
Community Health Status Report



San Luis Obispo County
Public Health Department

April 2007
Version 2.0

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Executive Summary

San Luis Obispo County Public Health Department is pleased to present this Community Health Status Report for San Luis Obispo County. The creation of this report was undertaken to provide an overview of some of the key community health trends in our county. We believe that one major role of public health is to systematically collect, analyze, report and disseminate information about the health of the county's population to support community-driven health improvement strategies. This report contains information that can be used by health care providers, policy-makers, educators and other community members.

The primary sections of the report are (I) Community Overview, (II) Maternal, Child, and Adolescent Health, (III) Communicable and Infectious Diseases, and (IV) Leading Causes of Illnesses, Injury or Death. As much as possible, we have compared our local health status with that of the State, and when available, to the national Healthy People 2010 objectives. In addition to health or medically related indicators, we have also included some socio-economic factors that may influence the health status of populations.

We believe that the community is our most valuable partner in public health; therefore, we especially value your comments, questions and suggestions about the Community Health Status Report. Please send them to:

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Community Profile

Geography: San Luis Obispo County, one of California’s 27 original counties created in 1850, is located along the Pacific Coast, approximately 200 miles north of Los Angeles and 235 miles south of San Francisco. Most of the county’s 3,326 square miles are unincorporated (over 98% of it’s land mass and 41% of it is populated). The majority of residents live along the coast or along the corridor of Highway 101. While the eastern region is sparsely populated with vast areas of agricultural and government lands between small, unincorporated towns.

Figure 1-1: San Luis Obispo County Area Map

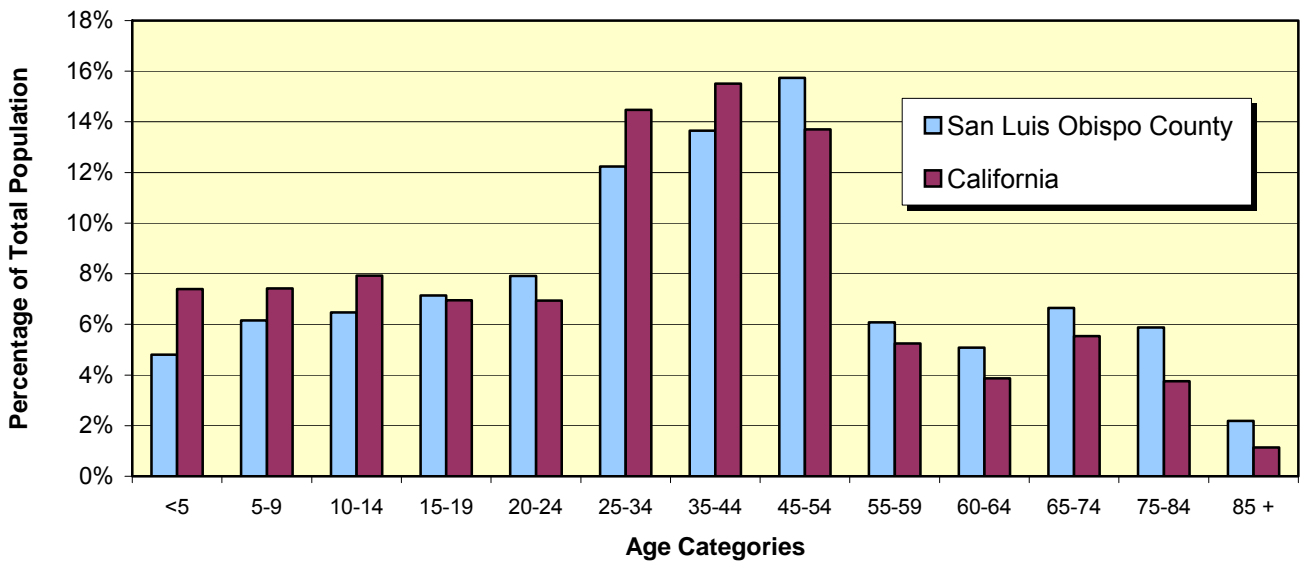


Industry: Key industries in the county include tourism, education, agriculture (primarily viticulture) and Government.

Colleges / Universities: San Luis Obispo is the home of California Polytechnic State University, with an enrollment of approximately 17,500 undergraduate and graduate students in 2004-05, and Cuesta Community College, which has two campuses in the county and a total enrollment of approximately 11,000 students.

Age of Population: Compared to California, San Luis Obispo County has a smaller percentage of its population under the age of 15. In addition, our county has a higher percentage of individuals over the age of 45, which has important implications for disease patterns and demand for health services. A comparison of our State and County populations, by age categories, is shown in Figure 1-2.

Figure 1-2: Age Category Comparison
San Luis Obispo County and California, 2004

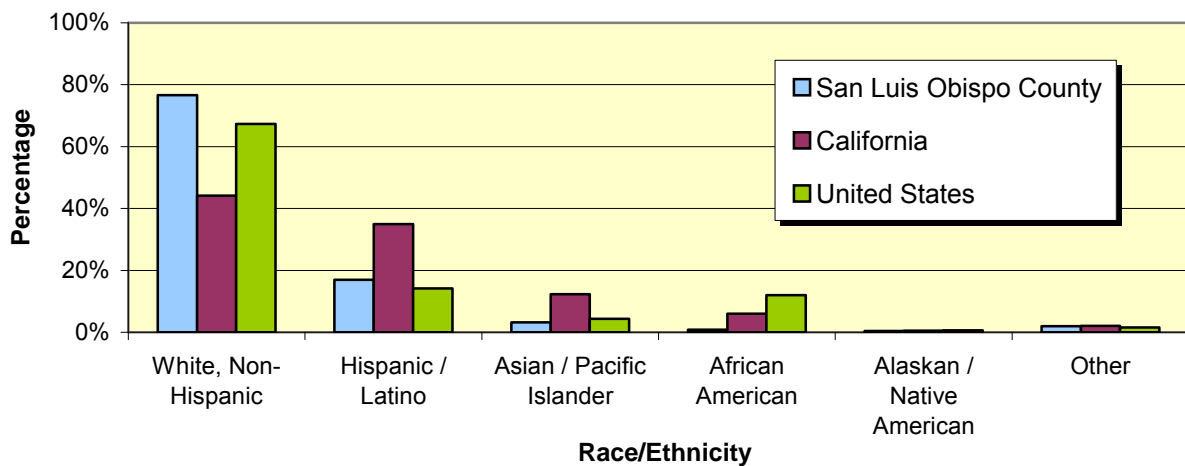


Data source: United States Census Bureau, American Community Survey, 2004.

Race/Ethnicity of Population:

In a comparison of race/ethnicity make-up, San Luis Obispo County has a higher percentage of non-Hispanic whites compared to both the State of California and the United States. San Luis Obispo County also has a lower percentage of Hispanic/Latino individuals compared to the State of California. A comparison of race/ethnicity is shown below in Figure 1-3.

Figure 1-3: Race/Ethnicity Comparison
San Luis Obispo County, California and United States, 2004



Data source: United States Census Bureau, American Community Survey, 2004

Population Growth:

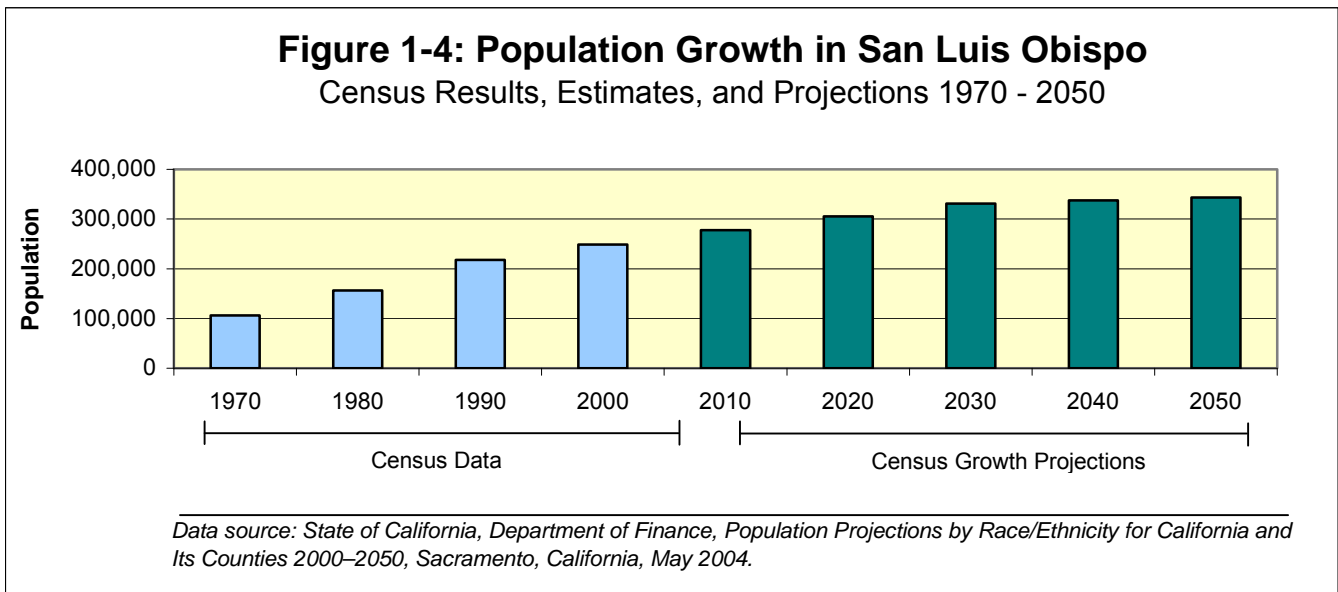
San Luis Obispo County has the 23rd largest population in California (out of 58 counties). With a population of 44,000, the City of San Luis Obispo is the largest city in the county; it is also the county seat. A summary of the population growth by city/unincorporated area is provided in Table 1-1. Paso Robles was the fastest growing area from 2000 to 2006.

Table 1-1: Population Growth by City / Unincorporated Area				
San Luis Obispo County, 2000 - 2006				
City / Area	2000 Population	2006 Population	Numeric Change	Percent Change
Arroyo Grande city	15,851	16,599	748	4.5%
Atascadero city	26,411	27,658	1,247	4.5%
Paso Robles city	24,297	28,969	4,672	16.1%
Grover Beach city	13,067	13,213	146	1.1%
Morro Bay city	10,350	10,491	141	1.3%
Pismo Beach city	8,551	8,617	66	0.8%
San Luis Obispo city	44,174	44,439	265	0.6%
Other (unincorporated areas)	103,980	113,256	9,276	8.2%
San Luis Obispo County	246,681	263,242	16,561	6.3%

Data source: California Department of Finance, Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2005 and 2006.

Census Projections:

San Luis Obispo County has experienced steady growth since the 1970's. Figure 1-4 shows a summary of the county population and growth estimates for San Luis Obispo County according to the State Census Data Center. In the 1990's, population growth controls were established by limiting the number of new building permits issued by the county; therefore, the actual growth may be less than projected by the State.



Income: San Luis Obispo County’s per capita personal income in 2004 was \$25,125 adjusted for inflation, compared to \$25,411 for the State. San Luis Obispo County ranked 21st highest among the state’s 58 counties for per capita personal income. The median household income for San Luis Obispo County residents has consistently been lower than the State’s, as shown in Table 1-2; although the gap appears to be lessening.

Table 1-2: Median Household Income
San Luis Obispo County and California, 1979 - 2004

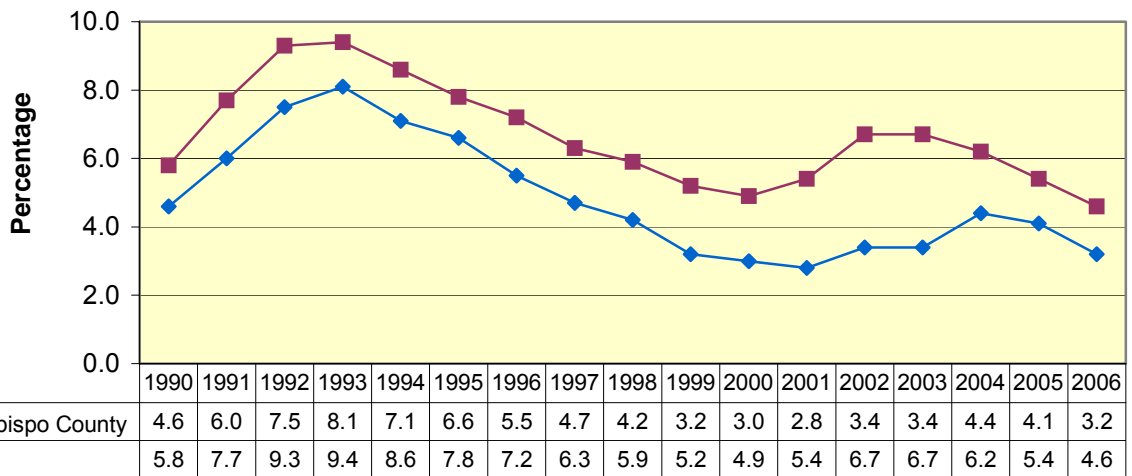
Region	1979	1989	2004
San Luis Obispo County	\$14,805	\$31,164	\$51,072
California	\$18,243	\$35,798	\$51,185

Data source, 1979 and 1989: California Department of Finance, California County Profiles; <http://www.dof.ca.gov>.

Data source, 2003: U.S. Census Bureau, American Community Profile, 2004. <http://factfinder.census.gov>

Unemployment: Compared to the State of California, San Luis Obispo County had a lower percentage of unemployment during the past decade. As of June 2006, per the California Employment Development Department, the unemployment rate in San Luis Obispo County was 3.2%, compared to 4.6% statewide in California. However, both rates are continuing to decline.

Figure 1-5: Annual Average Rate of Unemployment
San Luis Obispo County and California, 1990 - 2006



Data source: California Employment Development Departments, <http://www.edd.ca.gov/>, Unemployment Rates.

Low Income, Uninsured, and Disabled Population

Poverty: Poverty increases the risk of many conditions, including poor nutrition, low birth weight, cognitive and developmental delays, unaffordable and inaccessible health care, decreased mental well-being, poor academic achievement, unemployment, and inadequate housing. Death rates of people below the poverty level are much higher than those who are above it. Low socioeconomic status is also associated with higher risks of infectious diseases, accidents and homicides.

Table 2-1 shows the proportion of the population living at or below poverty level in San Luis Obispo County compared to the State of California, per the U.S. Census 2000.

Table 2-1: Proportion of Population At or Below Poverty¹		
Per U.S. Census 2000	San Luis Obispo County	California
Total (all ages)	11.10%	13.80%
o Persons Under 18 Years	13.80%	19.60%

¹ Number of individuals with family incomes less than 100 percent of the Federal poverty line, divided by the total population for whom poverty status is reported.

Data Source: United States Census Bureau, Small Area Income and Poverty Estimate, 2003.

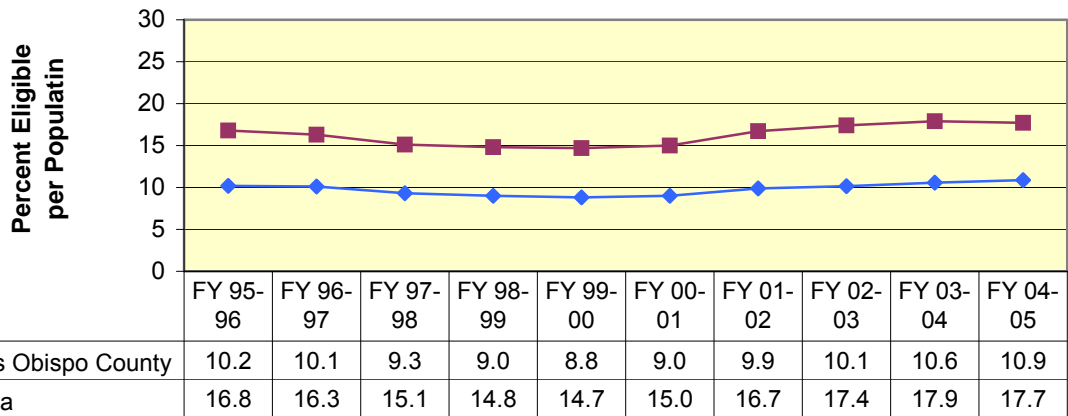
Medi-Cal Population: Medi-Cal is California’s Medicaid healthcare program. This program pays for a variety of medical services for children and adults with limited income and resources. Medi-Cal is supported by federal and state taxes. Figure 2-1 shows the Medi-Cal (Medicaid) eligible population for California and San Luis Obispo County for Fiscal Years 1995 – 2005. Compared to California, SLO County consistently has a smaller percentage of the population who are eligible (e.g., 10.9% versus 17.7% in FY 2004-05).

Table 2-2 further divides the Medi-Cal population (regular fee-for-service clients; excluding those in Managed Care Plans). From FY 1995-96 to FY 2004-05, the cost per user has increased from \$350 to \$530 (34%) for San Luis Obispo County and from \$359 to \$615 (42%) for California.

According to the Medi-Cal Policy Institute, California HealthCare Foundation, Oakland, California, January 2002:

Many people think of Medi-Cal as one large, statewide public health insurance program. In reality, however, the Medi-Cal program is made up of 58 discrete county-based efforts that implement mandated federal and state policies in slightly different ways. Each California county is responsible for executing the California Department of Health Services’ directives and administering the program’s day-to-day operations, a fact which ultimately means that the Medi-Cal program may play out differently across county lines.

Figure 2-1: Medi-Cal Eligible Population
California and San Luis Obispo, Fiscal Years 1995 - 2005



Data source: State of California, Department of Health Service; Medical Care Statistics Section, Publications, Medi-Cal County Program Monthly Averages; <http://www.dhs.ca.gov/MCSS>.

Table 2-2: Medi-Cal Population*

*Limited to Regular Fee-for-Service (excludes Managed Care Plans)

Fiscal Year	San Luis Obispo County				California			
	Average Monthly Users (N)	Average Monthly Provider Payments	Users per 100 Eligible	Cost per User	Average Monthly Users (N)	Average Monthly Provider Payments	Users per 100 Eligible	Cost per User
FY 1995-96	12,540	\$4,393,882	52.9	\$350.39	2,198,528	\$790,030,052	50.7	\$359.35
FY 1996-97	13,143	\$4,407,023	55.7	\$335.31	2,129,902	\$801,481,092	56.3	\$376.30
FY 1997-98	12,939	\$4,503,863	54.8	\$348.08	1,929,060	\$787,900,816	51.0	\$408.44
FY 1998-99	12,169	\$4,775,980	56.1	\$392.47	1,688,707	\$789,900,816	44.7	\$467.75
FY 1999-00	12,374	\$5,380,419	57.3	\$434.82	1,656,318	\$860,943,092	70.0	\$519.79
FY 2000-01	12,523	\$6,256,914	55.1	\$499.63	1,667,211	\$948,269,095	66.1	\$568.78
FY 2001-02	13,543	\$6,963,659	54.2	\$514.19	1,892,714	\$1,142,461,846	66.7	\$603.61
FY 2002-03	25,781	\$7,337,367	53.6	\$530.89	2,955,990	\$1,224,291,597	66.9	\$619.46
FY 2002-03	27,240	\$7,787,708	54.1	\$528.41	3,148,187	\$1,331,158,625	68.5	\$617.17
FY 2003-04	28,215	\$8,377,257	56.0	\$529.84	3,278,404	\$1,400,287,391	69.4	\$615.22

Data source: State of California, Department of Health Service; Medical Care Statistics Section, Publications, Medi-Cal County Program Monthly Averages; <http://www.dhs.ca.gov/MCSS>.

