Suicide and Non-Fatal Self-Inflicted Injury

Residents ages 15–24 years were most likely to be hospitalized for self-inflicted injury.

- Whites were more likely to commit suicide and be hospitalized for self-inflicted injuries than county residents overall.
- Suicide is the third leading cause of death among residents 15–34 years old.
- Females were more likely to be hospitalized for self-inflicted injury than males.
- Males were more likely to commit suicide than females.

Suicide

Between 2005–2007, 269 Contra Costa residents committed suicide. This means that on average 90 Contra Costa residents committed suicide each year. Suicide was the third leading cause of death among Contra Costa residents 15–34 years (see Leading Causes of Death section).

The crude suicide rate for Contra Costa (8.7 per 100,000) was similar to California's crude rate (9.0 per 100,000).

The greatest number of suicides occurred among whites (213), nearly three-fourths of these (152) were males. Whites had the highest suicide rate (13.2 per 100,000); significantly higher than the rates for the county overall (8.7 per 100,000) and other racial/ethnic groups listed. Hispanics (3.3 per 100,000) and Asians/Pacific Islanders (5.0 per 100,000) had significantly lower suicide rates compared to the county overall.

Table 1 ■ Suicide by race/ethnicity

Contra Costa County, 2005–2007

	Deaths	Percent	Rate
White	213	79.2%	13.2*
Hispanic	22	8.2%	3.3**
Asian/Pacific Islander	20	7.4%	5.0**
African American	11	4.1%	NA
Total	**269**	**100.0%**	**8.7**

These are crude rates per 100,000 residents.
Total includes racial/ethnic groups not listed above.
*Significantly higher rate than the county overall.
**Significantly lower rate than the county overall.

Suicide is any intentionally self-inflicted injury that is fatal. Fatal injuries due to reckless behavior, such as driving while intoxicated, are not categorized as suicide.

Males had a higher number (197) and rate (13.0 per 100,000) of suicide than females (72 and 4.6 per 100,000).

Table 2 ■ Suicide by gender

Contra Costa County, 2005–2007

	Deaths	Percent	Rate
Males	197	73.2%	13.0*
Females	72	26.8%	4.6
Total	**269**	**100.0%**	**8.7**

These are crude rates per 100,000 residents.
*Significantly higher rate than county females overall.

Most suicides in Contra Costa occurred among residents 21-64 years (76.2%).

Table 3 ■ Suicide by age

Contra Costa County, 2005-2007

	Deaths	Percent	Rate
0–20 years	15	5.6%	NA
21–44 years	108	40.1%	10.7
45–64 years	97	36.1%	11.8
65 years and older	49	18.2%	13.2
Total	**269**	**100.0%**	**8.7**

These are age-specific rates per 100,000 residents.

The highest number of suicides occurred among residents of Concord (35), followed by Walnut Creek (30), Richmond (26) and Martinez (21). Suicide rates among residents of Martinez (19.4 per 100,000) and Walnut Creek (15.3 per 100,000) were significantly higher than the county overall (8.7 per 100,000).

Table 4 ■ Suicide by selected cities

Contra Costa County, 2005–2007

	Deaths	Percent	Rate
Concord	35	13.0%	9.4
Walnut Creek	30	11.2%	15.3*
Richmond	26	9.7%	8.4
Martinez	21	7.8%	19.4*
Antioch	18	6.7%	NA
Pittsburg	13	4.8%	NA
El Cerrito	12	4.5%	NA
Brentwood	11	4.1%	NA
Pleasant Hill	8	3.0%	NA
San Pablo	8	3.0%	NA
Oakley	5	1.9%	NA
Pinole	5	1.9%	NA
Contra Costa	**269**	**100.0%**	**8.7**

These are crude rates per 100,000 residents.
Contra Costa total includes cities not listed above.

More than one-third (39.0%) of all suicides were committed with a firearm. Poisoning (23.4%) and hanging/suffocation (22.3%) were other common means of committing suicide.

