

**Site:** West College Avenue

**Local Public Health Agency (LPHA):** County of Sonoma Department of Health Services

**Funding Year:** 2001-2002

### **Site Overview**

Approximately 30 residential properties in the West College Avenue neighborhood of Santa Rosa, California had perchloroethylene (PCE) leach into their groundwater. The PCE was most likely from a former dry cleaning operation that closed in the mid-1990s. While the long-term health effects of the PCE contamination are unknown, it had an immediate psychological stress impact on the community members.

The County of Sonoma Department of Health Services arranged for ATSDR and mental health specialists to provide sessions with trained specialists to address the psychological stress resulting from the PCE contamination. In addition, the community decided that they wanted the NACCHO funds to be directed towards physician needs assessment and training related to PCE exposure. Consequently, physicians were provided with information on how to screen for and recognize the symptoms of exposure to PCE.

### **Community Profile**

The West College Avenue community in Santa Rosa, California consisted of about 107 single-family homes. The population was predominantly middle class or working class Caucasians. Seventy-five percent of the residents were 41 or older. Residents were informed in September 2000 of their potential exposures to PCE from their domestic water wells, and the Water Quality Control Board installed dual carbon filters in the wells of affected homes. Since that time they had grappled with psychological stress; distrust of government agencies for not notifying them sooner; and the lack of information available to them about PCE's concentration levels, exposure routes, and long-term health effects of their exposure.

### **Contaminants**

**Perchloroethylene (PCE)**, also called **tetrachloroethylene**, believed to be from a former dry cleaning establishment that was in existence from the mid-1980's until the mid-1990's, leached into the groundwater of some nearby residential properties. PCE is a synthetic chemical used in the dry cleaning industry and metal degreasing. PCE was first detected in the West College Avenue neighborhood in 1999 when a private landowner sampled his well. The North Coast Regional Water Quality Control Board did subsequent domestic well sampling and found a total of 30 contaminated private drinking wells out of approximately 100 homes in the neighborhood. Sixteen of those wells had PCE concentrations above the Safe Drinking Water Act's Maximum Contaminant Level of 5 parts per billion. The potential routes of exposure for nearby residents included gardening in contaminated soils, and by drinking or bathing in the water. The PCE could potentially be absorbed through the skin or by inhaling the mist while showering or bathing.

### **Involvement and Role of the Local Public Health Agency**

The County of Sonoma Department of Health Services and the California Department of Health Services Investigation Branch collaborated with the Water Quality Control Board to develop risk information for the affected community. A community activist worked with the West College

Avenue community to establish a neighborhood association. The local public health agency (LPHA), the State of California Water Resources Control Board, and the City of Santa Rosa worked closely with the West College Avenue Neighborhood Association. It provided important insights into the demographics, attitudes and beliefs of the community. It also coached the LPHA on how to approach certain residents, and paved the way for the LPHA to enter the community by sending out flyers introducing the LPHA and encouraging the neighbors to welcome them. Likewise, when the LPHA hired a new staff member within its environmental health division to work on the project, the West College Avenue Neighborhood Association participated in the selection process of this staff member.

The County of Sonoma Department of Health Services worked with ATSDR to provide technical assistance. They organized a one-day training of local and state health department staff and mental health providers on how to address stress related to chemical contamination. Five mental health providers provided approximately 45 sessions to residents on how to reduce their stress.

Out of these sessions, it became clear that there were different levels of community concern based on whether a resident's well was contaminated or was adjacent to wells that were contaminated. To better understand the perspectives of those directly and indirectly affected by the site, the LPHA, in conjunction with the West College Avenue Neighborhood Association and the State of California Water Resources Control Board, developed several versions of a community needs assessment survey. Surveys of different colors were given to community members, based on whether they were directly affected versus indirectly affected by PCE well contamination. The LPHA recognized that an in-person survey would generate a greater response rate, so this was the first method of surveying. If no one was home, then a survey packet was mailed. In total, 186 surveys were mailed.