Healthy Families Program:

The Healthy Families Program offers uninsured children from low-income families (at or below the 250% poverty level) access to low-cost health coverage. In San Luis Obispo County, the number of families enrolled in the Healthy Families Program has been growing significantly. The enrollment was 2,063 as of July 2000, and 4,216 as of July 2006, which is an increase of 51% in the last six years.

**Women,
Infant, and
Children
Program:**

The Women, Infant, and Children (WIC) Supplemental Nutrition Program helps eligible low to medium income pregnant women, new mothers and young children eat well and stay healthy. The average monthly participation in WIC in San Luis Obispo County has increased from 4,227 in 2003 to 4,500 in 2005.

**Child Health
Disability
Program:**

The Child Health Disability Prevention (CHDP) Program provides free health and dental check-ups to low-income infants, children and adolescents to help children stay healthy and find health problems early. Referrals to specialists are made as appropriate. Of the 13,483 San Luis Obispo County children who received well child check-ups in the Fiscal Year 2005-06, 1,154 (8.6%) required medical or dental follow-up. The primary medical reasons for referrals were: dental/oral (38%), eye/ear/nose/throat (15%), nutritional/growth (13%), and behavioral/developmental (5%). Many chronic medical conditions (such as asthma or cardiac conditions) were not included in the data if the child was already receiving treatment.

As of July 2006, final counts of CHDP well child examinations completed in San Luis Obispo County during the Fiscal Year 2005-06 showed that 13,483 health screening exams were completed. This represented 61% of the targeted population of 22,344 children in SLO County.

CalWORKs:

California Work Opportunity and Responsibility to Kids (CalWORKs) is a welfare program that gives cash aid and services to eligible needy California families. County welfare departments operate the program locally. If a family has little or no cash and needs housing, food, utilities, clothing or medical care, they may be eligible to receive immediate short-term help. Families that apply and qualify for ongoing assistance receive money each month to help pay for housing, food and other necessary expenses. As of January 2006 (per <http://www.slodss.org/stats.htm>):

- 4,088 (1.6%) of the 263,242 residents of San Luis Obispo County received CalWORKs, compared to 4% for California population.
- San Luis Obispo County ranked 49th among California counties (i.e., 48 counties had a higher percentage of recipients).

SSI/SSP:

The Supplemental Security Income/State Supplementary Payment (SSI/SSP) Program provides cash assistance to aged, blind or disabled persons who meet the program's income and resource requirements. California supplements the federal SSI payment with an SSP payment and food stamp cash equivalents. As of September 2002, the total number of recipients of SSI/SSP in San Luis Obispo County was 5,313 compared to 1,121,732 statewide. There were 26 California counties that had a higher number of SSI/SSP recipients. This is the most current data. Data source:

http://www.dss.cahwnet.gov/research/Supplement_588.htm.

Uninsured Population:

According to the National Center for Policy Analysis:

- 24% of Californians under age 65 (all income levels) are uninsured
- Children in California are more likely to be uninsured than in the rest of the nation--21 percent vs. 16 percent nationwide.

See Table 2-3 for the estimated percentage of the San Luis Obispo County and California populations who are uninsured per the 2003 California Health Interview Survey (CHIS). The approximate number of uninsured individuals in San Luis Obispo County is estimated by CHIS to be:

- 2,000 children (ages 0-17)
- 25,000 non-elderly adults (ages 18-64)

Table 2-3 also includes estimates of those covered by Medi-Cal or Healthy Families.

Table 2-3: Uninsured Population Estimates		
	San Luis Obispo County	California
Children (ages 0-17)		
➤ % Uninsured	2.9% (0.0-6.1)*	7.1%
➤ % with Medi-Cal or Healthy Families	35.6%*	32.2%
Non-elderly Adults (ages 18-64)		
➤ % Uninsured	16.9% (12.1-21.8)	19.4%
➤ % with Medi-Cal or Healthy Families	11.8 %*	13.1%

**Data is statistically unstable either because of a small sample size or large coefficient of variance. The 95% range (confidence interval) is provided for SLO County in parentheses.*

Source: 2003 California Health Interview Survey, Los Angeles: UCLA Center for Health Policy Research, June 2003. Available at www.healthpolicy.ucla.edu.

Disabled Population:

Table 2-4 shows the proportion of the population living with a disability, per the U.S. Census 2000. Disabled populations are broken down into categories based on age ranges. People 5 years old and over are considered to have a disability if they have one or more of the following: (a) blindness, deafness, or a severe vision or hearing impairment; (b) a substantial limitation in their ability to perform basic physical activities, such as: walking, climbing stairs, reaching, lifting, or carrying; (c) difficulty learning, remembering, or concentrating; or (d) difficulty dressing, bathing, or getting around inside the home. In addition to the above criteria, people 16 years old and over are considered to have a disability if they have difficulty going outside the home alone to shop or visit a doctor's office. People ages 16– 64 years are considered to have a disability if they have difficulty working at a job or business.

Table 2-4: Proportion of Population Living with a Disability

San Luis Obispo County and California, 2003

	San Luis Obispo County	California
Ages 5 to 20 years	6.7%	4.9%
Ages 21 to 64 years	13.6%	10.8%
Ages 65 and older	38.7%	40.2%

Source: Safety Net Profile Tool. September 2003. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/data/safetynet/>.

Data Sources:

- National Center for Policy Analysis, Health Issues (2005) available at: <http://www.ncpa.org/pi/health>
- Healthy Families Current Enrollment, July 2006 available at: <http://www.mrmib.ca.gov/MRMIB/HFP/HFPRpt15A.pdf>

Education

Education and Health:

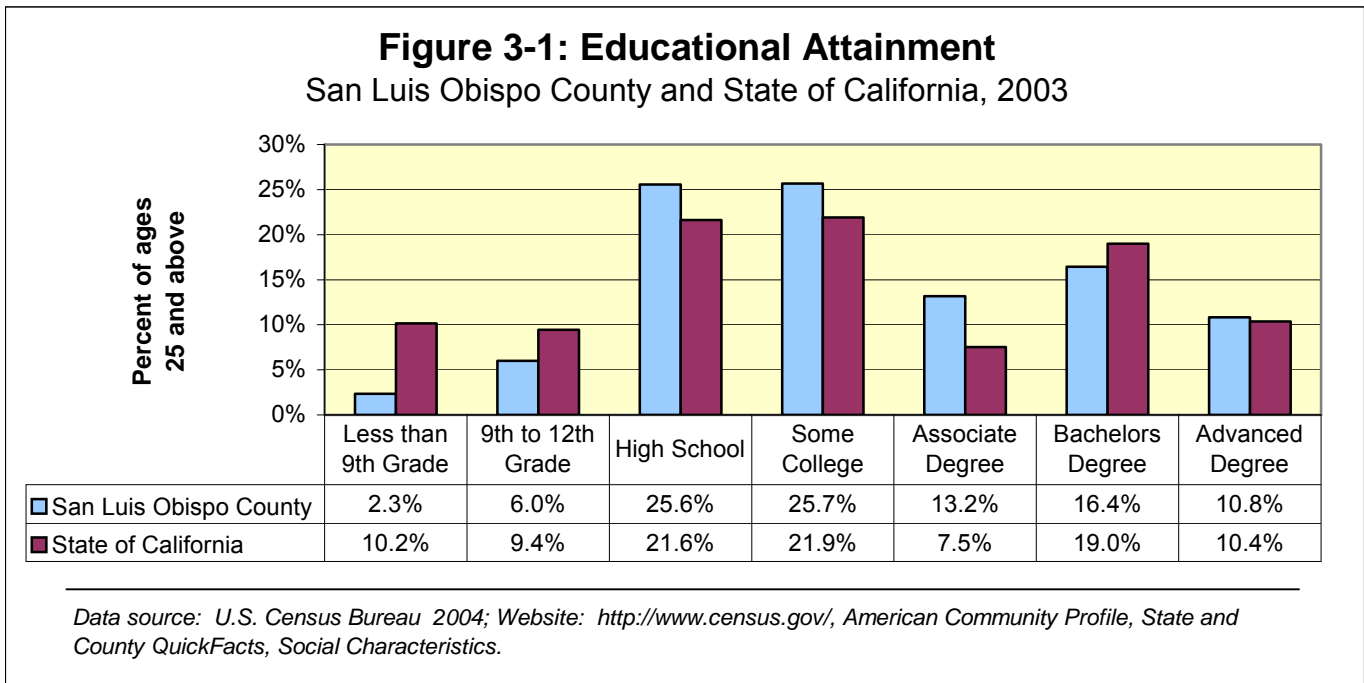
Education is one of several important factors often interrelated with health. According to the National Center for Education, the better educated a person is, the more likely that person is to report being in very good or excellent health, regardless of income.

According to the Department of Health and Human Services:

- Dropping out of school is associated with delayed employment opportunities, poverty, and poor health.
- During adolescence, dropping out of school is associated with multiple social and health problems, including substance abuse, delinquency, intentional and unintentional injury, and unintended pregnancy.

Educational Attainment:

San Luis Obispo County has a higher percentage of residents with high school degrees or more versus statewide. Interestingly, SLO County has a smaller percentage of Bachelor’s Degrees than the state as a whole. Also, compared to the State, San Luis Obispo County has a lower percentage of residents with an education of less than ninth grade, as shown in Figure 3-1.



Special Populations:

As shown in Table 3-1, in 2005-06, San Luis Obispo County had a lower percentage of enrollment for special population students compared to the State in the categories of English language learners and free or reduced price meals for children.

Table 3-1: Enrollment [K-12] of Special Populations

San Luis Obispo County and California, 2005-2006

Special Population	San Luis Obispo County		California
	Number	Percent of Enrollment	Percent of Enrollment
EL (formerly LEP) English Learner Students	4,664	13.0%	24.9%
Free/Reduced Price Meals for Children	11,538	32.2%	50.8%

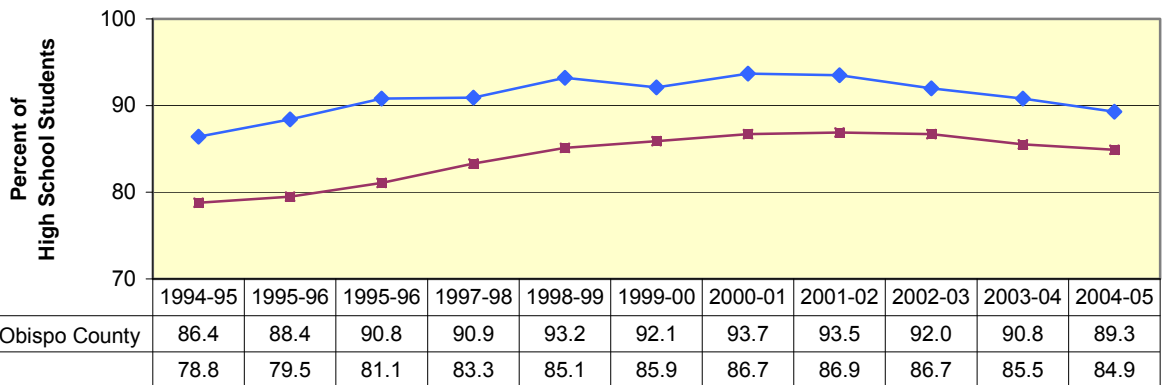
Data source: California Department of Education, School Fiscal Services Division – CalWORKs Report; Educational Demographics Unit – Language Census.

Graduation Rate:

As shown in Figure 3-2, San Luis Obispo County has consistently had a higher percentage of high school students who graduated compared to the State of California. However, in the 2004/05 school year, San Luis Obispo County failed to meet the Healthy People 2010 objective of 90 percent for the first time since 1995. County and State graduation rates have been steadily declining for several years.

Figure 3-2: High School Graduation Rates

California and San Luis Obispo County, 1994/95 to 2004/05



Data source: California Department of Education, Educational Demographics Unit, High School Graduation Rates based on NCES Definition, <http://www.cde.ca.gov/demographics/> (DataQuest).

High School Dropout Rates:

As shown in Table 3-2, San Luis Obispo County had a lower percentage (1-year rate) of high school students who dropped out in 2004-05 compared to California (2.6% and 3.1%, respectively). San Luis Obispo County ranked 36th among the 58 California counties in 2004-05 (i.e., 35 counties had a lower dropout rate) which is a drastic drop from the ranking of 6th in 2000-01.

Table 3-2: High School Dropout Rates (Public Schools), One-Year
San Luis Obispo County and California, 2004-05

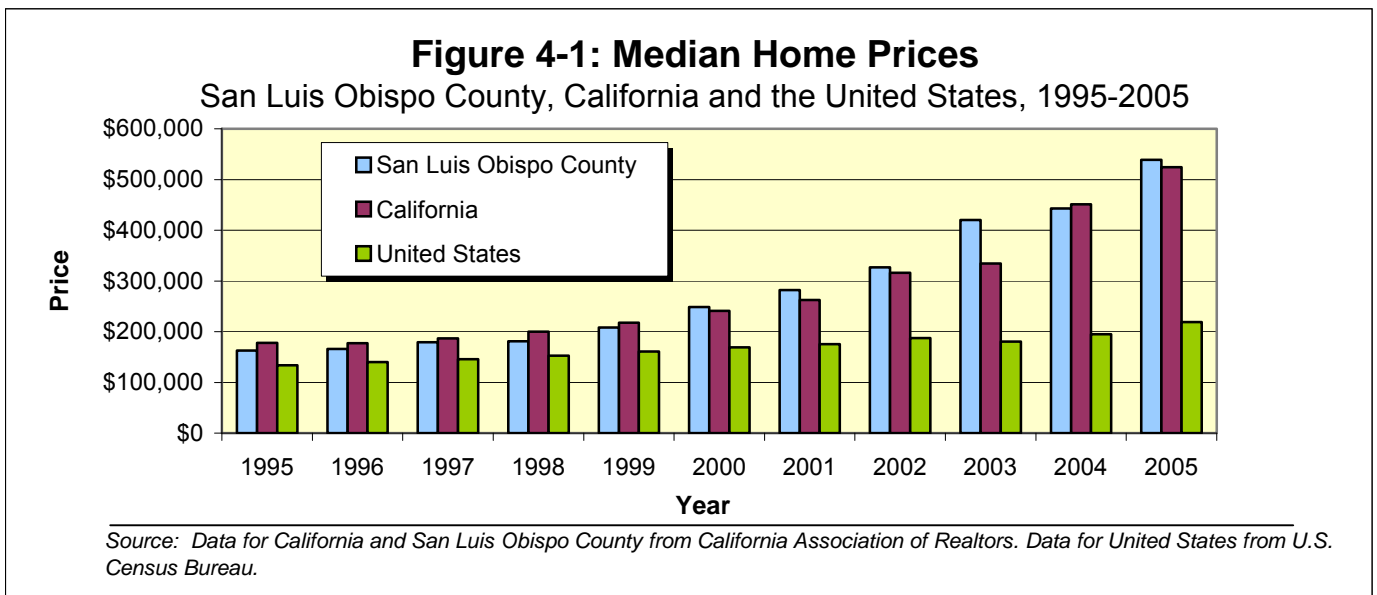
Race/Ethnicity	California		San Luis Obispo County	
	Number	Percent	Number	Percent
White	13,339	2.0%	173	1.9%
Hispanic or Latino	32,595	4.0%	127	4.4%
African American	9,060	5.5%	21	6.6%
Asian	2,293	1.4%	3	1.4%
Pacific Islander	473	3.8%	0	0.0%
Filipino	898	6.7%	0	0.0%
American Indian	734	4.3%	0	0.0%
Multiple or no response	1,196	3.8%	14	5.3%
Total	60,588	3.1%	338	2.6%

Data source: California Department of Education, Educational Demographics Unit. [Per the California Department of Education, the 1-year dropout rate is the percent of dropouts during a single year, calculated from actual data submitted. It is also called the "annual" or "event" rate and it is the dropout rate used by the National Center for Education Statistics to compare states and school districts.]

Housing

Median Home Price:

Compared to the United States, San Luis Obispo County and the State of California have a higher cost of housing (for a median-priced home), as shown in Figure 4-1. The gap has widened significantly since 1999. In 1997, California's median home price was about 28% higher than the national figure. In 2003, California's median home price was more than 90% above the national median. According to economist Stephen Levy, director of the Palo Alto-based Center for the Continuing Study of the California Economy, "California real estate prices have outpaced the rest of the nation for decades, but the disparity has reached an alarming level".



Affordability: The percentage of households in California able to afford a median-priced home dropped to from 20% in 2004 to 16.6% in 2005 (3.4% less), according to a report by the California Association of Realtors. The percentage of households in San Luis Obispo County able to afford a median-priced home was 11% in 2005. These numbers are lower compared to the United States, in which just under 50 percent of households are able to afford a median-priced home. These data are summarized in Table 4-1.

Table 4-1: Percentage of Households Able to Afford an Existing Median Priced Single Family Home					
San Luis Obispo County, California, and the United States, 2001 - 2005					
Location	December 2001	December 2002	December 2003	December 2004	December 2005
San Luis Obispo County	29	22	16	15	11
California	33	28	23	20	17
United States	57	57	57	56	49

Data source: California Association of REALTORS®

Among 190 communities in the United States, San Luis Obispo County ranked as the 13th least affordable area for housing in 2006, as shown in Table 4-2.

Table 4-2: Ten Least Affordable Housing Markets

United States, 2006

Market	Percent of homes affordable for median income family	Median family income (\$100s)	Median sales price (\$100s)	Rank
Los Angeles-Long Beach-Glendale, CA	1.9	56.2	500	1
Santa Ana-Anaheim-Irvine, CA	2.5	78.3	608	2
Santa Barbara-Santa Maria, CA	3.2	65.8	580	3
Modesto, CA	3.9	54.4	380	4
Salinas, CA	5.0	62.2	600	5
San Diego-Carlsbad-San Marcos, CA	5.2	64.9	491	6
Merced, CA	5.5	46.4	365	7
Napa, CA	5.8	75.0	600	8
Santa Cruz-Watsonville, CA	5.9	75.1	672	9
New York-White Plains-Wayne, NY-NJ	6.1	59.2	472	10
Nassau-Suffolk, NY	6.1	91.0	475	11
Stockton, CA	6.5	57.1	430	12
San Luis Obispo-Paso Robles, CA	7.8	63.8	533	13

Data source: National Association of Home Builders

Other Housing Concerns:

The ACTION for Healthy Communities San Luis Obispo County Comprehensive Report (January 2007) also addresses concerns about a variety of other topics related to housing, including:

- Concerns about homelessness
- Homeless shelters
- Fair market rents
- Concerns about housing costs
- Housing expenses
- Housing affordability
- Housing prices

These topics will not be repeated in this report; however, we encourage you to review the Action for Healthy Communities report for more details about housing and homelessness. For more information about ACTION for Healthy Communities, contact:

San Luis Obispo County Community Foundation
P.O. Box 1580
San Luis Obispo, CA 93406
Telephone: (805) 543-2323
Facsimile: (805) 543-2346

* These reports are also available at the United Way of San Luis Obispo County's website, under Community Partners, at <http://www.unitedwayslo.org>.