Table 5 ■ Suicide by cause

Contra Costa County, 2005–2007

	Deaths	Percent	Rate
Firearm	105	39.0%	3.4
Poisoning	63	23.4%	2.0
Hanging/suffocation	60	22.3%	1.9
Other	25	9.3%	0.8
Jump	10	3.7%	NA
Total	**269**	**100.0%**	**8.7**

These are crude rates per 100,000 residents.
Total includes causes not listed above.

Non-Fatal Self-Inflicted Injury Hospitalizations

To understand the impact of self-inflicted injuries, it is important to assess hospitalizations in addition to deaths. Information about suicide indicates the ultimate toll that self-injurious behaviors take on people's lives, but more people harm themselves than kill themselves. The most serious self-inflicted injuries, including suicide attempts, may result in hospitalization. Other less-severe self-inflicted injuries are treated in emergency departments, outpatient clinics or not at all.

Between 2005–2007, there were 995 hospitalizations due to non-fatal self-inflicted injuries among Contra Costa residents. This means that on average, there were 332 hospitalizations in Contra Costa due to self-inflicted injury each year. The crude hospitalization rate from self-inflicted injuries for Contra Costa (32.2 per 100,000) was lower than the crude rate for California (43.8 per 100,000).

Table 6 ■ Self-inflicted injury hospitalizations by race/ethnicity

Contra Costa County, 2005-2007

	Cases	Percent	Rate
White	649	65.2%	40.1*
African American	122	12.3%	43.5*
Hispanic	102	10.3%	15.5**
Asian/Pacific Islander	46	4.6%	11.6**
Total	**995**	**100.0%**	**32.2**

These are crude rates per 100,000 residents.
Total includes racial/ethnic groups not listed above.
*Significantly higher rate than the county overall.
** Significantly lower rate than the county overall.

Non-fatal self-inflicted injury is most often the result of a failed suicide attempt. In this section we look at self-inflicted injuries that led to hospitalization.

In Contra Costa, the greatest number of self-inflicted injury hospitalizations was among whites (649), followed by African Americans (122), Hispanics (102) and Asians/Pacific Islanders (46).

African Americans (43.5 per 100,000) and whites (40.1 per 100,000) had significantly higher rates of self-inflicted injury hospitalizations than the county overall (32.2 per 100,000). Hispanics (15.5 per 100,000) and Asians/Pacific Islanders (11.6 per 100,000) had significantly lower rates of self-inflicted injury hospitalizations compared to the county overall.

Females accounted for more than half (60.3%) of the county's self-inflicted injury hospitalizations and had a significantly higher self-inflicted injury hospitalization rate (38.1 per 100,000) than males (26.0 per 100,000).

Table 7 ■ Non-fatal self-inflicted injury hospitalizations By Gender

Contra Costa County, 2005–2007

	Cases	Percent	Rate
Females	600	60.3%	38.1*
Males	395	39.7%	26.0
Total	**995**	**100.0%**	**32.2**

These are crude rates per 100,000 residents.
*Significantly higher rate than county males overall.

White females had a higher hospitalization rate for self-inflicted injury (49.3 per 100,000) compared to county females overall (38.1 per 100,000). Hispanic (13.2 per 100,000) and Asian/Pacific Islander females (16.0 per 100,000) had lower rates than county females overall.

African American males had a higher rate of self-inflicted hospitalization (44.0 per 100,000) than county males overall (26.0 per 100,000). Hispanic males (17.7 per 100,000) had a lower rate than county males overall.

Table 8 ■ Non-fatal self-inflicted injury hospitalizations by age

Contra Costa County, 2005–2007

	Cases	Percent	Rate
0–14 years	37	3.7%	5.8**
15–24 years	262	26.3%	64.1*
25–34 years	160	16.1%	41.1*
35–44 years	189	19.0%	40.6*
45–54 years	197	19.8%	41.5*
55–64 years	83	8.3%	23.9**
65 years and older	67	6.7%	18.1**
Total	**995**	**100.0%**	**32.2**

These are age-specific rates per 100,000 residents.
*Significantly higher rate than the county overall.
** Significantly lower rate than the county overall.

