

# \* County Public Health Officer's Update

By Michele M. Ginsberg, MD

## You've Reported a Disease to Public Health What Happens Next?

### CONTRIBUTING AUTHORS

Samantha Tweeten, PhD, MPH, Annie Kao, PhD, MPH,  
Diane Rixin, PHN, Robert Wester, MA, MPH, Lisa Yee, MPH

The Community Epidemiology Branch (CEB) provides services and investigates diseases of all people in San Diego County. Community Epidemiology includes the San Diego County Public Health Laboratory, Vital Records, HIV/AIDS Surveillance, and the Childhood Lead Prevention Program. There are many conditions that are, by law, reportable to the County of San Diego Public Health Services. Once a report is made to public health, the Community Epidemiology Branch's job of responding, investigating, and intervening begins. Here are some highlights of recent activities following disease reports.

### Surveillance of Enteric Pathogens in San Diego County Using Pulsed Field Gel Electrophoresis (PFGE) and PulseNet: What's in My Peanut Butter?

PulseNet is the national molecular surveillance network for food-borne infections. Sub-typed information on bacterial food-borne pathogens is posted on a secure national web board. Analyzing PFGE data allows members to detect clusters of disease with probable common exposures over time and distance. The San Diego County Public Health Laboratory (SDC PHL) has been an active member of PulseNet USA since 2001. All cultures of *E. coli* O157:H7, *Salmonella*, *Shigella*, and *Listeria* submitted to the SDC PHL for identification or confirmation are routinely analyzed using PFGE; PFGE surveillance has resulted in increased recognition of food-borne outbreaks.

In a 12-month period, 30 local clusters were detected by PFGE; among others, CEB investigated two large daycare clusters of *Shigella sonnei* involving 20 cases and affecting 150 children and their families. Twenty-five multistate outbreaks were identified with PFGE-matched cases from San Diego County.

In November 2008, CEB and SDC PHL posted a cluster of 2 *S. enterica* Typhimurium isolates with an unusual pattern (Xbai PFGE pattern JPXX01.1818) to the web board. An epidemiologic assessment of this cluster by federal and state partners showed this pattern to be unique in the PulseNet database on the web board. Multiple jurisdictions began posting additional PFGE matches as cases confirmed with this out-

break strain increased in numbers nationally. Ultimately, two strains of *S. enterica* Typhimurium with similar PFGE patterns were determined to be the causative agents associated with 714 salmonellosis cases in 46 states (seven from San Diego County), epidemiologically linked with peanut butter-containing products.

### The Graying of AIDS in San Diego County

The proportion of AIDS cases aged 50 years and older diagnosed in San Diego County has increased over time; older AIDS cases now make up more than 19 percent of all those reported in the county, similar to the 20 percent reported nationwide. In recent years (2004–2008), these cases are more likely to be female; both male and female older cases are more likely to have heterosexual transmission than younger cases. While older cases are more likely to be white, they are less likely to be Hispanic than younger cases. Older people are being diagnosed with STDs at increasing frequency and use condoms less often in sexual encounters than younger persons. They are less likely to think of themselves at risk and seem to be less likely to be thought of as “at risk” by healthcare providers.

Medications have increased the lifespan of older people diagnosed with HIV disease substantially, and many are now living into old age. Therefore, these patients may go on to develop cardiac disease, cancers, dementia, and other diseases associated with old age. Providers in HIV/AIDS practice may follow these patients for specialist care, but all healthcare providers should be aware of this aging population as they are seen for routine care.

### Leading Cause of Death in San Diego County in 2007: It's Not the Same List From Medical School

Community Epidemiology Branch's Vital Records Division reports mortality data to California Department of Public Health (CDPH); cumulative data from all California counties is maintained for public use by CDPH Center for Health Statistics in the California Death Statistical Master Files (DSMF). CEB analysis of 2000–2007 DSMF data demonstrates a trend away from heart disease as the leading cause of death in San Diego County.

Mortality trends in the United States

indicate heart disease (HD) mortality rates have decreased by 64 percent since 1950, with cancer mortality rates decreasing by 15 percent since 1990. Nationally, HD remains the leading cause of death from all causes, followed by cancer. In San Diego County, gradual declines of both HD and cancer coincide with national trends, but HD mortality rates dropped below cancer rates, making cancer the county's leading cause of death in 2007.

- Deaths From Cancer in 2007: 4,812
- Deaths From Heart Disease in 2007: 4,743

### Once a report is made to public health, the Community Epidemiology Branch's job of responding, investigating, and intervening begins

Regional differences were noted: In North Central, North Inland, and North Coastal regions, cancer is the leading cause of mortality, with noted rate increases in North Coastal and North Inland regions in 2006–2007. In East, Central, and South regions, heart disease remained the leading cause of mortality. Ongoing analysis is needed to account for regional differences, with more intensive subgroup analysis (ethnicity and gender). Trends may also reflect coding changes from ICD-9 to ICD-10.

### Swift Action on a Cluster of Illness: It All Starts When You Order a Test

Providers are required to meet a number of mandates, including prompt disease reporting; the following illustrates a preventive public health action resulting from investigation of a physician report. On August 27, 2008, a group travel exposure was identified by individual investigators discussing an unusual cluster of giardiasis cases; CEB identified 77 local church youth and chaperones who camped and rafted at a northern California commercial facility that provided meals, showers, sleeping arrangements, and drinking water from a hose. Cases reported seeing giardia warning signs posted for swimmers. CEB notified Siskiyou County environmental and

public health officials; the business was unknown to environmental health. On August 28, 2008, with five cases of giardiasis confirmed, Siskiyou County discontinued the company's operations. Diagnostic stool examination and reporting are key elements in identifying and eliminating sources of infection.

### Lead Poisoning in Children

2009 recommendations from the CDC Advisory Committee on Childhood Lead Poisoning Prevention reflect an increased awareness of the potential for neurodevelopmental damage at lower blood lead levels (BLLs), and the importance of primary prevention. Children with BLLs approaching 10 µg/dL of blood should be rescreened more frequently; affected families should be referred to agencies and sources of information to facilitate establishment of a lead-free environment.

### The CEB Communicable Disease Report

In 2008, CEB used electronic disease reporting data for 2003–2007 to produce a Communicable Disease Report. This report provides a descriptive overview of 16 select communicable diseases in San Diego County over a five-year period in comparison to disease incidence in California, and the United States, among the general population, and in special populations.

### Communicable Disease Reporting

In San Diego County, communicable diseases are reported to the Community Epidemiology Branch (CEB) of the County of San Diego Health and Human Services Agency. To reach CEB during weekdays, call (619) 515-6620, or, for assistance after-hours, dial (858) 565-5255 and ask for the epidemiologist on call. For additional information, visit [www.sdepi.org](http://www.sdepi.org). +

---

**ABOUT THE AUTHOR:** Dr. Ginsberg is the chief of Community Epidemiology Branch in the Public Health Services Division of the Health and Human Services Agency for the County of San Diego. The Branch includes Public Health Laboratory and Vital Records. Dr. Ginsberg is a voluntary clinical professor of medicine at UC San Diego and adjunct faculty at the SDSU School of Public Health.