Health Care

Basic Health Care:

The ACTION for Healthy Communities San Luis Obispo County Comprehensive Report (January 2007) addressed concerns about a variety of topics related to health care, including:

- Basic needs, including health care, not met
- Source of primary health care
- Last routine check-up
- Inability to receive medical care (unaffordable)
- Dental care
- Health insurance

These topics will not be repeated in this report; however, we encourage you to review the ACTION for Healthy Communities report for more details. To obtain more information, contact:

*San Luis Obispo County Community Foundation
P.O. Box 1580
San Luis Obispo, CA 93406
Telephone: (805) 543-2323
Facsimile: (805) 543-2346*

** These reports are also available at the United Way of San Luis Obispo County's website, under Community Partners, at <http://www.unitedwayslo.org>.*

Health Care Professionals:

According to the Health Resources and Services Administration (HRSA) State Health Workforce Profile for California, December 2004, state trends among key health professionals include:

- Registered Nurses (RNs): California had 542 RNs per 100,000 population in 2000, substantially fewer than the national average of 780.2. California ranked 49th among the states in RNs per capita (these numbers only include RNs employed in nursing.)
- Physicians: California had 194 physicians per 100,000 population in 2000, slightly below than the national average of 198. California ranked 20th among the 50 states in physicians per capita (these numbers indicate active, non-federal, patient care physicians excluding residents and fellows.)
- Dentists: California had 81.4 dentists per 100,000 population in 2000, more than the national average of 63.6 (these numbers include active, non-federal dentists in private practice.)
- Pharmacists: California had 66.1 pharmacists per 100,000 population in 2000. California ranked 43rd among the 50 states in number of pharmacists per capita. (Source: Bureau of Labor Statistics' Occupational Employment Statistics).
- Social Workers: California had 126.7 social workers per 100,000 population in 2000. California ranked 36th among the 50 states in social workers per capita. (Source: Bureau of Labor Statistics' Occupational Employment Statistics).

Nursing Shortage: In 2000, the United States national supply of full time equivalent RNs was estimated to be 110,000 (6%) less than the demand in the United States and 12,663 (8%) less than the demand in California. According to the National Center for Health Workforce Analysis, if the causes for the shortage are not addressed, and if the current trends continue, the shortage is projected to grow to 29% in the United States and 46% in California by the year 2020, as shown below in Table 5-1. Factors affecting the supply of RNs include the declining number of nursing school graduates, aging of the RN workforce, declines in relative earnings, and the emergence of alternative job opportunities.

Table 5-1: Supply and Demand Projections for Full Time Equivalent Registered Nurses

United States and California, 2000 - 2020

United States				
Year	Supply	Demand	Shortage	Percent Shortage
2000	1,889,243	1,999,950	(110,707)	6%
2005	2,012,444	2,161,831	(149,387)	7%
2010	2,069,369	2,344,584	(275,215)	12%
2015	2,055,491	2,562,554	(507,063)	20%
2020	2,001,998	2,810,414	(808,416)	29%
California				
Year	Supply	Demand	Shortage	Percent Shortage
2000	154,002	166,665	(12,663)	8%
2005	162,645	181,054	(18,409)	10%
2010	161,337	203,511	(42,174)	21%
2015	153,654	231,711	(78,057)	34%
2020	142,978	263,673	(120,695)	46%

Source: *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020*; U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, National Center for Health Workforce Analysis, July 2002. Report is available on the Internet at <http://bhpr.hrsa.gov/healthworkforce/reports/rnproject/default.htm>.

**Hospital
Bed
Capacity:**

Table 5-2 provides a summary of 2002 through 2004 results for California and San Luis Obispo County hospital bed capacity by three different categories: licensed beds, available beds, and staffed beds. The 2004 available bed occupancy rate was lower in San Luis Obispo County compared to California and the staffed bed occupancy rate was slightly higher in San Luis Obispo County compared to California. Brief definitions of key terms related to hospital bed capacity follows:

- **Licensed beds:** The number of beds licensed by the Licensing and Certification Division of the Department of Health Services, less those beds in suspense, during the reporting period. [Note: Most hospitals do not operate all of the beds for which they are licensed. In fact, for some hospitals, it would be physically impossible to do so due to lack of space.]

- Available beds: The number of beds (excluding bassinets) that are licensed, physically existing and actually available for overnight use, regardless of staffing levels. Beds in suspense and beds in nursing units converted to uses other than inpatient overnight accommodations (which cannot be placed back into service within 24 hours) are not included.

Table 5-2: Hospital Bed Capacity						
California and San Luis Obispo County, 2004 – 2006*						
Region/Hospital	Number of Beds (N)			Occupancy Rate (%)		
	Licensed ¹	Available ²	Staffed ²	Licensed Beds	Available Beds	Staffed Beds
CALIFORNIA						
2004	102,362	93,272	80,920	60.6%	66.6%	76.7%
2005	101,974	92,430	79,339	61.2%	67.5%	78.7%
2006*	101,443	91,783	78,532	63.9%	70.6%	82.5%
SLO COUNTY TOTAL						
2004	477	477	282	45.3%	48.0%	75.8%
2005	477	477	286	47.9%	47.9%	79.9%
2006*	477	477	286	50.4%	50.4%	84.1%
Arroyo Grande Community Hospital (Arroyo Grande)						
2004	65	65	58	53.6%	53.6%	60.6%
2005	65	65	58	51.5%	51.5%	57.7%
2006*	65	65	58	57.0%	57.0%	63.9%
French Hospital Medical Center (San Luis Obispo)						
2004	112	112	65	33.2%	33.2%	57.3%
2005	112	112	65	35.2%	35.2%	60.7%
2006*	112	112	65	37.2%	37.2%	64.0%
Sierra Vista Regional Medical Center (San Luis Obispo)						
2004	200	200	83	41.4%	41.4%	99.4%
2005	200	200	86	42.9%	42.9%	99.8%
2006*	200	200	88	43.6%	43.6%	99.4%
Twin Cities Community Hospital (Templeton)						
2004	84	84	60	70.4%	70.4%	99.4%
2005	84	84	61	72.3%	72.3%	99.1%
2006*	84	84	59	70.2%	70.2%	99.4%
SLO County Mental Health						
2004	16	16	16	47.9%	47.9%	47.9%
2005	16	16	16	57.1%	57.0%	57.1%
2006*	16	16	16	44.0%	44.0%	44.0%

Data source: Office of Statewide Health Planning and Development website (www.oshpd.state.ca.us). Data obtained from the Hospital Quarterly Internet Hospital Profile Characteristics (IHPC) query program, located in the Healthcare Information Resources, Reports, Hospital – Interactive Reports' section.

Note: Per OSPHD Healthcare Information Analyst, the utilization data listed in this report is an estimate by the hospital and is not based on actual patient census data.

¹ The number of licensed beds is calculated at end of the time period.

² The available number of beds and staffed number of beds are based on averages for the time period.

* The 2006 data are averaged between 1/1/2006 - 9/30/2006.

- Staffed beds: The averaged number of beds that are licensed, available and for which there are staff on hand to attend to the patient who occupies the bed.
- Occupancy rate: A measure of the usage of the beds during the reporting period that is derived by dividing the patient days in the reporting period by the bed days in the reporting period. Bed days can be calculated using licensed beds, available beds, or staffed beds.

Table 5-3: Emergency Medical Services Visits

California and San Luis Obispo County, 2005

Region/Hospital	Non-Urgent ¹	Urgent ²	Critical ³	Resulting in Hospital Admission	Total
CALIFORNIA					
Number	960,253	2,420,536	1,020,958	14,101,481	40,379,479
Percent of Total	2.4%	6.0%	2.5%	34.9%	100%
SLO COUNTY TOTAL^{4, 5}					
Number	18,728	26,096	5,154	9,546	90,411
Percent of Total	20.7%	28.9%	5.7%	10.6%	100%
Sierra Vista Regional Medical Center					
Number	3,877	9,327	1,802	2,590	21,899
Percent of Total	17.7%	42.6%	8.2%	11.8%	100%
Twin Cities Community Hospital⁴					
Number	11,239	4,481	243	3,193	32,757
Percent of Total	34.3%	13.6%	0.7%	9.8%	100%
French Hospital Medical Center					
Number	1,877	4,457	934	1,722	14,210
Percent of Total	13.2%	31.4%	6.6%	12.1%	100%
Arroyo Grande Community Hospital					
Number	1,735	7,831	2,175	2,041	21,545
Percent of Total	8.1%	36.4%	10.1%	9.5%	100%

Source: Office of Statewide Health Planning and Development website (www.oshpd.state.ca.us). Data obtained from the Hospital Annual Utilization Data Profile, 2005, located in the Healthcare Information Resources, Utilization section of the Hospital Data.

¹ Non-Urgent EMS Visits = a visit by a patient with a non-emergency injury, illness, or condition; sometimes chronic; that can be treated in a non-emergency setting and not necessarily on the same day they are seen in the EMS Department. The CPT Code is 99281 (single problem with straightforward medical decision making).

² Urgent EMS Visits = a visit by a patient with an acute injury or illness where loss of life or limb is not an immediate threat to his/her well being, or by a patient who needs a timely evaluation (fracture or laceration). The CPT Code for this level of service is 99282 (low complexity) or 99283 (low to moderate complexity).

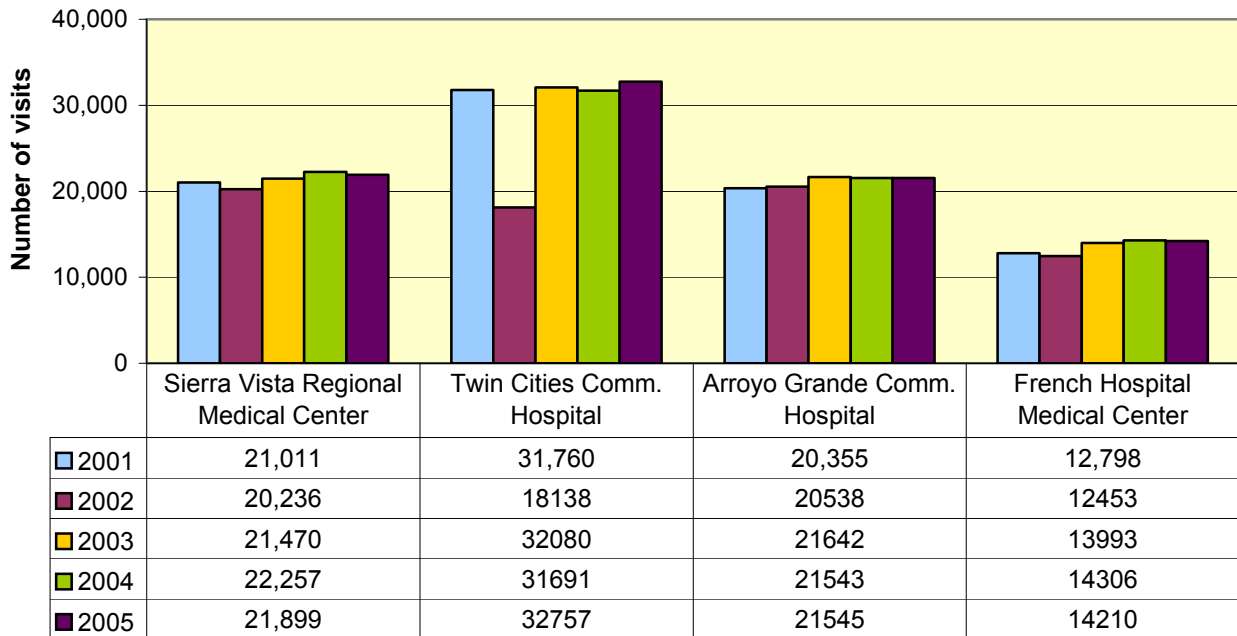
³ Critical EMS Visits = a visit by a patient with an acute injury or illness that could result in permanent damage, injury or death (head injury, vehicular accident, a shooting). The CPT Code for this level of service is 99284 (no immediate significant threat to life) or 99285 (immediate threat to life).

Emergency Medical Service Visits:

Table 5-3 shows the OSHPD number of Emergency Medical Service (EMS) visits for California and San Luis Obispo County hospitals in 2005, including the number of EMS visits that resulted in hospital admissions. The definitions of the categorizations of non-urgent, urgent, and critical are provided at the bottom of the table.

Figure 5-1 shows the number of Emergency Medical Service (EMS) visits for San Luis Obispo County separated by hospital or medical center for the years 2001 through 2005.

Figure 5-1: Emergency Medical Services Visits
San Luis Obispo County by Hospital, 2001-2005



Data source: Office of Statewide Health Planning and Development website (www.oshpd.state.ca.us); Hospital Annual Utilization Data Profile, 2005, located in Find Data. Note: General Hospital closed mid-2003.

Prenatal Care

Definition:

Prenatal care is defined as pregnancy-related health care services provided to a woman between conception and delivery. The two measures assessed for prenatal care include:

- Percentage of live born infants whose mothers received prenatal care in the first trimester of pregnancy.
- Percentage of live born infants whose mothers received adequate or “adequate plus” prenatal care as defined by the APNCU Index.

The Adequacy of Prenatal Care Utilization (APNCU) Index measures two dimensions of care: the adequacy of initiation of care and the adequacy of the use of prenatal services once care has begun (by comparing actual use to the recommended number of visits based on the month of initiation of care and the length of pregnancy). These dimensions are combined to classify each woman’s prenatal care history as inadequate, intermediate, adequate, or adequate-plus.

Importance:

The use of timely, high-quality prenatal care can help to prevent poor birth outcomes, especially by identifying women who are at high risk and by providing counseling to mitigate risks such as the use of alcohol, tobacco, and other drugs.

- The American College of Obstetricians and Gynecologists recommends at least 13 prenatal visits in a normal 10-month pregnancy: one each month for the first 28 weeks of pregnancy, one every 2 weeks until 36 weeks, and then weekly until birth.
- The National Center for Health Statistics reports that in 2004, the overall percent of pregnant women beginning prenatal care in the first trimester as 84%. This indicator has been steadily increasing since 1990 for all population groups, but racial and ethnic minorities remain less likely than whites to enter care early and to receive adequate care.

National Objectives:

Two national objectives (Healthy People 2010) related to prenatal care are:

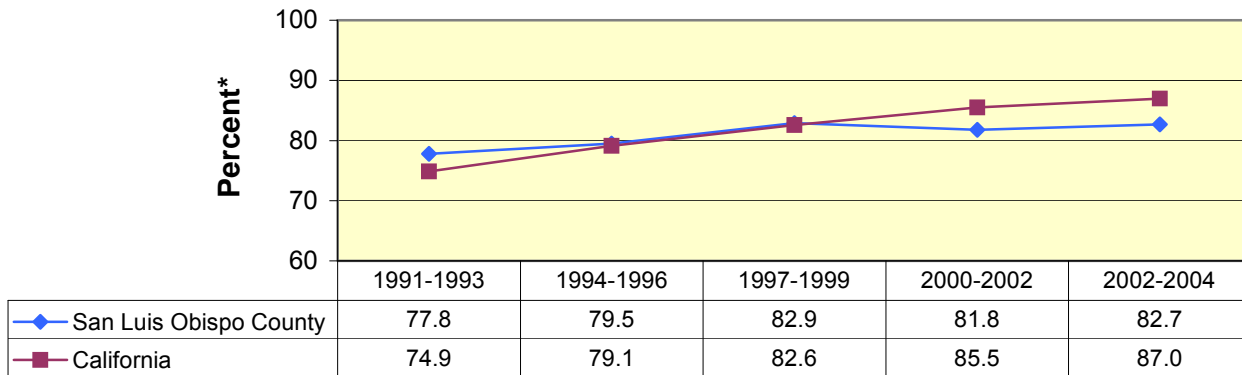
- Increase to at least 90 percent the proportion of all pregnant women who begin care in the first trimester of pregnancy.
- Increase to at least 90 percent the proportion of all live-born infants whose mothers receive prenatal care that is adequate or more than adequate according to the APNCU Index.

Key Findings:

Timely Prenatal Care: As shown in Figure 6-1, from 1991-2004, the percentage of all live-born infants whose mothers began prenatal care during their first trimester:

- Has not increased in San Luis Obispo County as it has in the State of California as a whole.
- Is lower in San Luis Obispo County than statewide.

Figure 6-1: Timely Prenatal Care/First Trimester
California and San Luis Obispo County, 1991 - 2004



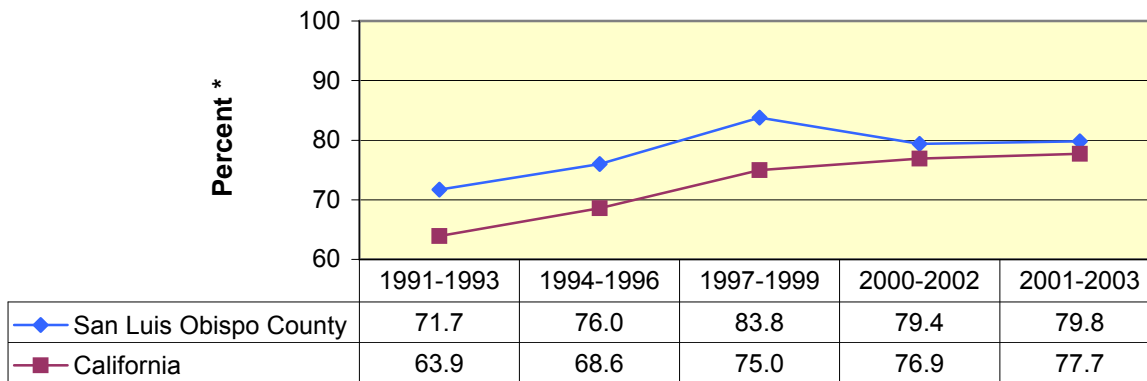
* Percent refers to percent of liveborn infants whose moms began prenatal care in their 1st trimester.
Data source: County Health Status Profiles, California Department of Health Services, Center for Health Statistics.

- During 2002-2004, San Luis Obispo ranked 32nd out of 58 counties (i.e., 31 counties in California had a higher percentage of live-born infants whose mothers obtained prenatal care in their first trimester). This ranking is down from 28th for 2000-2002.

Adequate Prenatal Care: As shown in Figure 6-2, from 1991-2003, the percentage of all live-born infants whose mothers received prenatal care that was adequate or more than adequate:

- Has improved, although the national objective of 90% has not been achieved.
- Has been higher for San Luis Obispo County residents compared to the State of California, although this difference has narrowed since 1997-1999.

Figure 6-2: Adequacy of Prenatal Care
California and San Luis Obispo County, 1991-2003



* Percent refers to percent of liveborn infants whose moms received adequate or better prenatal care.
Data source: County Health Status Profiles, California Department of Health Services, Center for Health Statistics.

- During 2002-2004, San Luis Obispo ranked 11th out of 58 counties (i.e., 10 counties in California had a higher percentage of live-born infants whose mothers received adequate or better than adequate prenatal care).

Primary Prevention Activities:

Primary prevention activities that encourage early entrance into prenatal care in order to improve the health of mothers and their infants include:

- Providing education regarding the importance of beginning prenatal care in the first trimester of pregnancy, and receiving at least 13 prenatal visits during a full-term pregnancy.
- Ensuring that all pregnant women have access to prenatal care that they can afford.
- Providing prenatal services that are culturally acceptable for hard-to-reach populations.

Cost Analysis:

Investing in prenatal care is cost effective, as every \$1 spent on prenatal care can save approximately \$3.38 on hospital bills, birth complications, and low birthweight babies.