Residents 15–24 years old accounted for more than one-quarter (26.3%) of all self-inflicted injury hospitalizations and had the highest self-inflicted injury hospitalization rate (64.1 per 100,000); significantly higher than the rates for the county overall (32.2 per 100,000) and all other age groups. Residents 25–54 years also had significantly higher rates of self-inflicted injury hospitalizations than the county overall. Residents 0–14 and 55 years and older had significantly lower rates than the county overall.

Table 9 ■ Non-fatal self-inflicted injury hospitalizations by cause

Contra Costa County, 2005–2007

	Cases	Percent	Rate
Poisoning	807	81.1%	26.1
Cut/pierce	117	11.8%	3.8
Other	42	4.2%	1.4
Jump	16	1.6%	NA
Hanging/Suffocation	8	0.8%	NA
Firearm	5	0.5%	NA
Total	**995**	**100.0%**	**32.2**

These are crude rates per 100,000 residents.
Total includes causes not listed above.

The majority (81.1%) of all self-inflicted injury hospitalizations involved poisonings, followed by cutting/piercing (11.8%).

Three ZIP codes had significantly higher self-inflicted injury hospitalization rates than the county overall: 94553, 94520 and 94509. These were located in East and Central counties. A stable rate could not be calculated for ZIP codes with fewer than 20 cases. If denominator data was available, statistical testing generated a confidence interval for these ZIP codes to determine whether the rate range was lower, higher or similar to the county rate. Results from this test are reflected in the ZIP code table and map. Four of these ZIP codes had a rate range significantly lower than the county rate: 94507, 94517, 94531 and 94595.