An aspect of the survey packet worth noting is that it included a cover letter and optional forms for soliciting additional information. One form allowed community members to provide names of past residents and another asked residents whether they would be interested in participating in a focus group. A third form asked them to provide their contact information as well as contact information for their physicians. To protect the privacy of participants, the survey packet included two postage paid envelopes so the anonymous surveys and the forms containing contact information could be returned separately. The survey packet was devised this way due to earlier conversations with community members. Residents felt there was a need for physician training, but that they wanted to maintain a degree of confidentiality by contacting their physicians themselves.

As part of its environmental health education plan, the LPHA, ATSDR, and the Environmental Health Clinic staff developed a fact sheet on PCE that was sent to all residents in the West College Avenue neighborhood. It was suggested that they share it with their physicians. Additionally, residents were given an information packet to give to their physicians. It included a questionnaire, PCE information, a PCE Exposure Information Form for their patients' medical records, and a resource list. A "warm line" (a.k.a. hotline) for questions related to patient care concerning PCE exposure was also developed for physicians.

In addition, the Deputy Public Health Officer included an article in the Sonoma County Medical Association News Brief that included background on PCE groundwater contamination in Sonoma County, and the potential effects of low intensity, long-term exposure to PCE in drinking water.

The Division of Public Health and the community activist arranged three grand rounds sessions at three major hospitals, focusing on PCEs and other groundwater contaminants. Topics included toxicology, groundwater contamination, and the health effects of exposures to pesticides and other toxins. Follow up evaluations indicated that physicians found the sessions to be useful, but they were most interested in the effects of exposure to pesticides and least interested in groundwater contamination information. The Division of Public Health also offered a half-day course on environmental medicine that was well attended by local health providers.

Thus, the LPHA reached out to community physicians in several ways, and though it was difficult to measure the effects of the individual approaches (e.g., Grand Rounds and a half-day toxicology course), each was well-attended, indicating a level of interest that can be built upon in the future.

Besides physician education, community members wanted a response plan to be put in place so that future communities faced with groundwater threats could get health information more quickly. Therefore the LPHA and other stakeholders worked to develop a Groundwater Contamination Response Plan. A database of fax numbers and E-mails for Sonoma County physicians was established and is maintained by the LPHA to allow for rapid information dissemination on groundwater contamination in the county.

Note: The County of Sonoma Department of Health Services received a \$100,000 grant from the State of California to do an extensive community health needs assessment. In addition they received the NACCHO funding. The NACCHO funding was directed towards assessing the needs of physicians and providing them with educational resources.

### **Lessons Learned**

- ?? If outreach efforts are not provided early in the process, there is prolonged stress and distrust, and community members become less receptive to receiving information and support. An immediate response on behalf of the LPHA is essential. It should contain timely and useful information concerning individual risk assessment and stress management for each household.
- ?? Efforts to develop an emergency response plan can be part of an LPHA's infrastructure development for responding to terrorism.
- ?? One of the greatest hurdles for this project was the community members' general distrust of the government agencies and frustration over the impersonal nature of the technical information they had been receiving. The community members also were frustrated by a lack of visible presence of the LPHA staff. To combat these issues, the County of Sonoma Department of Health formed a close working relationship with the West College Avenue Neighborhood Association. By involving the neighborhood association

in the hire of the new LPHA staff member, the LPHA forged ties with the community. In order to improve communication between the LPHA and the community members, monthly progress meetings were established and were an important ongoing venue for open discussions and exchange of ideas.

- ?? It is important to establish an efficient method of physician communication, which can serve to alert the medical community in case of an emergency event, and allow for the delivery of educational resources.
  
- ?? Due to the busy schedules of primary care providers, an effective means of reaching them is to deliver concise information and practical tools directly to physician offices or clinics.

As a final note, since connections have been made to the City of Santa Rosa's water system and community members have been allowed by the Regional Water Board to keep their filters on the wells, residents have felt reassured about the safety of their own water supplies. Water samples are collected every six months and filters are changed on an as needed basis. However, there may be lingering concerns about long-term health effects from past exposure they had to drinking water from their private water wells over the past years.

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