Data Sources:

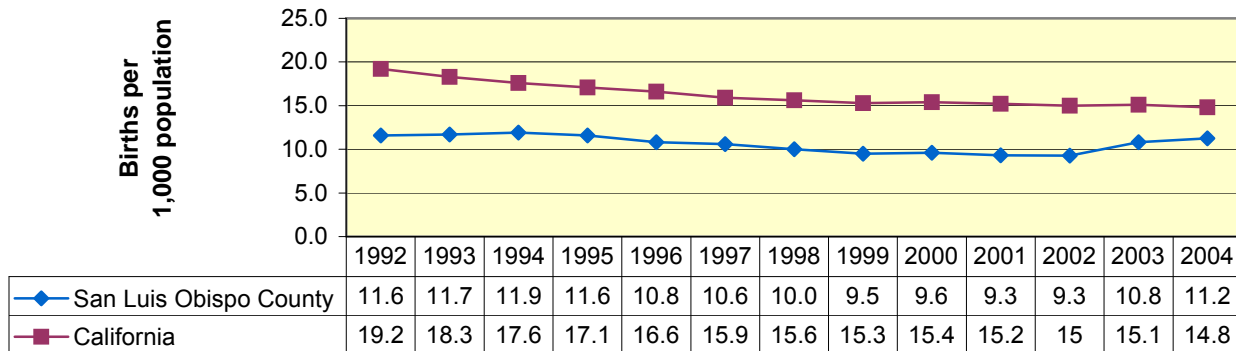
Data sources for this report include:

- California Department of Health Services, Center for Health Statistics, County Health Status Profiles, available at: <http://www.dhs.ca.gov/hisp/chs/OHIR/Publication/publicationindex.htm>
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>
- Cost data were obtained from the March of Dimes website: <http://www.modimes.org/>

Births

- Definition:** Birth rate: the number of live births per 1,000 total population.
General Fertility rate: the number of live births per 1,000 population of women of child bearing ages (15-44).
Distribution of births by race/ethnicity: the proportion of total live births for selected race/ethnic groups.
- Importance:** According to the Department of Health and Human Services:
- Half of all pregnancies in the United States are unintended.
 - With an unwanted pregnancy, the mother is less likely to seek prenatal care in the first trimester and more likely not to obtain prenatal care at all. She is less likely to breastfeed and more likely to expose the fetus to harmful substances such as tobacco or alcohol.
 - The child of an unwanted pregnancy is at greater risk of being low birthweight, dying in its first year, being abused, and not receiving sufficient resources for healthy development.
 - A disproportionate share of the women bearing children whose conception was unintended are unmarried or at either end of the reproductive age span, factors that in themselves carry increased medical and social burdens for children and their parents.
- National Objective:** There is no national objective specific to general births; however, the Healthy People 2010 goal for Family Planning is “every pregnancy in the United States should be intended.”
- Key Findings:** Birth rate: As shown in Figure 7-1, the rate of live births per 1,000 total population has mostly declined steadily and slightly for both California and San Luis Obispo County residents from 1994 to 2002. SLO County rates have consistently been lower than California’s rates each year. However, more recently, the state has continued to decrease while SLO County has been slightly increasing.

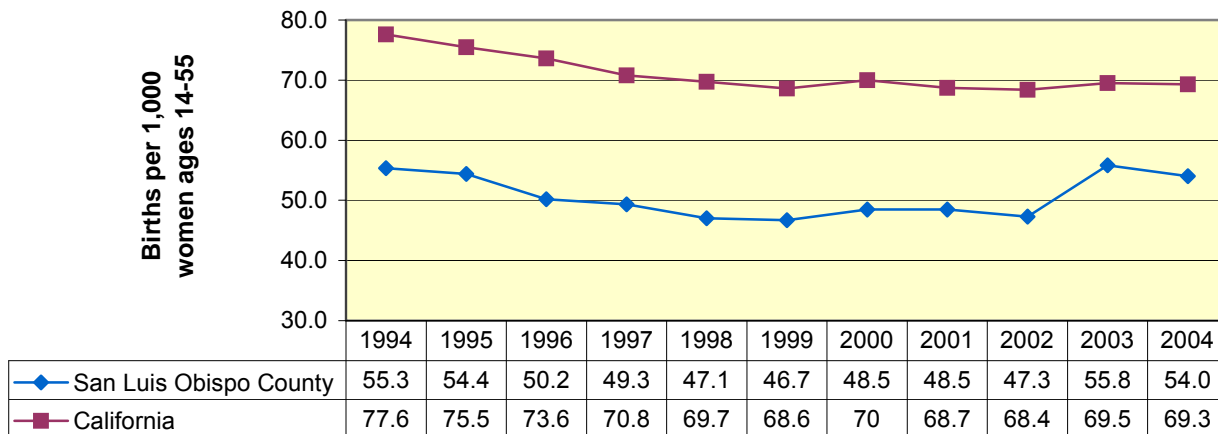
Figure 7-1: Birth Rate for Residents
California and San Luis Obispo County, 1994-2004



Data source: California Department of Health Services, Center for Health Statistics, Vital Statistics Section.

General Fertility Rate: As shown in Figure 7-2, the rate of live births per 1,000 women of childbearing ages has generally been declining for both California and San Luis Obispo County residents since 1994. However, San Luis Obispo County did see a spike in 2003. Yet the county rate has been lower than the state rate each year.

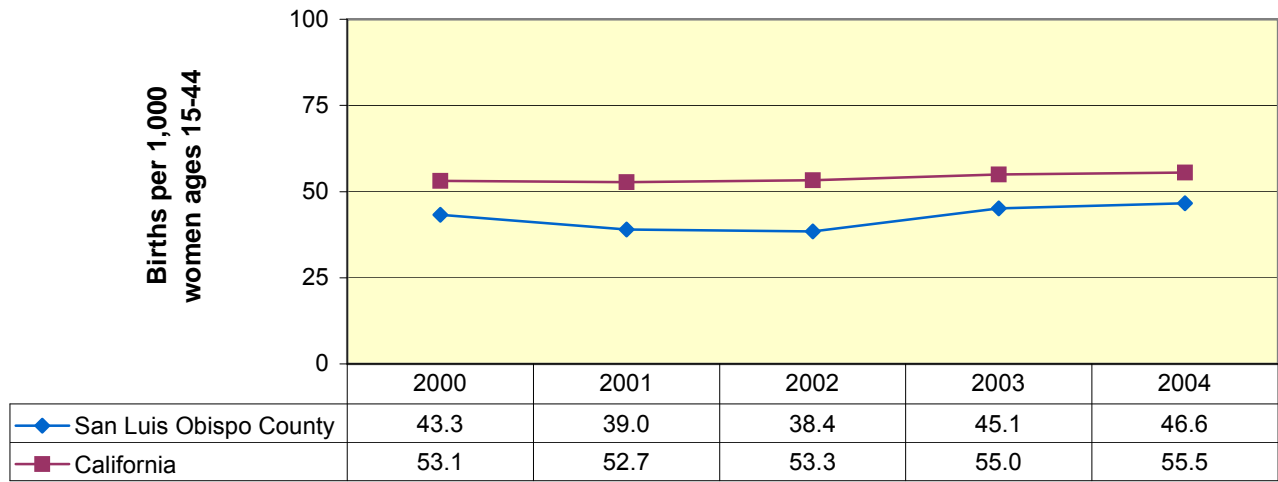
Figure 7-2: General Fertility Rate for Residents
California and San Luis Obispo County, 1994-2004



Data source: California Department of Health Services, Center for Health Statistics, Vital Statistics Section.

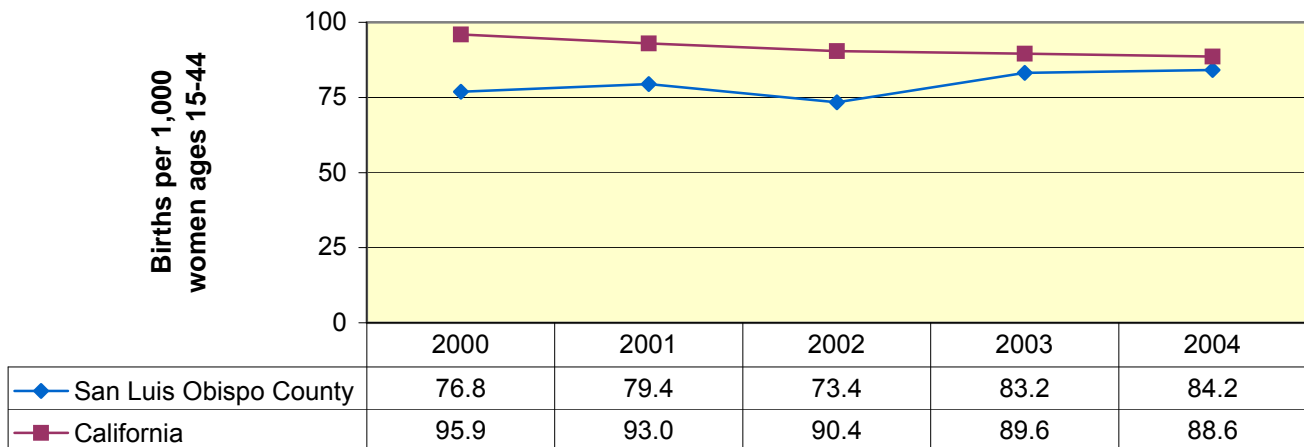
Distribution of births by race/ethnicity: As shown in Figures 7-3 and 7-4, between 2000 and 2004, the birth rate among San Luis Obispo County residents has been lower compared to that of other Californians for both non-Hispanic Whites and Hispanics.

Figure 7-3: General Fertility Rates for non-Hispanic Whites
California and San Luis Obispo County, 2000-2004



Data source: California Department of Health Services, Center for Health Statistics, Vital Statistics Section.

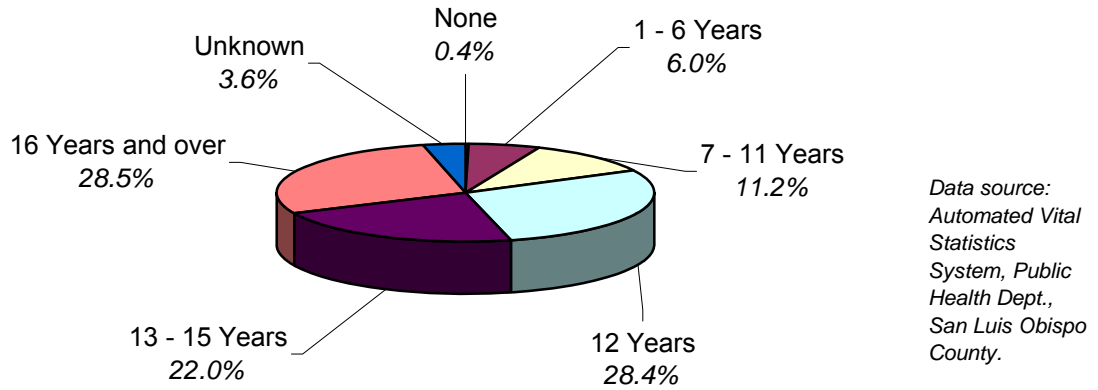
Figure 7-4: General Fertility Rates for Hispanics
California and San Luis Obispo County, 2000-2004



Data source: California Department of Health Services, Center for Health Statistics, Vital Statistics Section.

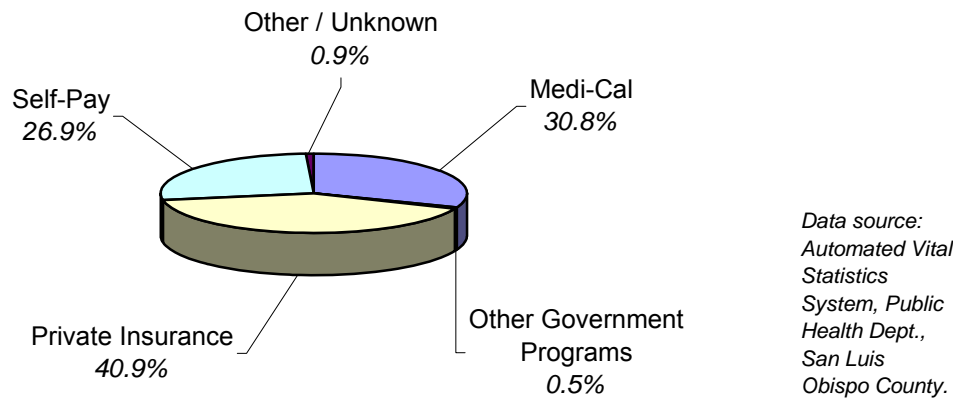
Distribution of births by mother’s educational attainment: As shown in Figure 7-5, the majority (79%) of San Luis Obispo County residents who gave birth in 2005 had completed twelve of more years of school. Over half completed at least some higher education, and seven percent completed 6th grade or less.

Figure 7-5: Mother's Years of Education
San Luis Obispo County Residents (18 and Older), 2005



Payment for Delivery: Almost one-third of births to residents of San Luis Obispo County are covered by Medi-Cal (California’s publicly funded Medicaid program). As shown in Figure 7-6, approximately 41% are paid for through prepaid health plans or private insurance.

Figure 7-6: Payment Source for Delivery of Infants
San Luis Obispo County Residents, 2005



- Primary Prevention:** Primary prevention activities include providing education regarding sexual responsibility, pregnancy, and contraceptives and encouraging family planning.
- Cost Analysis:** According to the Department of Health and Human Services, unintended pregnancies in the United States are serious and costly. Socially, the costs can be measured in unintended births, reduced educational attainment and employment opportunity, increased welfare dependency, and increased potential for child abuse and neglect. For Medi-Cal care alone, national expenditures for unintended pregnancy totals billions of dollars annually. It has been estimated that the pregnancy cost for each woman who does not intend to be pregnant, yet is sexually active and uses no contraception, is about \$3,200 annually.
- Data Sources:**
- Birth rates: California Department of Health Services, Center for Health Statistics, Vital Statistics. Data available from website: <http://www.dhs.ca.gov/>, Statistical Resources, Vital Statistics Query.
 - Population data from State of California, Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000–2050*. Sacramento, CA, May 2004 or State of California, Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 1990–1999*. Sacramento, CA, May 2004.
 - Cost data are from Healthy People 2010, U.S. DHHS.

Breastfeeding

Definition:

Breastfeeding initiation during early postpartum: includes exclusively breastfed infants and combination breastfed and formula fed infants at hospital prior to discharge home.

Breastfeeding at six months and one year: breastfed infants and combination breastfed and formula fed infants after discharge home at six months and one year of age.

Importance:

According to the Department of Health and Human Services:

- Breastfeeding offers many health benefits to women and infants.
- Breast milk is widely acknowledged to be the most complete form of nutrition for infants, with a range of benefits for infants' health, growth, immunity, and development.
- Benefits of breastfeeding include preventing childhood obesity, decreased new cases or severity of diarrhea, respiratory infections, and ear infections, among others, and reduced cost to the family.
- Breastfeeding has been shown to improve maternal health, with demonstrated effects, including reduction in postpartum bleeding, earlier return to pre-pregnancy weight, reduced risk of pre-menopausal breast cancer, and reduced risk of osteoporosis, continuing long after the postpartum period.
- Universal breastfeeding is not recommended in the United States. Women who use illicit drugs, who have active, untreated tuberculosis, or who test positive for Human Immunodeficiency Virus (HIV), as well as those who use certain prescribed drugs, should not breastfeed.
- In general, the American Academy of Pediatrics considers breastfeeding to be "the ideal method of feeding and nurturing infants" and recommends that infants be breastfed for at least the first 6 months of life.
- Rates of breastfeeding are highest among college-educated women and women aged 35 years and older. The lowest rates of breastfeeding are found among those whose infants are at highest risk of poor health and development: those aged 21 years and under and those with low educational levels. However, this group has shown the greatest increase in breastfeeding rates since 1989.

National Objective:

Increase the proportion of mothers who breastfeed their babies:

- In early postpartum period to 75%.
- At six months to 50%.
- At one year to 25%.

Key Findings:

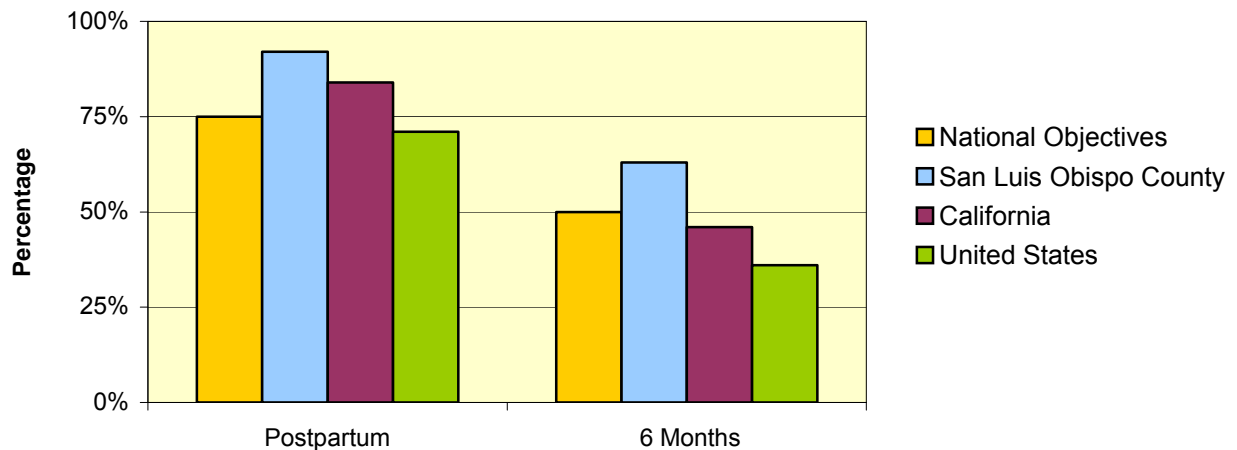
Key findings for breastfeeding in early postpartum, as shown in Figure 8-1, include:

- The number of breastfed infants was higher in San Luis Obispo County compared to the state of California. This difference was statistically significant.
- During 2002-2004, San Luis Obispo County ranked 13th among California’s 58 counties for breastfeeding (i.e., only 12 counties had a higher rate).
- Both the state and SLO County have achieved the Healthy People national objectives for 2010 regarding postpartum breastfeeding.
- The number of breastfed infants per 100 hospital births has increased from 1996 to 2003.
- According a three-year study done by the nutrition department at the local university (Cal Poly), 63% of women in the County of SLO breastfeed for at least six months and 36% breastfeed for at least nine months.

Between July 2005-June 2006, 74.3% of the post delivery women enrolled in the Women, Infant and Children (WIC) program were breastfeeding their infants. Of these women approximately 54% were exclusively breastfeeding and 46% were combination feeding (breast milk + formula). These data, however, may not be representative of all infants in San Luis Obispo County.

Figure 8-1: Breastfeeding Frequencies per Hospital Births

National Objectives, San Luis Obispo, California, and the US, 2003



Source: See end of this chapter

Primary Prevention: To increase breastfeeding rates among those at highest risk, recommendations from the Department of Health and Human Services include:

- Education of new mothers and their partners
- Education of health providers
- Changes in routine maternity ward practices
- Social support, including support from employers
- Greater media portrayal of breastfeeding as the normal method of infant feeding

Data Sources: Data sources for this report include:

- California Department of Health Services, Center for Health Statistics, County Health Status Profiles 2005; available at:
<http://www.dhs.ca.gov/hisp/chs/OHIR/publicationindex.htm>
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at:
<http://www.health.gov/healthypeople/>
- California Polytechnic State University, San Luis Obispo. ARI Final Report. Breastfeeding Duration and Other Infant Feeding Practices Among Mothers in San Luis Obispo County. 2005.

Teen Births

Definition: Teen births are the number of live births per 1,000 adolescent female residents by age of delivery for age categories of (a) less than 15 years, (b) 15 to 17 years of age, and (c) 18 to 19 years of age by the specified year(s).

Importance: According to the Department of Health and Human Services:

- There are many problems and challenges associated with unwanted pregnancies. For teenagers, the problems associated with unintended pregnancy are compounded and their consequences are well documented: reduced educational attainment, fewer employment opportunities, increased likelihood of welfare dependency, and poorer health and developmental outcomes.
- Teenage mothers are also less likely to get married or stay married, less likely to complete high school or college, and more likely to require public assistance and to live in poverty than their non-pregnant counterparts.
- Infants born to teenage mothers, especially under age 15, are more likely to suffer from low birthweight, neonatal mortality, and sudden infant death syndrome; and they may be at greater risk of child abuse, neglect, and behavioral and educational problems at later stages.