Table 10 ■ Non-fatal self inflicted injury hospitalizations by ZIP code

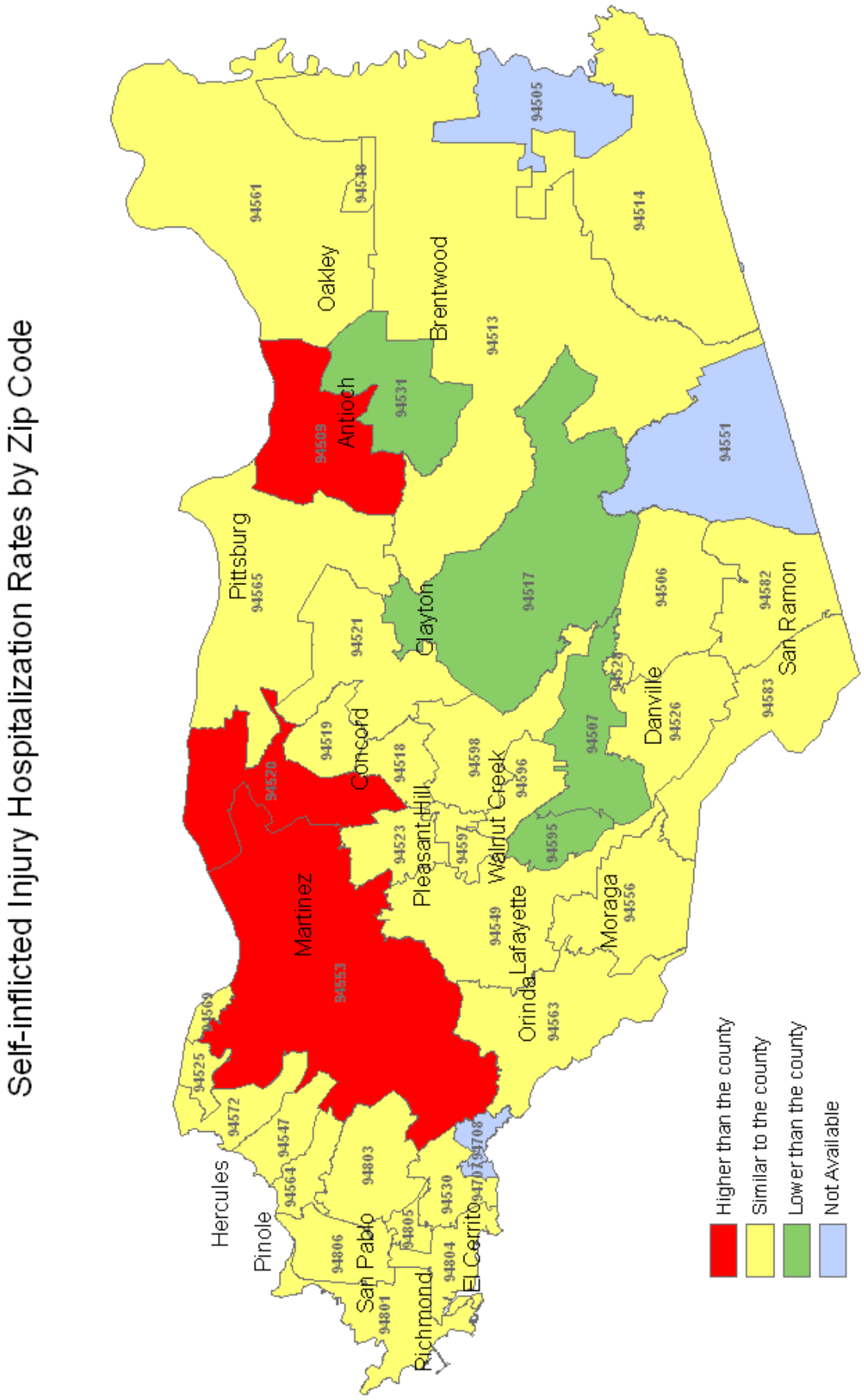
Contra Costa County, 2005–2007

	Cases	Percent	Rate
94506	19	1.9%	NA
94507	5	0.5%	NA**
94509	88	8.8%	44.6*
94513	40	4.0%	28.9
94514	8	0.8%	NA
94517	5	0.5%	NA**
94518	23	2.3%	27.1
94519	19	1.9%	32.2
94520	59	5.9%	51.4*
94521	36	3.6%	27.8
94523	32	3.2%	31.2
94526	23	2.3%	25.2
94530	18	1.8%	NA
94531	18	1.8%	NA**
94547	19	1.9%	NA
94549	21	2.1%	24.8
94553	79	7.9%	53.5*
94556	13	1.3%	NA
94561	38	3.8%	37.4
94563	11	1.1%	NA
94564	11	1.1%	NA
94565	88	8.8%	34.3
94572	12	1.2%	NA
94582	13	1.3%	NA
94583	48	4.8%	47.4
94595	6	0.6%	NA**
94596	30	3.0%	49.9
94597	21	2.1%	30.9
94598	29	2.9%	36.5
94801	26	2.6%	27.6
94803	20	2.0%	24.6
94804	44	4.4%	36.4
94805	16	1.6%	NA
94806	44	4.4%	24.2
Total	**995**	**100.0%**	**32.2**

Total includes ZIP codes not listed above.

*Significantly higher rate than the county overall.

** Significantly lower rate than the county overall.


Self-inflicted Injury Hospitalization Rates by Zip Code
Oakley
Brentwood
Antioch
Pittsburg
Clayton
Concord
Pleasant Hill
Walnut Creek
Martinez
Lafayette
Orinda
Moraga
Danville
San Ramon
Hercules
Pinole
San Pablo
Richmond
El Cerrito
94561
94548
94505
94514
94513
94531
94509
94551
94565
94517
94506
94582
94521
94519
94518
94598
94596
94507
94526
94583
94520
94523
94597
94595
94549
94556
94553
94563
94569
94525
94572
94547
94564
94803
94530
94708
94806
94805
94804
94801
Higher than the county
Similar to the county
Lower than the county
Not Available

What are suicides and self-inflicted injuries?

