

STATISTICAL METHODS



Statistical Methods: City-level Population Estimates

In order to calculate reliable local rates of death, disease and hospitalizations, we needed population data at the city level. The population data acts as the denominators in our statistical formulas and represents the populations at risk for illness and injury for a specific time period.

The Problem:

The *California Department of Finance* (DOF) does not provide the mid-year population estimates for cities by age group and gender.

Our Solution:

Based on the DOF city-level population estimates for January 1, 2002, January 1, 2003 and January 1, 2004, we calculated a 2003 mid-year population estimate for residents in each city.

We assumed the rate of population growth to be the same among men and women. We also assumed the population growth was the same in each age group. We calculated 2003 mid-year city-level population estimates for each group within each city.

These calculations were based on statistics from the 2000-2004 *California Department of Finance* (DOF) population estimates. These 2003 mid-year

estimates were then multiplied by three in calculating 2002-2004 rates

These city-level estimates, by age group and gender, were used for the age-adjusted rates and for the analyses on specific topics such as teen births and injury hospitalizations. These additional denominators are shown in detailed tables with 95% confidence intervals, available online at:http://cchealth.org/health_data/hospital_council/

City-level population estimates

Calculated mid-year city-level estimates by gender

Table 1. Contra Costa & California, 2002–2004 (3-year totals)

	Men	Women	Population size
Antioch	147,282	153,492	300,774
Bay Point	35,070	34,878	69,948
Brentwood	53,613	55,144	108,757
Concord	185,647	190,232	375,879
Martinez	55,012	55,871	110,883
Oakley	41,459	40,602	82,061
Pinole	28,239	30,552	58,791
Pittsburg	90,585	93,816	184,401
Richmond	148,515	156,981	305,496
San Pablo	45,694	47,347	93,041
Walnut Creek	91,789	107,035	198,824
Contra Costa	1,474,351	1,531,087	3,005,438
California	53,865,026	54,023,662	107,888,688

Data obtained from:

California Department of Finance (April 2006). *Estimated Race/Ethnic Population with Age and Sex Detail 2000-2004*. Sacramento, CA.

California Department of Finance (May 2006). E-4 Population Estimates for Cities, Counties and the State 2001-2006, with DRU Benchmark. Sacramento, CA. Available online at: <http://www.dof.ca.gov/HTML/DEMOGRAP/Druhpar.htm>

Note: City-level denominators were extrapolated from the E-4 file to approximate the mid-year population estimates that are needed to calculate city-level rates. For more information, see our section on statistical methods.