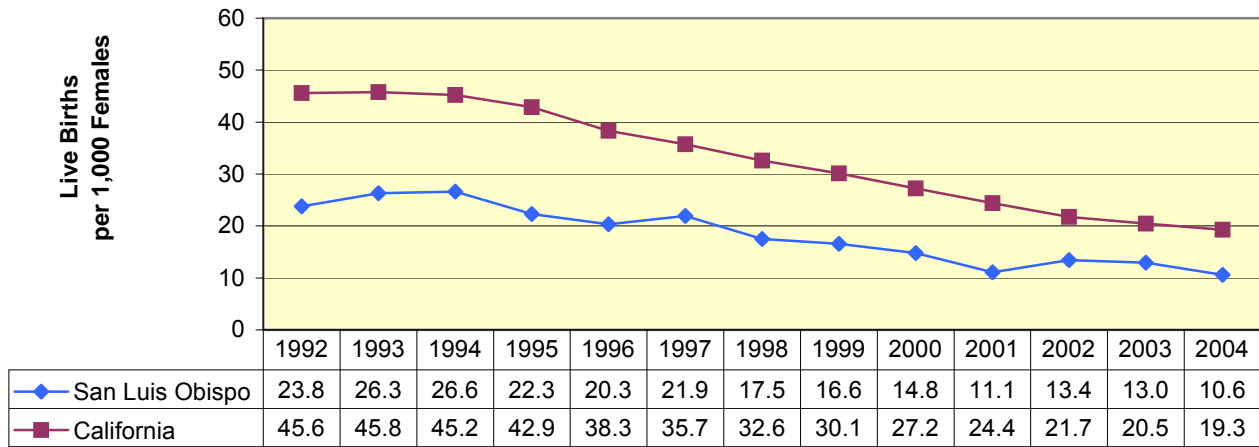
National Objective: The Healthy People 2010 objective related to teen pregnancies is to reduce pregnancies among females aged 15-17 to no more than 45 per 1,000 adolescents.

Key Findings: Less than 15 years: In San Luis Obispo County, the number of teen births (per 1,000 teen females less than 15 years of age) has ranged between 1 and 6 each year from 1993 through 2005. Birth rates for this age group have not been calculated, since they would be unreliable and a comparison with state rates would not be valid. The statewide birth rate among teen females ages 15 and younger has declining from 1992 to 2004.

15 – 19 years: The age-specific teen birth rates for the 15-17 and 18-19 year age groups are summarized in Figures 9-1 and 9-2, respectively. The teen birth rate in San Luis Obispo County has been consistently lower the state (statistically significant with $p < 0.05$). State rates have been declining for both age groups; while SLO County rates have generally been declining for 15-17 year olds and staying relatively steady for 18-19 year olds. The 2004 SLO County birth rate for 15-17 year olds is the lowest since 1992.

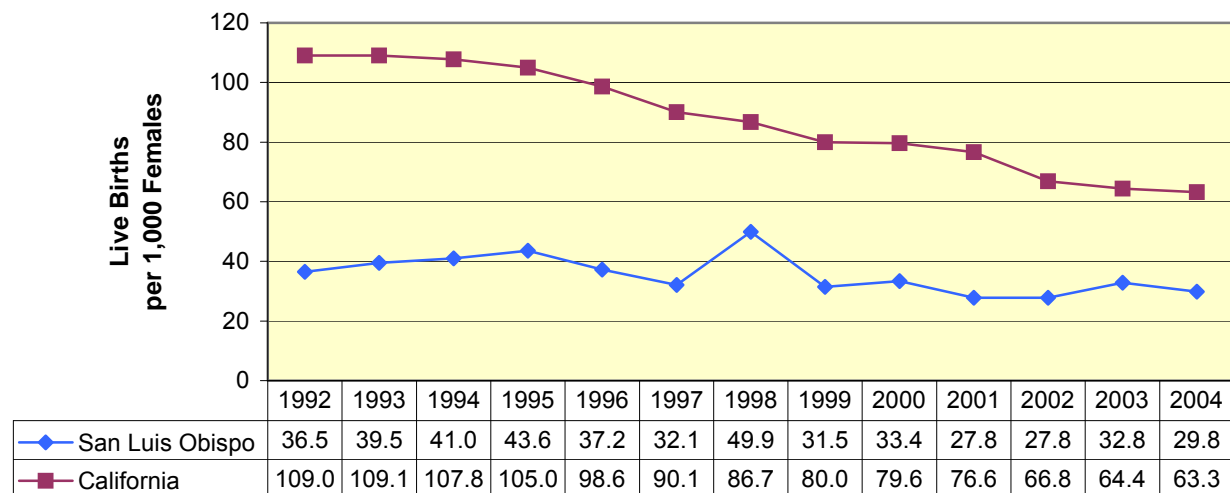
During 2001-2003, San Luis Obispo ranked 7th out of 58 counties (i.e., 6 counties had a lower teen birth rate than San Luis Obispo) for birth rates among the 15-19 year age group (per the California Department of Health Services' County Health Status Profiles 2005).

Figure 9-1: Teen Births (15 - 17 Years of Age)
San Luis Obispo County and California, 1994 - 2004



Data source: California Department of Health Services, Center for Health Statistics, Vital Statistics Section.

Figure 9-2: Teen Births (18 - 19 Years of Age)
San Luis Obispo County and California, 1994 - 2004



Data source: California Department of Health Services, Center for Health Statistics, Vital Statistics Section.

Race/Ethnicity: The teen birth rates vary by race/ethnicity. For example, in 2004, the differences in teen birth rates by major age and race/ethnicity groups in California and San Luis Obispo County are shown on the next page in Table 9-1.

Race/Ethnicity	California	San Luis Obispo County
White/Other/Unknown	16.7	11.0
Hispanic	64.3	57.7
African American	37.3	38.5
Asian / Pacific Islander	12.2	*

* Birth rate not reported for these cells due to small numbers.

Primary Prevention Activities:

Several San Luis Obispo Family Health Services (FHS) programs strive to decrease teen pregnancy, enhance nutrition, decrease tobacco use, and encourage early entrance into prenatal care in order to improve the health of these mothers. Primary prevention activities include:

- Encouraging abstinence and help in developing skills for decision-making, communication, and negotiation about sex.
- Providing parents with information on discussing sex with their children.
- Providing comprehensive and early sex education to youths, with particular attention being given to pregnancy, human immunodeficiency virus (HIV), acquired immunodeficiency syndrome (AIDS), and other sexually transmitted diseases.
- Encouraging communities to work together to increase the availability of contraceptives.
- Promoting sexual responsibility among young men through education and enforcement of statutory rape, establishment of paternity, and child support laws.

Cost Analysis:

The Temporary Assistance to Needy Families (TANF) [changed from Aid to Families with Dependent Children (AFDC) in 1997] and Medi-Cal costs for one teen pregnancy, birth and first year of support exceeds \$10,000 according to Department of Health Services (DHS). During the years 2002-2004, San Luis Obispo County had an average of 18 fewer teen births per 1,000 females compared to the California average for each year. The 15-19 year old female population in the county during this time period was approximately 10,000; therefore, the county had an estimated 176 fewer teen births than the state average per year. Per DHS, most (74.7%) teen deliveries are paid for by Medi-Cal. Therefore, at a first-year cost of \$10,000 per teen birth (assuming 75% need assistance), the estimated cost savings to government has been \$1,320,000 per year for first year costs alone.

Community Resources:

The Public Health Department works with a variety of community organizations, all of which offer activities to increase youth abstinence and provide pregnancy prevention:

- Community Challenge Grant (CCG) in Paso Robles
- Young men's club
- Adolescent Family Life Program (AFLP)
- Adolescent Sibling Pregnancy Prevention Program (ASPPP)
- Special teen clinics in high-risk areas
- Family Planning
- Emergency contraception

Data Sources:

Data sources for this report include:

- California Department of Health Services, Center for Health Statistics, Office of Health Information and Research. Data available from website: <http://www.dhs.ca.gov/hisp/chs/OHIR/tables/birth/default.htm>
- County Health Status Profiles 2006, Teen Birth Rates (California Department of Health Services: Birth Statistical Master Files, 2002-2004.)
- State of California, Department of Finance, *Race/Ethnic Population with Age and Sex Detail, 2000–2050*. Sacramento, CA, May 2004.
- Cost data were obtained from the website for responsible parenting, facts and statistics: <http://www.responsibleparenting.org/teen.html>, 2000.

Low Birthweight

Definition: Low Birthweight: Proportion (percent) of liveborn infants who are of low birthweight (under 2,500 grams or 5.5 pounds) and born to residents.
Very Low Birthweight: Proportion (percent) of liveborn infants who are of very low birthweight (under 1,500 grams or 3.3 pounds) and born to residents.

Importance: According to the Department of Health and Human Services:

- Low birthweight babies are at a significantly greater risk of death and long-term disabilities such as cerebral palsy, autism, mental retardation, vision and hearing impairments, and other developmental disabilities.
- Despite their low prevalence, expenditures for the care of low birthweight infants total more than half of the costs incurred for all newborns.
- Some of the major risk factors for low birthweight babies include the use of alcohol and tobacco during pregnancy, low pre-pregnancy weight, and low pregnancy weight gain.
- The highest incidence (13.5%) of low birthweight babies are born to mothers under the age of 15 years.
- African-American babies are twice as likely to be very low birthweight than Caucasian babies.
- Over half of twins and other multiple birth babies have a very low birthweight.

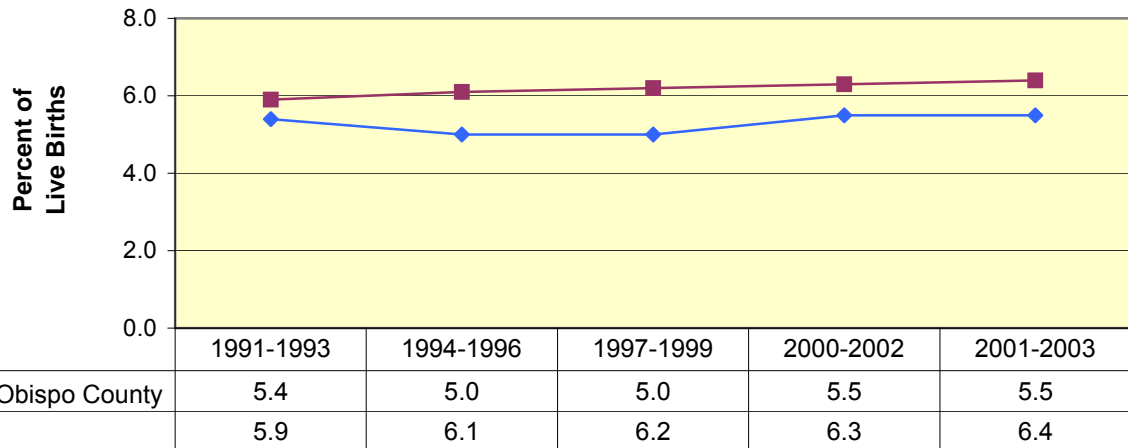
National Objectives: The Healthy People national objectives for 2010 are to:

- Reduce low birthweight incidence to no more than 5 percent of all live births.
- Reduce very low birthweight to no more than 1 percent of live births.

Key Findings: Some of the key findings reveal:

- San Luis Obispo County has consistently had a lower percentage of low birthweight infants compared to the state from 1994-2004, as shown in Figure 10-1. Although that gap is lessening.
- San Luis Obispo County ranked 16th out of the 58 California counties (i.e., 15 counties had a lower percentage of low birthweight infants born to residents compared to San Luis Obispo County) during 2001-2004.
- Since 1995, SLO County has failed to meet the Healthy People 2010 low birthrate goal.
- The average percentage of very low birthweight infants (less than 1,500 grams at birth) in San Luis Obispo County has remained consistently between 0.9 and 1.1. The numbers are almost the same statewide.

Figure 10-1: Low Birthweight Infants (<2500 grams)
California and San Luis Obispo County, 1991-2003



Data source: County Health Status Profiles, California Department of Health Services, Center for Health Statistics, 2005.

Primary Prevention Activities:

Several Family Health Services programs strive to enhance prenatal nutrition, decrease tobacco use, and encourage early entrance into prenatal care in order to improve the health of the mothers and decrease the rate of low birthweight infants. Primary prevention activities include:

- Reducing the incidence of unintended pregnancies through abstinence and contraceptive education.
- Increasing education about the risks to the fetus if the mother maintains harmful behaviors before and during pregnancy, such as smoking, substance abuse, and poor nutrition.
- Ensuring that smoking cessation services and other substance abuse treatment is available to all pregnant women.
- Increasing access to prenatal care and promoting its importance.

Cost Analysis:

Costs for babies who are born too small and need specialized care in a neonatal intensive care unit range from \$1,000 to more than \$3,000 per day. The length of stay in the neonatal intensive care unit may be lengthy, especially if there are complications. The average lifetime costs for one premature baby are conservatively estimated at \$500,000. Low birthweight accounts for 10 percent of all health-care costs for children. Investing in prenatal care is cost effective as every \$1 spent on prenatal care can save approximately \$3.38 on hospital bills, birth complications, and low birthweight babies.

Data Sources:

- California Department of Health Services, Center for Health Statistics, County Health Status Profiles, available at:
<http://www.dhs.ca.gov/hisp/chs/OHIR/Publication/publicationindex.htm>
- Cost data: March of Dimes website: <http://www.modimes.org/>
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at:
<http://www.health.gov/healthypeople/>

Infant Mortality

Definition: Infant mortality is the number of infant deaths per 1,000 live births. The birth cohort infant death rate is based upon births during a calendar year (a cohort) tracked individually for 365 days to determine whether or not death occurred.

Importance: According to the Department of Health and Human Services:

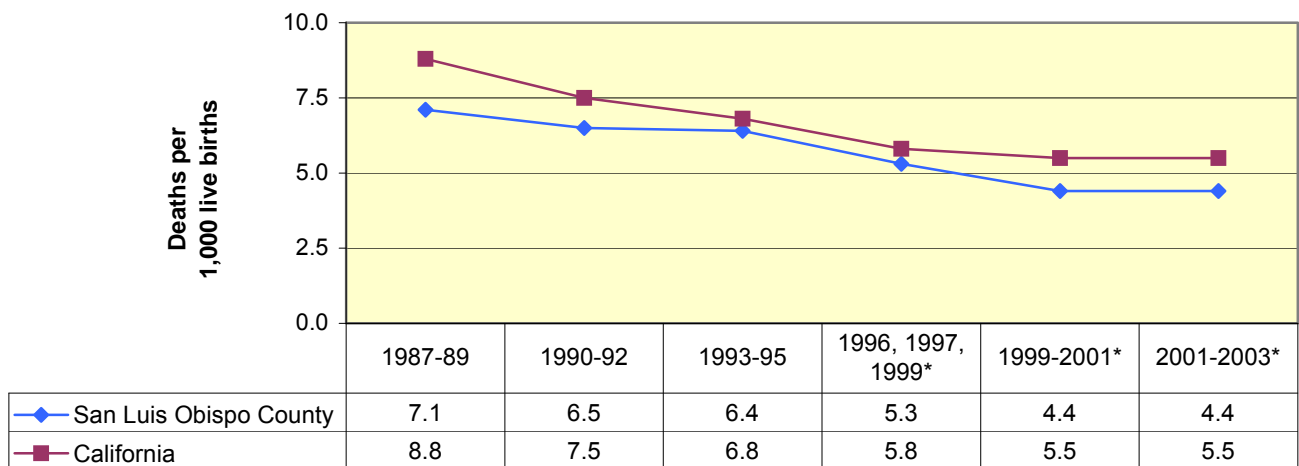
- Infant mortality is an important indicator of a nation's health and is a worldwide indicator of health status and social well-being. As of 2006, the U.S. ranked 184 out of 226 for its infant mortality rate, meaning that 42 countries have lower infant mortality rates than the U.S.
- In the past decade, critical measures of increased risk for infant death, such as incidence of low birthweight, have increased.
- The disparity in infant mortality rates between whites and specific ethnic groups (African Americans, American Indian/Alaska Natives, Native Hawaiians, and Puerto Ricans) persists. The rate for African Americans is more than twice the national average.
- Sudden Infant Death Syndrome (SIDS) is the leading cause of infant mortality after the first month of life, accounting for about one-third of all deaths during this period.
- In 2003, the ten leading causes of infant mortality (and the corresponding rate per 100,000 live births) in the United States were:
 - Birth defects (137.4)
 - Pre-term or low birthweight (118.6)
 - Sudden Infant Death Syndrome (52.9)
 - Maternal pregnancy complications (41.8)
 - Placenta/cord complications (26.9)
 - Accidents (unintentional injuries) (23.1)
 - Respiratory Distress Syndrome (20.3)
 - Infections (18.9)
 - Neonatal hemorrhage (15.9)
 - Diseases of the circulatory system (14.5)

National Objective: The Healthy People national objective for 2010 is to reduce infant mortality to a rate of no more than 4.5 deaths per 1,000 live births. San Luis Obispo County's most recent rate of 4.4 (which is unreliable) just barely meets the national Healthy People 2010 objective.

Key Findings:

- Between 1987 and 2003, San Luis Obispo County had a lower infant mortality rate compared to California, as shown in Figure 11-1. The rates for both California and San Luis Obispo County have also improved.
- San Luis Obispo County achieved the national Healthy People 2000 objective of no more than 7 infant deaths per 1,000 live births and continues to work toward meeting the 2010 objective of less than 4.5 infant deaths per 1,000 live births.
- The United States’ infant mortality rate has declined significantly since 1915, when the rate was approximately 100 per 1,000 live births (1 in 10). The United States’ rate in 1999 was 7.0 per 1,000 live births.

Figure 11-1: Infant Mortality
California and San Luis Obispo County, 1987-2003



*San Luis Obispo County infant mortality rate unreliable due to small numbers.
Data source: County Health Status Profiles, California Department of Health Services, Center for Health Statistics, 2005.

Primary Prevention Activities:

Primary prevention activities include:

- Beginning prenatal care early and maintaining regular visits during pregnancy.
- Encouraging abstinence from tobacco (and second-hand smoke), alcohol and other drugs (including medications that may be harmful to the fetus or infant).
- Educating parents to put infants to sleep on their backs in order to prevent SIDS.
- Teaching proper use of child passenger safety seats to decrease risk of death or serious injury during motor vehicle collisions.

Cost Analysis: The impact of infant mortality on family, friends, and society is not measurable. Specific cost data is not available.

Data Sources: Data sources for this report include:

- California Department of Health Services, Center for Health Statistics, County Health Status Profile; available at: <http://www.dhs.ca.gov/hisp/chs/OHIR/publicationindex.htm>
- National data: March of Dimes website: <http://www.modimes.org/>
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>
- World Factbook Infant Mortality Rate Ranking; available at: <http://www.cdc.gov/omh/AMH/factsheets/infant.htm>
- Leading Causes of Infant Death, CDC, National Center for Health Statistics; available at: <http://www.cdc.gov/nchs/data>

Childhood Immunizations

Definition: Vaccines are biological substances used to stimulate the development of antibodies and thus confer active immunity against a specific disease or numbers of diseases. The proportion of children whose vaccinations are current are provided in this report for the following two categories:

- (a) Children (ages two to 4 yrs-11 months) enrolled in child care programs
- (b) Children in kindergarten

Importance: According to the Department of Health and Human Services, vaccines can prevent debilitating and, in some cases, fatal effects of infectious diseases. The organisms that cause diseases such as polio, measles, and rubella have not disappeared. Rather, they have receded and will reemerge if the vaccination coverage drops. Vaccines protect more than the vaccinated individual; they protect society as well. When vaccination levels in a community are at least 90%, the few who cannot be vaccinated, such as young children and persons with contraindications to vaccinations, often are indirectly protected because of group immunity (i.e., they live among vaccinated persons who help limit the spread of the disease).