Suicide is a death resulting from the intentional use of force against oneself.[1] There are many more suicide attempts than successful suicides. Self-inflicted injuries are often the result of a suicide attempt, but not always. Other self-injurious behaviors such as cutting or burning oneself are also included in self-inflicted injuries.

Why are they important?

Suicide was the 12th leading cause of death in the county overall and the third leading cause for county residents age 15 to 34.

Considering only suicide deaths and hospitalized attempts would underestimate the problem. For each suicide, there are an estimated 25 unsuccessful attempts. Among adults 15–24 years, there are estimated 100–200 attempts for every suicide completed.[2] Unsuccessful suicide attempts and other self-injurious behavior can lead to serious injuries, such as broken bones, brain damage or organ failure, that require medical care.[4,5]

Suicide accounts for $25 billion each year in direct costs, including health care services, autopsies, investigations and funeral services, and indirect costs like productivity loss.[3] The social costs, including the life potential lost due to an early death, can burden schools, neighborhoods and communities.[4]

Who does it impact the most?

In the United States, much like in Contra Costa, men are more likely to die from suicide than females, and account for a greater portion of suicides.[5] County data show females are more likely to be hospitalized for self-inflicted injuries and U.S. females report failed suicide attempts during their lifetime more often than males.[1] Although suicide death rates are highest in U.S. adults 65 years and older,[6] the proportion of deaths attributable to suicide is larger in younger age groups.

The number of suicides committed by American Indian/Alaska Native residents of Contra Costa was too small to calculate stable rates, but the national suicide rate for American Indian/Alaska Native residents 15–34 years (19.7 per 100,000) was higher than the national average for that age group (11.1 per 100,000).[5] In Contra Costa, whites were more likely to commit suicide and be hospitalized for self-inflicted injuries than county residents overall.

Risk factors for committing or attempting suicide include a previous suicide attempt, history of mental disorders—particularly depression, history of alcohol and substance abuse, family history of suicide or violence, feelings of hopelessness, isolation and loss, impulsive or aggressive tendencies, physical illness, and barriers to mental health treatment.[4]

What can we do about it?

Strengthening an individual's bond to their families, friends and peers, and to community organizations such as schools, universities, places of employment, community centers, and churches or other religious or spiritual organizations may have the potential to decrease risk for suicidal behavior. Bonds formed by adolescents to their schools, for example, have been shown to protect teens against suicidal

thoughts and behaviors in several national studies.[6]

Also, close family members, friends and teachers may be able to pick up on warning signs such as changes in mood, diet or sleeping pattern of someone who may be already contemplating suicide.[4] A strong public information campaign and readily available counseling may enable people to recognize warning signs and seek help.

Victims of interpersonal violence (e.g., child abuse, youth violence, community violence, sexual assault, and domestic violence) have a higher risk of suicide than nonvictims. Preventing these "profound life stresses" may prevent subsequent suicidal behaviors and additional instances of interpersonal violence.[7]

Environmental risk factors for attempting suicide can also be addressed by limiting the availability of prescription and illegal drugs, firearms, and alcohol to underage youths.

Data Sources: Suicide and Non-Fatal Self-Inflicted Injury

TABLES AND MAP

Tables 1-10: Any analyses or interpretations of the data were reached by the Community Health Assessment, Planning and Evaluation (CHAPE) Unit of Contra Costa Health Services and not the California Department of Public Health (CDPH) or California Office of Statewide Health Planning and Development (OSHPD). Data presented for Hispanics include Hispanic residents of any race. Data presented for whites, Asians/Pacific Islanders and African Americans include non-Hispanic residents. Not all race/ethnicities are shown but all are included in totals for the county and for each gender, age, cause and city. Counts fewer than five are not shown in order to protect anonymity. Rates were not calculated for any group with fewer than 20 cases due to unstable estimates.

