reform of the Toxic Substances Control Act, so these chemicals don't pollute communities and sicken people.

Investigations of disease clusters are complex, expensive, and often inconclusive, partly due to limitations in scientific tools for investigating cause-and-effect in small populations. Preventing pollution is the best way to avoid creating additional disease clusters. Strategies for prevention include: (1) Directing and funding federal agencies to swiftly assist state and local officials, and investigate community concerns about potential disease clusters and their causes; (2) Reducing or eliminating toxic releases into air, water, soil and food through stronger environmental controls and tough enforcement of those requirements; and (3) Requiring chemical manufacturers to ensure the safety of their products.

California has suffered from at least seven confirmed disease clusters. Most have afflicted children with cancers or birth defects. Although environmental contaminants are implicated, experts have been unable to pinpoint an exact cause. Regardless of the cause, disease clusters can devastate communities with anxiety and emotional and financial difficulties, including high medical costs and lowered property values, as well as the tremendous burden of the disease itself.



[www.nrdc.org](http://www.nrdc.org)



**NDCA**

National Disease Clusters Alliance

[www.clusteralliance.org](http://www.clusteralliance.org)

**LOCATION: Earlimart, Tulare County**

The California Department of Health Services (DHS) concluded there was a cluster of childhood cancer cases diagnosed between 1986 and 1989 in Earlimart. All of the Earlimart children with cancer were from families of farm workers.

**LOCATION: Kettleman City, Kings County**

The California Department of Public Health identified a birth defects cluster in Kettleman City from 2007 to 2010. Children were born with cleft palates and other severe birth defects such as facial deformities, heart and brain problems, and limb defects. Some of those children have since died. Many residents blame the hazardous waste disposal facility, the largest in the western United States, that is just 3.5 miles southwest of town.

**LOCATION: McFarland, Kern County**

DHS confirmed that McFarland has suffered from a childhood cancer rate three to four times higher than normal. Prior to 1990, there was significant under reporting of the amount of restricted pesticide use, which may have included known cancer-causing compounds. This under reporting has stymied efforts to pinpoint environmental causes of this disease cluster.

**LOCATION: Montecito, Santa Barbara County**

DHS confirmed a cluster of childhood leukemia and lymphoma in Montecito from 1981 to 1988 at a rate 5 times higher than would be expected during an eight-year period in a city of its size. DHS has been unable to pinpoint a specific environmental cause. Community members were concerned about possible health effects from electromagnetic fields (EMF) levels coming from the transformer station near the elementary school and DHS did find elevated EMF at the school.

**LOCATION: Oroville, Butte County**

Oroville had a cluster of pancreatic cancers from 2004 to 2005, confirmed by researchers at the California Cancer Registry. A chemical explosion and fire that occurred in 1987 at the Koppers wood treatment facility in town has been investigated as a possible cause, as well as other Koppers facilities that have historically contaminated residential wells with pentachlorophenol and other toxic chemicals.

**LOCATION: Rosamond, Kern County**

The Kern County Health Department and DHS identified a cluster of childhood cancer in Rosamond. During the years 1975 to 1984, eight cases of childhood cancer occurred in Rosamond. Four of those cases were medulloblastoma (a rare type of brain cancer); two were rhabdomyosarcomas (a rare muscular cancer), one Hodgkin's lymphoma, and a Wilm's tumor (childhood kidney cancer). Although DHS identified several locations in Rosamond that were contaminated with dioxins, furans, and other chemicals that cause cancer, they did not identify how the children could have been in contact with these chemicals.

**LOCATION: Neighborhoods around Santa Susana Field Laboratory, Los Angeles & Ventura Counties**

A 1991 study by DHS confirmed a cluster of bladder cancers in areas in Los Angeles County closest to the Santa Susana Field Laboratory (SSFL) in nearby Ventura County. Additionally, a study performed by researchers at the University of Michigan found that risk of thyroid cancer was linked to distance from SSFL, a notorious source of widespread radioactive and chemical contamination. Currently, the California Department of Toxic Substances Control is overseeing an investigation and cleanup of contaminated soil and groundwater at the site.

**\* LOCATION: Hinkley****DISEASE: Breast cancer, Hodgkin's disease, miscarriages and spinal deterioration**

In the case made famous by the film, Erin Brockovich, community members won a \$333 million settlement from Pacific Gas & Electric (PG&E) in 1996. Hexavalent chromium leached from PG&E ponds into the town's drinking water supply and community members experienced health effects, such as breast cancer, Hodgkin's disease, miscarriages and spinal deterioration. Although the California Cancer Registry has completed three studies and concluded that cancer rates were not elevated from 1988 to 2008, other state officials have noted that the population is too small for a cancer survey to yield meaningful results. This case is an example of why disease clusters are difficult to prove.

Margaret E. McCusker, Janet Bates, Mark Allen, Katrina Bauer, "An Evaluation of Cancer Occurrence in Carlsbad, California, 1996-2008" December 2010, [http://www.sdcounty.ca.gov/hhsa/programs/phs/documents/Carlsbad\\_Cancer\\_Concern\\_Report\\_12-2010a.pdf](http://www.sdcounty.ca.gov/hhsa/programs/phs/documents/Carlsbad_Cancer_Concern_Report_12-2010a.pdf)