National Objective: Healthy People 2010 objectives related to childhood vaccinations include:

- Goal 14-22: Achieve and maintain effective vaccination coverage levels of at least 90 percent for all universally recommended vaccines among young children (aged 19 to 35 months) 4 DtaP, 3 Polio, 1 MMR, 3 HepB, 3 Hib, 1 Varicella.
- Goal 14-23a-h: Maintain vaccination coverage levels of at least 95 percent for children in licensed day care facilities, and children in kindergarten, through the first grade. Targets only DtaP, Polio, & MMR.

Key Findings: Childcare Programs

- The percentage of 2 to 4 year-11 month old children enrolled in child care programs in SLO County with all required vaccinations was lower in 2006 (86.40%) than in 2002 (90.7%).
- The State met the Health People 2010, 14-23 Goal of 95% coverage for all three vaccines: DtaP, Polio and MMR. San Luis Obispo County came a bit short for Childcare settings.
- In Fall 2006, the percentage of up-to-date children in childcare centers operated by Head Start fell from 83.64% in 2005 to 65.85% in 2006. Vacancy of a key staff person and their high rate of conditional entrants 33.66% vs State 3.59%, were cited. The Immunization Registry has been offered to EOC Head Start to help improve their rates.
- The Fall 2006 immunization results for child care programs are summarized below in Table 12-1.

Table 12-1: Child Care Center Immunization Assessment		
Percentage of 2 – 4 Yrs -11 Months Old Enrollees Adequately Immunized, 2006		
Category	California	San Luis Obispo County
Total Facilities Reporting	9,824	83
Number of Enrollees	511,103	2,911
% of Entrants with All Required Immunizations (excludes those with exemptions due to personal medical reasons or personal beliefs)	93.63	86.40
Total with all - Public Child Care Centers	95.07	90.38% of 551
Total with all - Private Child Care Centers	92.46	89.59% of 1,950
Total with all - Head Start Child Care Centers	96.04	65.85% of 410
Percent (%) vaccinated for:		
Diphtheria, tetanus, pertussis (4th dose)	95.21	91.79
Polio (3 doses)	96.92	94.78
Measles, mumps, rubella (1 dose)	97.10	94.68
<i>Haemophilus influenzae</i> type b (Hib) (1 dose)	97.42	91.34
Hepatitis B (3 doses)	95.58	94.61
Varicella (1 dose)	96.34	94.37
Conditional Entrants	4.82	10.03
Exemption - Personal Medical Exemption	0.17	0.45
Exemption - Personal Beliefs Exemption	1.38	3.13

Data source: Fall 2006 Childcare Center Immunization Assessment Results, California Department of Health Services, Immunization Branch at <http://www.dhs.ca.gov/ps/dc/dc/izgroup/shared/levels.htm>.

Key Findings (continued):

Kindergarten Students:

- The State and County trends for kindergarten students with all required vaccinations have remained constant since 2002. The county was slightly lower in 2006 (91.45%) than in 2002 (92.0%). In contrast, the State was slightly higher in 2006 (92.69%) versus (92.3%) in 2002.
- Both the State and the County “Kindergartens” met the Health People 2010, 14-23 Goal of 95% coverage for all three vaccines: DtaP, Polio and MMR.
- In Fall 2006, the percentage of San Luis Obispo County Kindergarten students with Personal Belief Exemptions was 2.99%, compared to 1.41% for the State.
- See Table 12-2 for a summary of the immunization results for kindergarten students.

Table 12-2: Kindergarten Immunization Assessment
Percent of Enrollees Adequately Immunized, 2006

Category	California	San Luis Obispo County
Number of Schools	8,481	64
Number of Students	503,160	2,609
% of Entrants with All Required Immunizations	92.69	91.45
% Immunized for:		
Diphtheria, tetanus, pertussis (4 doses)	96.26	95.94
Polio (3 doses)	96.58	96.36
Measles, mumps, rubella (1 dose)	99.20	99.04
Measles, mumps, rubella (2nd dose)	96.53	96.05
Hepatitis B (3 doses)	98.44	98.66
Varicella (1 dose)	98.84	98.89
Conditional Entrants	5.74	5.21
Exemptions - Personal Medical Exemption	0.16	0.34
Exemptions - Personal Beliefs Exemption	1.41	2.99

Data source: Fall 2006 Kindergarten Student Immunization Assessment Results, California Department of Health Services, Immunization Branch at <http://www.dhs.ca.gov/ps/dcdc/izgroup/shared/levels.htm>

Key Findings (continued):

Exemptions Due to Medical or Personal Beliefs:

California's School Immunization Law allows exemptions for personal or medical reasons; however, when there is a disease circulating in the community, non-immunized/exempt children can be at risk from other children as well pose a risk to other children. A study in 2000 (JAMA, Vol. 284, No. 24, p. 3145) found that children with Personal Belief Exemptions in child care and primary school were 62 times more likely to get measles and 16 times more likely to catch pertussis than immunized children. Parents considering a personal beliefs exemption for their child need to be aware of both the personal and community risks of exemption.

Primary Prevention Activities:

Primary prevention activities include:

- Using the Central Coast Immunization Registry (CCIR) to generate reminders for parents to keep children up to date on immunizations.
- Encouraging medical providers to offer vaccinations to children, as appropriate, and utilize the CCIR.
- All school districts in SLO County are on the CCIR or will be by the end of June 2007. This provides immediate access to children's vaccine status if conditionally enrolled.
- Encouraging parents to always bring their child's yellow immunization card to any doctor or clinic visit.
- Continuing to provide low-cost vaccines to all children at the Public Health Department and other local providers.
- Providing provider education on immunizations through the quarterly SLO Public Health Bulletin, the Quarterly Immunization Collaborative meeting, and the monthly School Nurses meeting.

- Cost Analysis:** According to Archives of Pediatrics & Adolescent Medicine December 2005, Economic Evaluation of the 7 Vaccine Routine Childhood Immunization Schedule in the US, 2001 reports “Direct and societal benefit-cost ratios for routine childhood vaccinations were 5.3 and 16.5, respectively.” “Regardless of the perspective, the current routine childhood immunization schedule results in substantial cost savings”.
- Data Sources:**
- Fall 2006 Child Care Center and Kindergarten Student Immunization Assessments, California Department of Health Services, Immunization Branch at <http://www.dhs.ca.gov/ps/dcdc/izgroup/shared/levels.htm>.
 - Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>.

Communicable Disease Overview

Overview: Communicable (infectious) disease control is a major emphasis of most public health departments. Communicable disease services include education, prevention, surveillance, case findings, early diagnosis and treatment. Examples of communicable diseases include those transmitted from human to human, from vectors (e.g., infected ticks or mosquitoes) to humans, and from contaminated food or water to humans.

An overview of communicable diseases (and other diseases and health topics) can be found on the Centers for Disease Control and Prevention website, located at <http://www.cdc.gov>, under the Health Topics A-Z. In addition to general information, there are links to technical documents, such as the Morbidity and Mortality Weekly Report (MMWR) and other websites that provide more detailed information.

Reporting: Timely reporting is crucial to the effectiveness of communicable disease control and prevention. California State law (California Code of Regulations, Title 17, Public Health, Section 2500) requires health care providers (and laboratories, when applicable), to report selected diseases and conditions to their local public health department. The confidentiality of patient information is always protected. Some communicable diseases, such as pneumonia and influenza, do not have mandatory reporting requirements; however, death and hospitalization data for these two diseases are available.

Key Findings: Table 13-1 contains a summary of selected communicable diseases reported to San Luis Obispo County Health Department between 1996 and 2006 for residents (including those in institutional facilities). There may be differences between local and state data summaries if there were delays in reporting or if a disease was reclassified after initial reporting. The most frequently reported communicable diseases in San Luis Obispo County during the specified time period were:

- Sexually Transmitted Diseases: Chlamydia and Gonorrhea
- Hepatitis: Hepatitis C (chronic) and Hepatitis B (chronic)
- Intestinal Infections: Campylobacteriosis, Giardiasis, Salmonellosis, Shigellosis and Campylobacteriosis
- Meningitis and Related Conditions: Viral Meningitis
- Other Diseases: Coccidioidomycosis (Valley Fever), Acquired Immunodeficiency Syndrome (AIDS), Tuberculosis and Pertussis (Whooping Cough)

See more details about AIDS, sexually transmitted diseases, Hepatitis A/B/C, tuberculosis, pneumonia and influenza in other designated chapter(s) within this Community Health Status Report.

Table 13-1: Selected Communicable Diseases by Year Reported
San Luis Obispo County Residents, 1996 - 2006

Disease	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sexually Transmitted											
Chlamydia	244	233	341	265	324	306	313	511	470	549	567
Gonorrhea	44	37	31	31	26	20	17	56	37	49	42
Syphilis	19	3	4	2	7	0	8	10	12	13	9
Hepatitis											
Hepatitis A	19	25	9	2	9	3	7	4	4	5	12
Hepatitis B (Acute)	9	2	0	2	0	1	1	1	6	4	3
Hepatitis B (Chronic)	33	15	23	38	32	39	66	36	35	90	69
Hepatitis C (Acute)	0	1	3	3	0	0	1	1	0	1	6
Hepatitis C (Chronic)	4	74	159	208	256	336	1213	612	402	503	452
Intestinal Infections											
Campylobacteriosis	61	61	34	30	37	33	18	30	43	54	54
Giardiasis	51	58	51	33	22	30	6	12	11	19	21
Salmonellosis	43	35	33	12	19	31	8	22	25	23	42
Shigellosis	3	8	7	2	2	5	1	2	1	3	20
Amebiasis	4	1	4	3	0	2	0	0	1	1	1
E. coli O157:H7	2	4	2	0	4	2	2	2	2	6	2
Cryptosporidiosis	2	0	0	0	3	5	3	8	53	6	23
Meningitis and Related Conditions											
Meningitis, viral	13	35	50	13	13	17	9	28	29	22	21
Meningitis, bacterial	2	7	3	1	5	6	3	3	4	7	3
Meningococcal meningitis	1	2	1	3	0	0	0	1	0	0	1*
Meningococcemia	4	1	3	1	0	2	0	0	0	1	2
Meningitis, unknown	1	0	1	0	1	0	1	3	2	1	2
Meningitis, fungal	1	0	2	2	0	0	0	0	0	3	2
Encephalitis, viral	2	3	1	0	1	0	1	0	2	2	1**
Vector-Borne											
Lyme Disease	1	1	2	1	1	2	0	2	0	1	4
Malaria	1	1	0	0	1	2	0	0	0	1	0
Other Diseases											
Coccidioidomycosis (Valley Fever)	53	38	28	32	44	80	27	71	72	116	147
AIDS	51	29	20	20	29	20	22	13	8	21	1
Tuberculosis	11	10	16	7	9	11	7	8	4	8	2
Pertussis	6	9	2	1	0	2	1	1	0	109	75
Measles (Rubeola)	0	0	0	0	0	0	0	0	0	0	0
Rubella	1	1	0	0	0	0	0	0	0	0	0
Tetanus	0	1	1	0	0	0	0	0	0	0	0

Data source: San Luis Obispo County Health Dept., Automated Vital Statistics System, except AIDS data from San Luis Obispo County Public Health Dept. confidential AIDS database and Tuberculosis data from California DHS. Note that the large number of Hepatitis C (Chronic) cases reported in 2002 ($n = 1,212$) was partially due to late reporting to the Public Health Department by one of the institutions. Some of these cases were from prior years. The huge increase in the number of pertussis cases in 2005 was due to a statewide outbreak.

* = Meningococcal infection, other invasive; ** = Encephalitis, unspecified

Note: Numbers may change slightly over the years due to data processing lag time.

HIV/AIDS

Definition: Human Immunodeficiency Virus (HIV) is the virus that causes Acquired Immune Deficiency Syndrome (AIDS). AIDS is considered to be the advanced form of HIV and occurs when people with HIV develop certain infections due to their weakened immune system or when their CD4+ cell count drops below 200 (the CD4+ cell is an immune system cell involved in protecting against viral, fungal, and protozoal infections).

In 2006, California passed Senate bill 699 requiring physicians to report all new HIV positive test results using names instead of a coded identifiers as was previously established. Hopefully this will eventually provide a better picture of HIV state- and countywide.

Importance: According to the Joint United Nations Programme on HIV/AIDS, as of the end of 2006, the following trends (worldwide) were evident:

- 39.5 million people were estimated to be living with HIV/AIDS (37.2 million adults, 17.7 million women, and 2.3 million children under 15).
- During 2006, AIDS caused the deaths of an estimated 2.9 million people, including and 380,000 children under 15.

According to the Centers for Disease Control and Prevention:

- The cumulative number of AIDS cases reported in 2005 was 956,019 in the United States; of these, 139,019 were in California (14.5%).

According to the Department of Health and Human Services:

- Currently, HIV/AIDS has been reported in virtually every racial and ethnic population, every age group, and every socioeconomic group in every State and most large cities in the United States.
- Recently introduced therapies for HIV/AIDS have reduced illness, disability, and death due to AIDS; however, access to care may limit progress in this area.
- There is no cure for HIV, and the current treatments are difficult to take because of a complicated dosing schedule, severe side effects and long term complications.
- Most transmission of HIV in the United States is among sexual partners of people with HIV and/or people who share needle-injecting equipment that has been contaminated with HIV.
- A disproportionate percentage of HIV and AIDS cases occur among ethnic minorities, especially Hispanics and African Americans.
- Recent data indicates that as Sexually Transmitted Disease (STD) rates increase, HIV rates also increase since STDs increase the risks for HIV transmission.

National Objective: The goals of the Department of Health and Human Services in the prevention of HIV transmission are to ensure that high risk individuals know their HIV status, to preserve the status of those uninfected with HIV making certain that those with HIV do not transmit it to others, and to make sure that those infected with HIV have

access to appropriate therapies. Healthy People Objectives include:

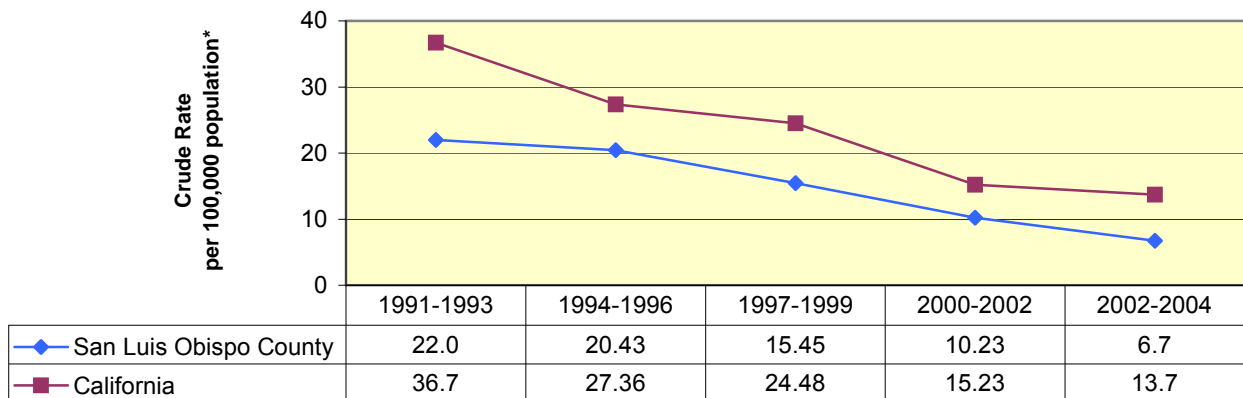
- Reduce the number of deaths attributed to HIV infection to 0.7 deaths per 100,000 people.
- Reduce new AIDS cases among teens and adults to 1 new case per 100,000 people.

Key Findings:

The key findings for HIV/AIDS include:

- As shown in Figure 14-1, the crude rate for AIDS incidence has generally decreased for California, as well as the San Luis Obispo County, since 1991-1993. The incidence rate of AIDS in San Luis Obispo County has been lower than the State for each time period.
- As shown in Figure 14-2, the incidence of AIDS cases among community residents has usually been lower than the incidence of AIDS cases among county institution residents (California Men’s Colony, Atascadero State Hospital, and the California Youth Authority). The incidence of AIDS cases has declined between the mid-1990s and 2001.
- As shown in Figure 14-3, the number of AIDS deaths has declined significantly since 1994, likely due to recent advances in treatment.
- A California law, Senate bill 699, passed on April 17, 2006 requiring physicians to report all new HIV positive test results using names instead of a coded identifiers as was previously established. Hopefully this will eventually provide a better picture of HIV state- and countywide.
- As shown in Figure 14-4, females in our county usually contracted HIV through injection drug use and heterosexual contact while men usually contracted HIV from male-to-male sexual contact or male-to-male sexual contact coupled with injection drug use.

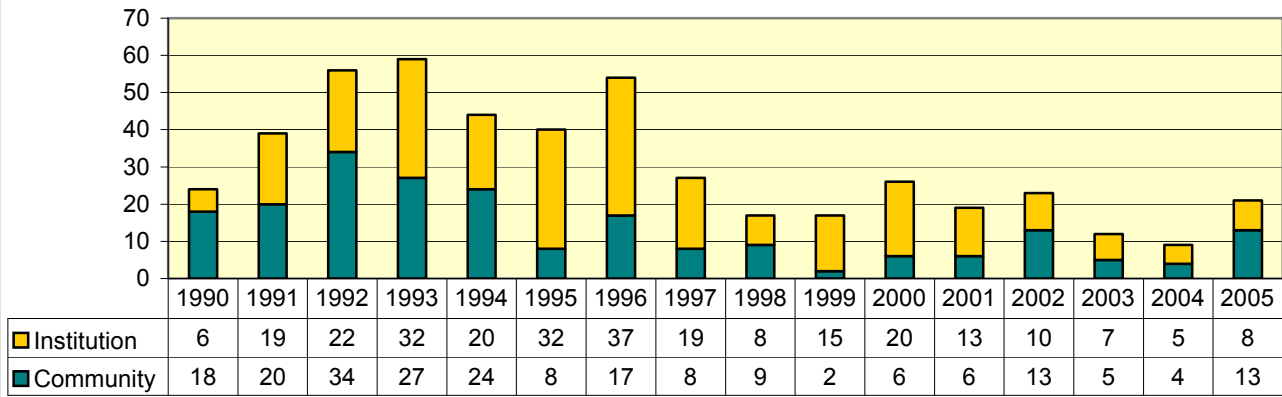
Figure 14-1: AIDS Incidence*
San Luis Obispo County and California, 1991-2004



*Note: Population limited to age 13 and over as of 1997-1999 data; prior years included all ages.
Data source: County Health Status Profiles, California Dept. of Health Services, Center for Health Statistics.

Figure 14-2: AIDS Cases

San Luis Obispo County Residents: Community and Institutionalized,**
1990-2005

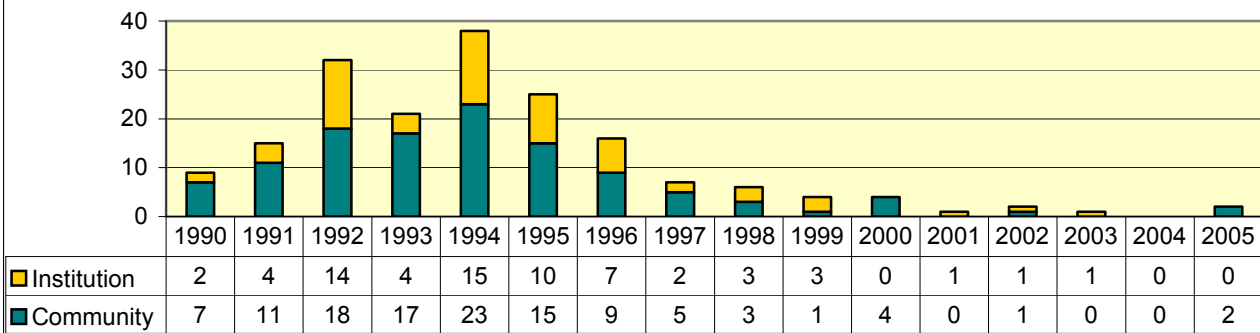


Data source: San Luis Obispo Confidential AIDS database.