Population estimates for Contra Costa and its subpopulations (by age, gender, race/ethnicity, city/census place) for 2005-2007 were provided by the Urban Strategies Council, Oakland, CA. January, 2010. Data sources used to create these estimates included: U.S. Census 2000, Neilsen Claritas 2009, Association of Bay Area Governments (ABAG) 2009 Projections, and California Department of Finance Population Estimates for Cities, Counties and the State 2001-2009, with 2000 Benchmark.

California population estimate for state level rate from the State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark. Sacramento, California, May 2009.

Tables 1-5: These tables include total deaths due to suicide and crude or age-specific average annual death rates per 100,000 residents for 2005 through 2007. Suicide mortality data from the California Department of Public Health (CDPH), http://www.cdph.ca.gov/, Center for Health Statistics' Death Statistical Master File, 2005-2007.

ICD10 coding for suicide (ICD X60-X84) found at the CDHS Brand EPICenter California Injury Data Online at http://www.applications.dhs.ca.gov/epicdata/default.htm, modified from the Centers of Disease Control and Prevention National Center for Health Statistics available online at http://www.cdc.gov/nchs/about/otheract/ice/matrix10.htm. Poisonings includes drug overdose. Late effects are not included. Table 5's ICD10 coding for "other" may include suicides due to the following causes; drowning, explosives, fire, hot vapors or objects, blunt object, motor vehicle involvement and other specified and unspecified means.

Tables 6-10: These tables include total hospitalizations due to self-inflicted injury and crude or age-specific average annual hospitalization rates per 100,000 residents for 2005 through 2007. Non-fatal self-inflicted hospitalization data from the California Office of Statewide Health Planning and Development (OSHPD) Patient Discharge Data files 2005-2007, http://www.oshpd.ca.gov/, Healthcare Quality and Analysis Division, Health Care Information Resource Center.

ICD9 E-coding for non-fatal self-inflicted injury found at the CDHS Brand EPICenter California Injury Data Online at http://www.applications.dhs.ca.gov/epicdata/default.htm, modified from the Centers of Disease Control and Prevention National Center for Health Statistics available online at http://www.cdc.gov/nchs/about/otheract/ice/matrix10.htm.

OSHPD data includes only those hospitalizations for which assault was listed as the primary diagnoses (ICD E950-958.9). They do not include treatment that takes place in a doctor's office, health clinic or emergency room. A single resident can be counted multiple times for multiple times for multiple self-inflicted injury hospitalizations. Table 9's "other" category includes non-fatal self-inflicted injuries from the following causes: burns, fire, scalding, motor vehicle crash and other specified and unspecified means.

Table 10:
The rates for several ZIP codes are marked "NA" in the table. This is because the ZIP code has fewer than 20 cases

ZIP codes with fewer than five cases and those that are shared with another county are not shown in the table.

Non-fatal Self-inflicted Injury Hospitalization map:
The shading for some ZIP codes indicates that the rate is not available. This is due to the following reasons:

- A denominator for the ZIP code is not available: 94505
- The ZIP code extends to areas outside of Contra Costa county: 94551, 94707, 94708

Although rates were not calculated for ZIP codes with fewer than 20 cases, statistical testing generated a confidence interval for these ZIP codes to determine whether the rate range was similar to the county rate and it was shaded appropriately on the map.

ZIP codes that are assigned to P.O. boxes only could not be shown on the map.

ZIP code population estimates for ZIP code level hospitalization rates provided by the Environmental Health Investigations Branch from the Environmental Systems Research Institute (ESRI) Community Sourcebook of ZIP Code Demographics. Data was not available for all ZIP codes.

Healthy People 2010 objectives from the U.S. Department of Health and Human Services' Office of Disease Prevention and Health Promotion, available online at http://www.healthypeople.gov/.

TEXT

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