** Institutionalized includes those at California Men's Colony, Atascadero State Mental Hospital, and the California Youth Authority.

Figure 14-3: AIDS Deaths

San Luis Obispo County Residents: Community and Institutionalized,* 1990-2005

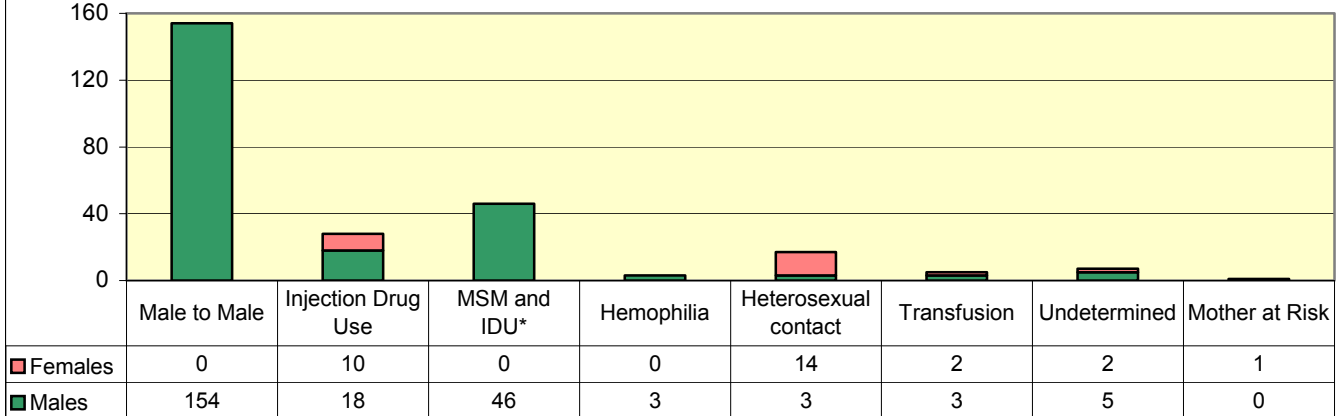


Data source: San Luis Obispo Confidential AIDS database.

* Institutionalized includes those at California Men's Colony, Atascadero State Mental Hospital, and the California Youth Authority.

Figure 14-4: AIDS Cases by Mode of Transmission and Gender

San Luis Obispo Community Residents, 1984 - June 2005



Data source: California Department of Health Services, Office of AIDS, HIV/AIDS Surveillance Report and San Luis Obispo County AIDS Program confidential database.

* MSM = Male-to-male sexual contact; IDU = Injection drug use.

Primary Prevention Activities:

Primary prevention activities include:

- Testing people with HIV who are unaware of their infection and referring them to medical care, counseling, health education, and transmission risk reduction services.
- Implementing prevention programs aimed at decreasing high-risk behaviors such as multiple partners, unprotected sex, drug use, etc.
- Educating groups with a high prevalence or increasing prevalence of HIV infection such as African Americans, Hispanics, women and men who have sex with men.
- Encouraging pregnant women to test for HIV and including information about how to reduce the risk of transmitting HIV to their children
- Promoting needle exchange programs, drug rehabilitation and counseling for at-risk drug users.
- Taking steps to decrease transmission of STDs overall to reduce risk of transmitting HIV.

Cost Analysis:

The latest estimates indicate that 1,039,000 to 1,185,000 people in the United States currently are infected with HIV. According to the Centers for Disease Control and Prevention, the lifetime costs of health care associated with HIV is approximately \$210,000 or more per person. These costs mean that HIV prevention efforts may be even more cost-effective and even cost saving to society. Prevention efforts include availability of culturally and linguistically appropriate HIV counseling and testing, partner counseling, and referral systems for individuals at high risk for HIV infection.

According to the Congressional Research Services Report for Congress, in Fiscal Year 2004, total United States federal HIV/AIDS spending was estimated to be \$18.5 billion. These costs were divided among care and assistance (63%), research (16%), prevention (12.0%), and income support programs (9%).

Community Resources:

Testing/Prevention: Public Health offers HIV antibody testing at Public Health sites throughout the county and at community sites using an outreach van. Planned Parenthood, County Drug and Alcohol Services, the Economic Opportunity Commission and the AIDS Support Network provide HIV prevention education to those at risk for contracting HIV.

Services to People with HIV: The AIDS Support Network offers services to people with HIV and their families through the Early Intervention Program, AIDS Drug Assistance Program, Ryan White Emergency Care Act funds and the Housing Opportunities for People with HIV Program. Public Health offers two case management programs, including one for people with HIV paroling from the State's prison system.

Data Sources:

Data sources for this report include:

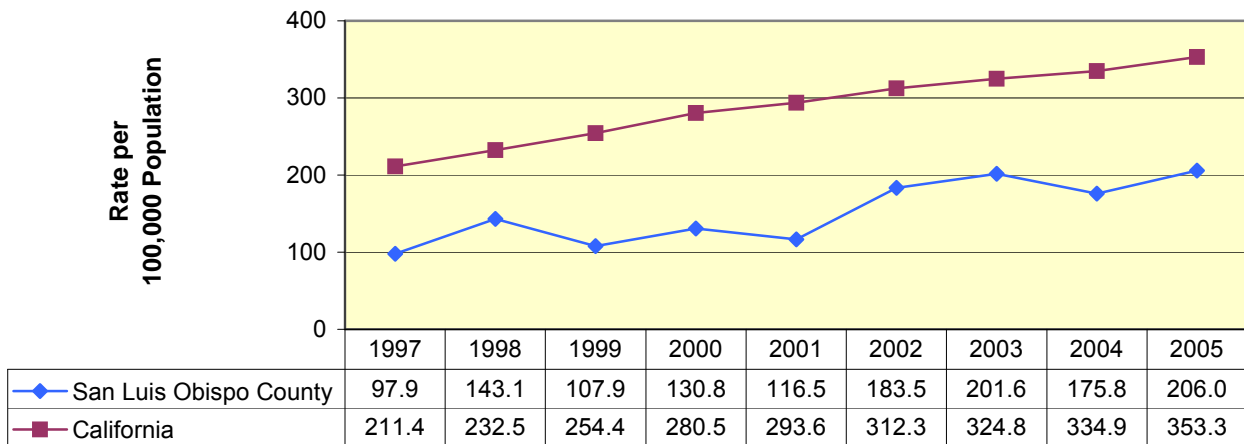
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>
- California Department of Health Services, Center for Health Statistics, County Health Status Profiles, available at: <http://www.dhs.ca.gov/hisp/chs/ohir/reports/healthstatusprofiles/default.htm>
- California Department of Health Services, Office of AIDS, HIV/AIDS Surveillance Report; available at: <http://www.dhs.ca.gov/aids/>
- Epidemiologic Profile HIV/AIDS in San Luis Obispo County, San Luis Obispo County Public Health Department AIDS Program, June 2005; available at: <http://www.slocounty.ca.gov/health/publichealth/communityhealth/aids.htm>
- Congressional Research Service Report for Congress, AIDS Funding for Federal Government Programs FY1981-2005; available at: <http://fpc.state.gov/documents/organization/34819.pdf>
- Prevention Pays, Centers for Disease Control; available at: http://www.cdc.gov/hiv/resources/reports/comp_hiv_prev/prev_pays.htm

Sexually Transmitted Diseases

- Definition:** A sexually transmitted disease (STD) is an infectious disease that is transmitted by way of sexual activity. There are about 25 commonly known organisms that cause STDs. The most common STDs are Chlamydia, Gonorrhea, Genital Herpes and Syphilis.
- Importance:** According to the Department of Health and Human Services:
- Despite the fact that STDs are quite preventable, they continue to be an increasingly large public health concern.
 - STDs have many long lasting repercussions including loss of or decrease in reproductive health, danger to fetal health, perinatal problems and even cancer.
 - In many to most cases of STDs, there are no apparent symptoms noticed by the individual, allowing for the disease to be spread unknowingly and possibly harming the individual more than need be.
 - Limited or lack of access to health care along with high-risk sexual activity is many times directly correlated to a larger proportion of STDs amongst certain social groups such as migrant workers, sex workers, incarcerated populations and adolescents.
- National Objective:** The Department of Health and Human Services seeks to “promote responsible sexual behaviors, strengthen community capacity, and increase access to quality services to prevent sexually transmitted diseases and their complications.” The Healthy People 2010 objectives for the most common STDs are as follows:
- Reduce proportion of males and females aged 15 to 24 infected with chlamydia trachomatis to only 3 percent.
 - Reduce gonorrhea to only 19 new cases per 100,000 people.
 - Reduce occurrence of primary and secondary syphilis to 0.2 cases per 100,000 people.
 - Reduce the percentage of adults between the ages of 20 and 29 infected with genital herpes to only 14 percent.
- Key Findings:** The key findings for chlamydia, gonorrhea and syphilis include:
- Chlamydia is the most diagnosed STD in San Luis Obispo County as of October 2006. Still, the rate of reported Chlamydia in San Luis Obispo County was significantly lower compared to the State, as shown in Figure 15-1.
 - Between 1997 and 2005, the rate of reported gonorrhea in San Luis Obispo County was significantly lower than the State’s, as shown in Figure 15-2. San Luis Obispo County has met the Healthy People objective of no more than 19 new cases per 100,000 people.

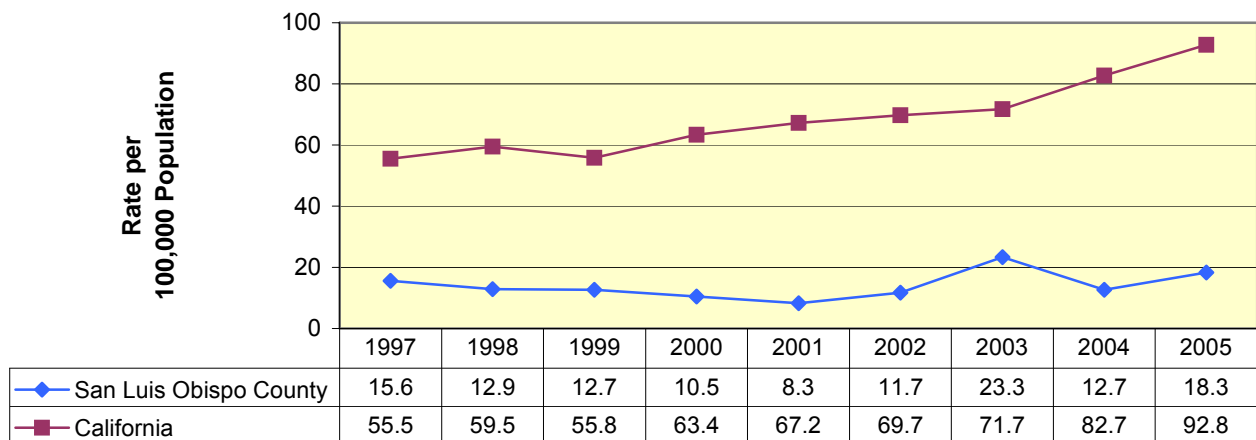
- As shown in Figure 15-3, the rate of reported syphilis (primary and secondary) increased markedly in California from 2000 to 2005. In San Luis Obispo County, there were between zero and 0.8 cases per 100,000 population reported during 1997-2005.

Figure 15-1: Reported Incidence of Chlamydia
San Luis Obispo County and California, 1997 - 2005



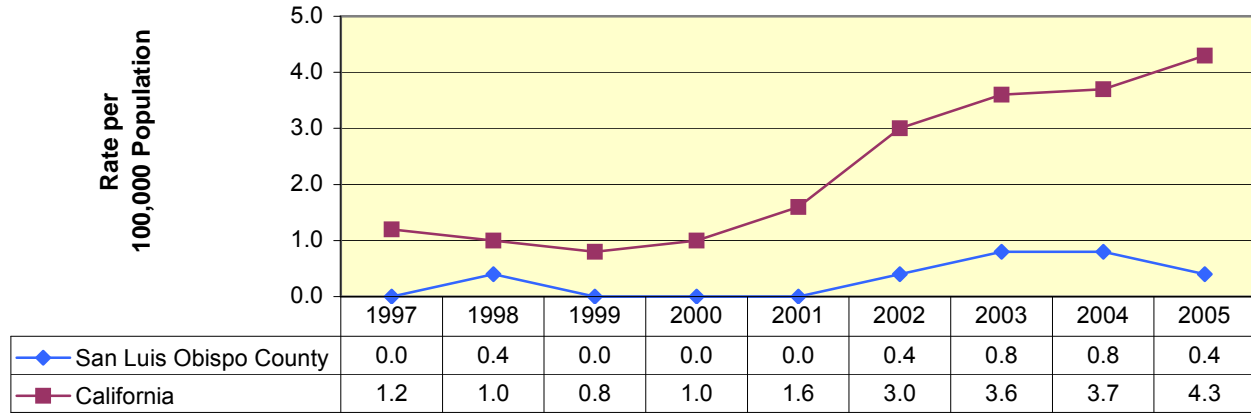
Data source: State of California, Department of Health Service; Sexually Transmitted Disease Control Branch.

Figure 15-2: Reported Incidence of Gonorrhea
San Luis Obispo County and California, 1997 - 2005



Data source: State of California, Department of Health Service; Sexually Transmitted Disease Control Branch.

Figure 15-3: Reported Incidence of Syphilis
San Luis Obispo County and California, 1997 - 2005



Data source: State of California, Department of Health Service; Sexually Transmitted Disease Control Branch.

Primary Prevention Activities:

Primary prevention activities include:

- Encouraging abstinence as the only way to avoid STDs.
- Providing easy access to health care for the economically and/or socially disadvantaged to allow for increased detection and treatment among high-risk groups.
- Providing comprehensive information about all aspects of STDs in sexual education classes in schools.
- Suggesting that STD screening be conducted in public health care facilities for those deemed to be at risk of contracting and/or spreading STD's.
- Distributing information throughout the community, focusing on those individuals at higher risk of contracting STDs and explaining how to reduce the risk of contracting STDs through use of condoms and monogamy.

Community Resources:

The Economic Opportunity Commission (EOC) Family Planning, Planned Parenthood and the County Public Health Department all offer no cost to low cost birth control and STD information as well as screening for many STDs.

Data Sources:

Data sources for this report include:

- California Department of Health Services, Department of Health Services, Sexually Transmitted Disease Control Branch. Data available from website: <http://www.dhs.ca.gov/ps/dcdc/STD/datatables.htm>.
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>.

Hepatitis A, B AND C

Definitions:

Viral hepatitis is an infection of the liver caused by three types of viruses. The illnesses caused by hepatitis A virus, hepatitis B virus, and hepatitis C virus are all reportable diseases.

- Hepatitis A is a liver disease caused by the hepatitis A virus (HAV). HAV is most commonly spread person-to-person by fecal contamination and oral ingestion. The virus is often spread through food handling by infected individuals. Hepatitis A is the most easily treated of the three strains.
- Hepatitis B is a liver disease caused by the hepatitis B virus (HBV). Hepatitis B can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. HBV is most commonly transmitted through sexual contact or through blood exposure. HBV can also be transmitted from mother to infant during birth.
- Hepatitis C is a liver disease caused by the hepatitis C virus (HCV). Although detectable in the blood of persons who have the disease, HCV infection tends to have very mild or no symptoms during the acute phase of the disease. In 75-85 percent of the cases, it becomes a chronic infection, which can lead to cirrhosis, liver disease and/or liver failure. HCV is typically spread by blood-to-blood contact between an infected person and an uninfected person.

Importance:

According to the Department of Health and Human Services:

- In 2004, 19.6 new cases of hepatitis A per 100,000 population were reported in the United States. Children have the highest rate of HAV infection in the country.
- The number of new hepatitis B infections per year has declined from an average of 260,000 in the 1980s to about 60,000 in 2004 with the greatest decrease in infection rate among children and adolescents due to routine hepatitis B vaccination.
- Of the reported cases of acute HBV, it was found after investigation that up to 70% of those people had recently been in a setting where they could have easily been vaccinated for HBV.
- The most common chronic blood born viral disease in the United States is hepatitis C virus (HCV). An estimated 4.1 million (1.6%) of Americans have been infected with HCV, of whom 3.2 million are chronically infected.
- Most hepatitis cases occur in young adults who have multiple sexual partners or unprotected sex, homosexual men, intravenous drug users, and those who have been incarcerated.

National Objective: The Healthy People 2010 overall goal is to reduce the number of new cases of hepatitis A, B or C by promoting proven prevention methods. The specific objectives are as follows:

- Reduce new cases of hepatitis A to only 4.5 per 100,000 population.
- Reduce hepatitis B infection in adults (aged 19 to 24) to a rate of 2.4 per 100,000 population and in adults (aged 25 to 39) to a rate of 5.1 per 100,000 population.
- Decrease occurrence of hepatitis C to only 1 new (acute) case per 100,000 population.

Key Findings: The key findings for hepatitis A, B and C include:

- Hepatitis A, B and C: The number of reported hepatitis cases is shown in Table 16-1. The majority of the reported hepatitis cases were hepatitis C (chronic). The number of hepatitis C cases increased markedly in 2001 through 2003. The very large increase in 2002 was largely due to late reporting (to the Public Health Department) by one of the institutions, as some of these cases were from prior years. Per the California Department of Health Services, “the apparently increasing trend [in hepatitis C cases] is most likely a function of increased testing and reporting rather than an indication of increasing number of new hepatitis C cases.” The State has provided funding for increased public education and outreach related to hepatitis C. In 2000, the San Luis Obispo County Hepatitis C Project began to coordinate with the San Luis Obispo County AIDS Program to provide hepatitis C testing in conjunction with the County’s State-funded HIV testing program. Since that time, more cases have been identified and reported in the community.

Table 16-1: Reported Cases of Hepatitis
San Luis Obispo County Residents, 1995 - 2005

Virus	Number of Cases Reported by Year										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Hepatitis A	19	19	25	9	2	9	3	7	4	4	5
Hepatitis B (Acute)	6	9	2	0	2	0	1	1	1	6	4
Hepatitis B (Chronic)	19	33	15	23	38	32	39	66	36	35	90
Hepatitis C (Acute)	0	0	1	3	3	0	0	1	1	0	1
Hepatitis C (Chronic)	NR	4	74	159	208	256	336	1212	605	402	502

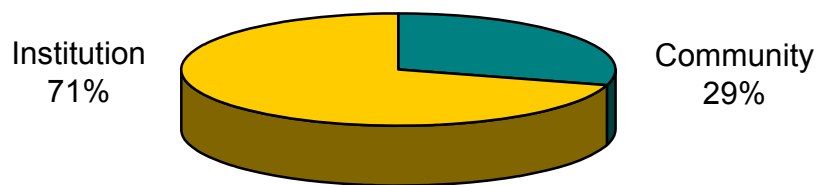
Note that the large number of Hepatitis C (Chronic) cases reported in 2002 (n = 1,212) were partially due to late reporting to the Public Health Department by at least one of the institutions. Some of these cases were from prior years. NR = not reportable.

Data source: San Luis Obispo County Health Department, Automated Vital Statistics System.

**Key Findings
(continued):**

- Institutionalized Cases of Hepatitis:
 - The majority (70.5%) of the 2,853 hepatitis C (chronic) cases during 1996–2003 were among institutionalized residents, as shown in Figure 16-1.
 - The majority (54%) of the 282 hepatitis B (chronic) cases during 1996-2003 were among institutionalized residents.

Figure 16-1: Hepatitis C (Chronic) Distribution
San Luis Obispo County Residents, 1996-2003



Data source: San Luis Obispo County Health Department, Automated Vital Statistics System

Other key findings for hepatitis A and C include:

- Hepatitis A: According to the Centers for Disease Control, National Center for Infectious Diseases, the average number of reported cases of hepatitis A per 100,000 population for 1987-1997 was 11 for San Luis Obispo County, compared to 20.3 for California. According to our local public health data source, the average number of reported cases of hepatitis A per 100,000 population for 1998 – 2003 was 2.2 for San Luis Obispo County. Since 1998, San Luis Obispo County has met the Healthy People 2010 objective of reducing new cases of hepatitis A to no more than 4.5 per 100,000.
- Hepatitis C: Table 16-2 shows the rate of acute hepatitis C cases for San Luis Obispo County (0.00) and California (0.19) for 2001-2003 based on the 2005 California Department of Health Services' County Health Status Profiles. The rate for California was lower than the Healthy People 2010 National Objective of 1.0. Based on our local database (see Table 16-1), the average number of acute hepatitis C cases during 2000-2002 was 0.3. The difference between the State and local numbers appears to be due to the late reporting of a single case. Note that data in the County Health Status Profile reports prior to 2003 were based on total number of cases (acute and chronic), not just acute cases; therefore, a comparison to previous reports is not valid.

Table 16-2: Newly Reported Case Rate of Hepatitis C (Acute)
San Luis Obispo County and California Residents, 2001 - 2003

Region	2002 Population	2001-03 Cases (Average)	Rate (per 100,000)	95% Confidence Limits	
				Lower	Upper
San Luis Obispo County	255,449	0.00	0.00	+	+
California	35,338,807	68.33	0.19	0.15	0.24

* Standard error indeterminate, case rate based on no (zero) cases.

Data source: California Department of Health Services, Center for Health Statistics, County Health Status Profiles, 2005.
<http://www.dhs.ca.gov/hisp/chs/phweek/cprofile2005/Profile2005.pdf>

Primary Prevention Activities:

Potential primary prevention activities include:

- Requiring hepatitis A virus (HAV) vaccination of children in areas with consistently higher levels of HAV infection.
- Promoting vaccination for hepatitis A in high-risk groups including adults traveling to foreign countries, persons in high-risk occupations and those with chronic liver disease.
- Promoting hepatitis B vaccination in children to help protect them when they reach high-risk ages or start to engage in high-risk behavior.
- Increasing levels of vaccine coverage of HBV for high-risk groups by vaccinating in drug treatment clinics, Sexually Transmitted Disease (STD) treatment clinics, correctional facilities and Human Immunodeficiency Virus (HIV) prevention sites.
- Educating adolescents and other high-risk groups of the dangers involved in sharing drug injecting needles and engaging in sexual relations without barrier type protection.
- Educating health care workers of potential risks they are exposed to and possible prevention methods.

Screening pregnant women for hepatitis B virus during an early prenatal visit is essential to identifying those who are infected. Women at high risk should be retested late in pregnancy. In 1997, 14 states had laws or regulations to ensure such screening. To be maximally effective, steps to prevent transmission of HBV to infants born to mothers who are infected must begin as soon as the child is born.

Data Sources:

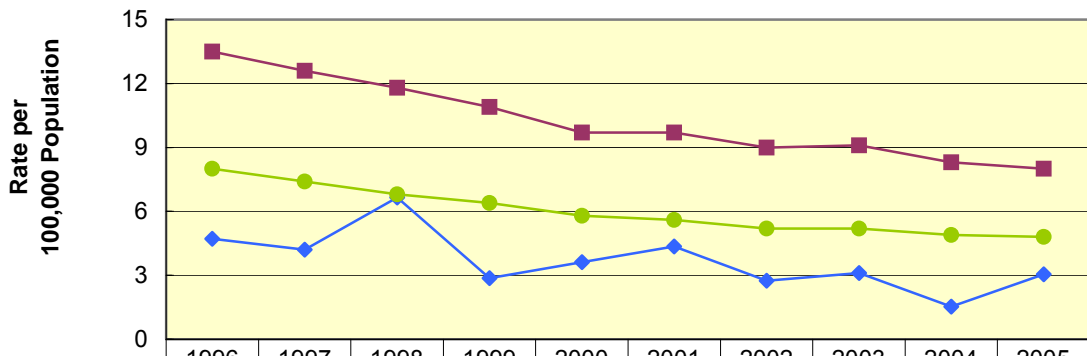
Data sources for this report include:

- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>.
- Centers for Disease Control and Prevention, National Center for Infectious Diseases, Division of Viral Hepatitis. Data available from website: <http://www.cdc.gov/ncidod/diseases/hepatitis/>.
- California Department of Health Services, Center for Health Statistics, County Health Status Profiles 2002; available at: <http://www.dhs.ca.gov/hisp/chs/OHIR/publicationindex.htm>
- San Luis Obispo County Health Department, Automated Vital Statistics System, Confidential Morbidity Report data.

Tuberculosis

- Definition:** Tuberculosis is a serious disease caused by infection with the organism mycobacterium tuberculosis and usually progresses to more severe outcomes among infants, adolescents and immunosuppressed patients.
- Importance:** According to the Department of Health and Human Services:
- Cases of tuberculosis increased by 20% between the years of 1985 and 1992. The trend toward eradication of tuberculosis was reversed due to more deadly drug-resistant strains.
 - Between the years of 1993 and 2004, new reported cases of tuberculosis declined.
 - Patients who do not receive sufficient treatment for tuberculosis run a higher risk of becoming ill and contagious again, and the opportunity for development of new drug-resistant strains increases.
 - A person infected with mycobacterium tuberculosis can be a carrier with no symptoms of tuberculosis. This can lead to outbreaks if those who have been in contact with tuberculosis patients are not contacted promptly to receive curative therapy.
- National Objective:** The Healthy People 2010 objectives for tuberculosis are:
- Reduce new tuberculosis cases to 1 new case per 100,000 population.
 - Increase the percentage of tuberculosis patients to finish curative therapy within 12 months from 74% in 1996 to 90% by 2010.
 - Increase the percentage of people with latent tuberculosis infection receiving 12-month therapy from 62% in 1997 to 85% in 2010.
 - Reduce the average time for laboratories to confirm and report positive tuberculosis tests from 21 days for 75% of tuberculosis cases in 1996 to 2 days for 75% of cases in 2010.
- Key Findings:** The key findings for tuberculosis include:
- The reported incidence of tuberculosis in San Luis Obispo County has been lower compared to the State of California from 1991 through 2004, as shown in Figure 17-1.
 - Although California has consistently had higher rates than the United States since 1991, San Luis Obispo County's rates have been lower than the United States rates since 1995.
 - We have not yet achieved the Healthy People 2010 objective of reducing new tuberculosis cases to 1 new case per 100,000 population.

Figure 17-1: Tuberculosis Reported Case Rate
 San Luis Obispo County and California, 1996-2005



◆ San Luis Obispo County	4.7	4.2	6.7	2.9	3.6	4.4	2.7	3.1	1.5	3.0
■ California	13.5	12.6	11.8	10.9	9.7	9.7	9.0	9.1	8.3	8.0
● United States	8.0	7.4	6.8	6.4	5.8	5.6	5.2	5.2	4.9	4.8

Data sources: California Department of Health Services, Report on Tuberculosis in California, 2004, January 2006.
 And from the CDC: <http://www.cdc.gov/nchstp/tb/surv/surv2005/default.htm>

Primary Prevention Activities:

Primary prevention activities include:

- Ensuring that those infected with mycobacterium tuberculosis receive the complete 12-month curative therapy to reduce the spread of the disease, the chance that the infection will be reactivated in the patient at a later date, or breakouts of new drug resistant strains of the disease.
- Increasing the percentage of those with latent tuberculosis to complete the full treatment set so as to reduce the number of individuals actually progressing towards the disease and spreading it to others.
- Decreasing the amount of time that laboratories take to confirm and report positive tuberculosis tests by upgrading lab facilities, properly training lab employees in new technology and increasing general efficiency of these laboratories.

Data Sources:

Data sources for this report include:

- California Department of Health Services, Report on Tuberculosis in California, 2004; January 2006; available at: http://www.dhs.ca.gov/ps/dcdc/tbcb/TB%20Reports/TB_Report_2004.pdf
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>.
- American Public Health Association, Control of Communicable Diseases Manual, 2004, 18th edition, pages 560-572.

Pneumonia and Influenza

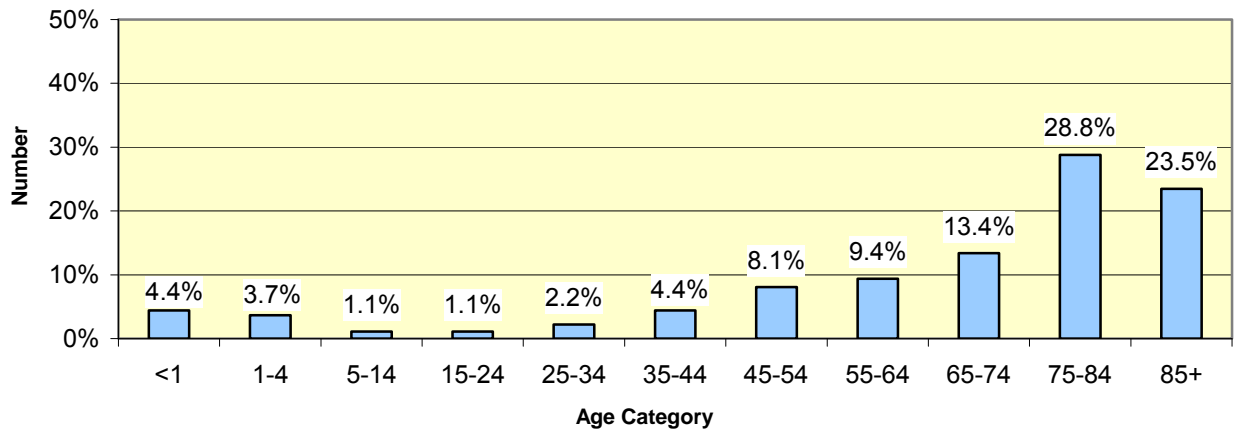
Importance:

- Pneumonia and influenza are important causes of morbidity and mortality in the United States. There were 65,163 deaths recorded in the United States in 2003 due to pneumonia and influenza. It was the sixth leading cause of death in California in 2003 (accounting for 3.4% of all deaths).
- It is estimated that during most influenza seasons, approximately 5% to 20% of the population is infected with influenza, although rates of infection vary among age groups and from one season to another.
- People considered at high risk for pneumonia and influenza include the elderly, the very young, and those with underlying health problems, such as chronic obstructive pulmonary disease (COPD), diabetes mellitus, and congestive heart failure. Individuals with diseases that impair the immune system, such as AIDS, or patients with chronic illnesses, such as asthma or those undergoing cancer therapy or organ transplantation, are particularly vulnerable.

Key Findings:

- During 2005, 721 patients (regardless of their county of residence) were admitted to San Luis Obispo County acute care hospitals with a principal diagnosis of influenza or pneumonia. During this same time, there were an average of 20,502 admissions for all causes; therefore, 3.5% of all hospitalizations were attributed to influenza or pneumonia. As shown in Figure 18-1, the majority (69.7%) of these individuals were 65 years of age or older, while 16.4% were between the ages of 45 and 64, and 5.2% were below the age of 5 years.

Figure 18-1: Influenza and Pneumonia Hospitalizations
Occurrence in San Luis Obispo County (2005)



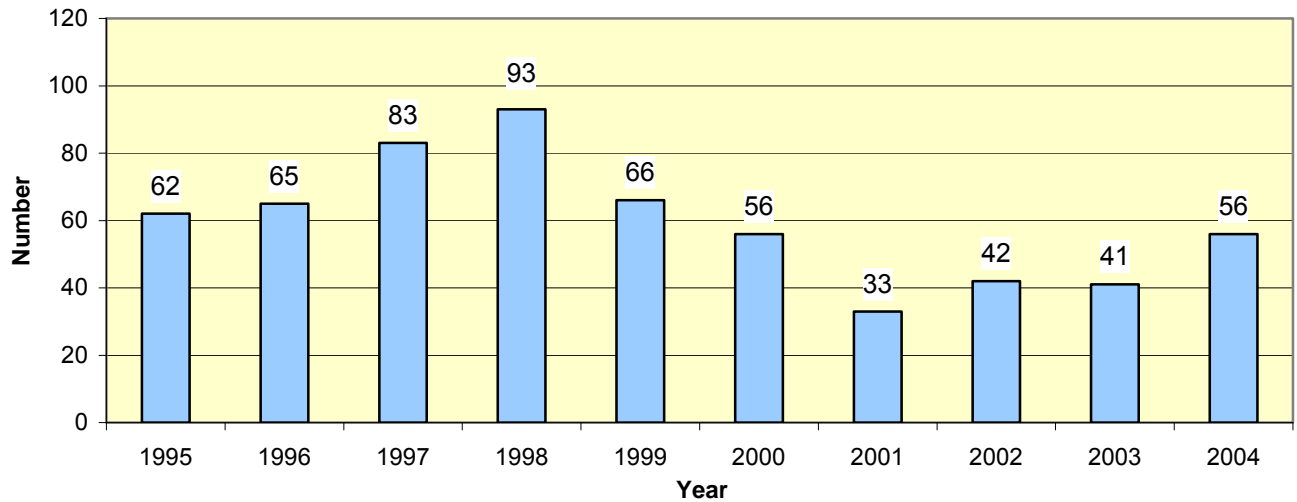
Note: OSHPD masked the age category of 80 pneumonia and flu cases; therefore, this graph includes only 641 cases with available age category data (of the 721 total cases).

Data source: Hospital Discharge Data provided by State of California Office of Statewide Health Planning and Development 2005 Patient Discharge Data. Analysis of data completed by the Epidemiologist at Public Health Department, San Luis Obispo County.

Pneumonia and Influenza Deaths

- During 2003-2004, an average of 49 deaths per year occurred in San Luis Obispo County with a primary cause of influenza or pneumonia. During this same time period, an average of 2,037 deaths due to all causes occurred per year; therefore, 2.4% of all deaths were attributed to influenza or pneumonia. The actual number of deaths from influenza or pneumonia per year ranged from 33 to 93, as shown in Figure 18-2.

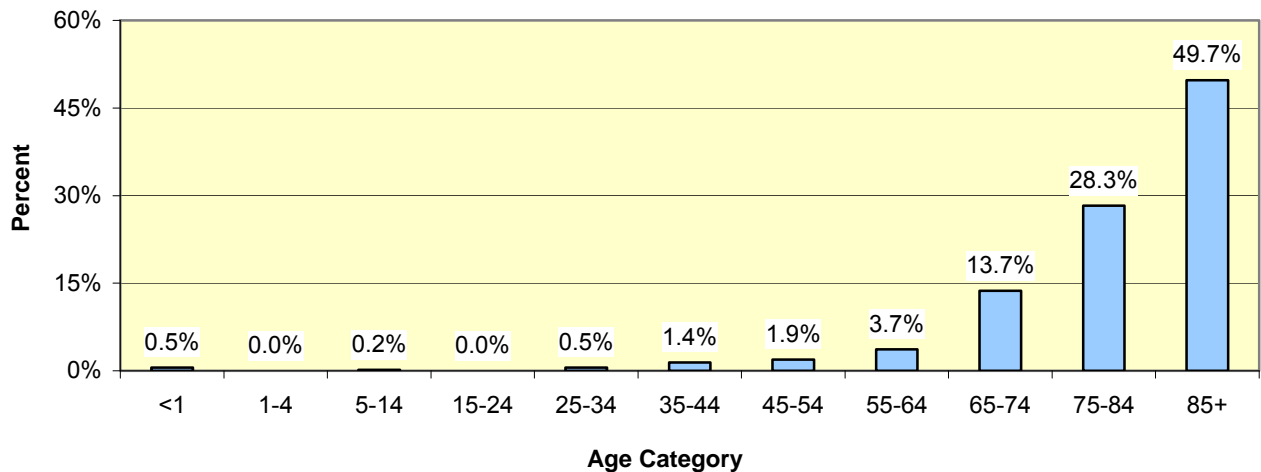
Figure 18-2: Influenza and Pneumonia Deaths
San Luis Obispo County Residents (1995 - 2004)



Data source: 1995-2005: Public Health Information System (PHIS) Vital Statistics data from the California Department of Health Services. 2000: California Death Statistical Master File. For 1995-1998, used ICD-9 codes 480.0 through 487.8. For 1999+, used ICD-10 codes (J10-J18).

- During 1995-2004, the majority of the individuals who died of pneumonia or influenza in San Luis Obispo County were 65 years of age or older (91.7%), while 5.6% were between the ages of 45 and 64. The percentage below the age of 5 years was 0.5%. The mortality by age group is shown in Figure 18-3.

Figure 18-3: Influenza and Pneumonia Deaths by Age
San Luis Obispo County Residents, 1995 - 2004



Data source: 1995-2004: Public Health Information System (PHIS) Vital Statistics data from the California Department of Health Services. Influenza and pneumonia International Classification of Disease Codes = ICD-9 codes 480.0 through 487.8 (1993 - 1998) and ICD-10 codes J10-J18 (1999+).

National Objectives:

Healthy People 2010 objectives:

- Increase the proportion of adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease to:
 - 90% for institutionalized adults (persons in long-term or nursing homes)
 - 90% for noninstitutionalized adults aged 65 years and older
 - 60% for noninstitutionalized high-risk adults aged 18-64 years

We do not have data to show how San Luis Obispo county is performing, in relation to these national objectives.

Primary Prevention Activities:

Per the Centers for Disease Control and Prevention:

Influenza vaccination is the primary method for preventing influenza and its severe complications. As indicated in this report from the Advisory Committee on Immunization Practices (ACIP), annual influenza vaccination is now recommended for the following groups:

- Persons at high risk for influenza-related complications and severe disease, including:
 - Children aged 6 – 59 months,
 - Pregnant women,
 - Persons aged \geq 50 years,
 - Persons of any age with certain chronic medical conditions; and
- Persons who live with or care for persons at high risk, including:
 - Household contacts who have frequent contact with persons at high risk and who can transmit influenza to those persons at high risk, and
 - Health-care workers

Physicians and other healthcare workers who notice an unexpected increase in patients with influenza-like symptoms or pneumonia should report the increase to the Public Health Department.

Data Sources:

Data sources for this report include:

- Centers for Disease Control and Prevention
- American Lung Association
- California Department of Health Services, Center for Health Statistics: Public Health Information System, Vital Statistics Data.
- California Office of Statewide Health Planning and Development, Hospital Discharge Data.
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science.

Leading Causes of Death

Overview: The leading causes of death changed during the 20th century from infectious diseases to chronic diseases. According to the American Public Health Association, in 1900: pneumonia and influenza, tuberculosis and gastroenteritis and colitis were the three leading causes of death, accounting for nearly a third of all deaths. Today, heart disease, malignant neoplasms (cancer), and cerebrovascular diseases (strokes) are the three leading causes of death, accounting for almost two-thirds of all deaths.

The 2004 leading causes of death among San Luis Obispo County residents are shown in Table 19-1, along with the number and percentage of total attributed to each sorted by gender. Not quite two-thirds, rather 58.8%, of the 2004 deaths were due to the three leading causes: heart diseases, cancer, and strokes.

Table 19-1: Leading Causes of Death by Gender
San Luis Obispo County Residents, 2004

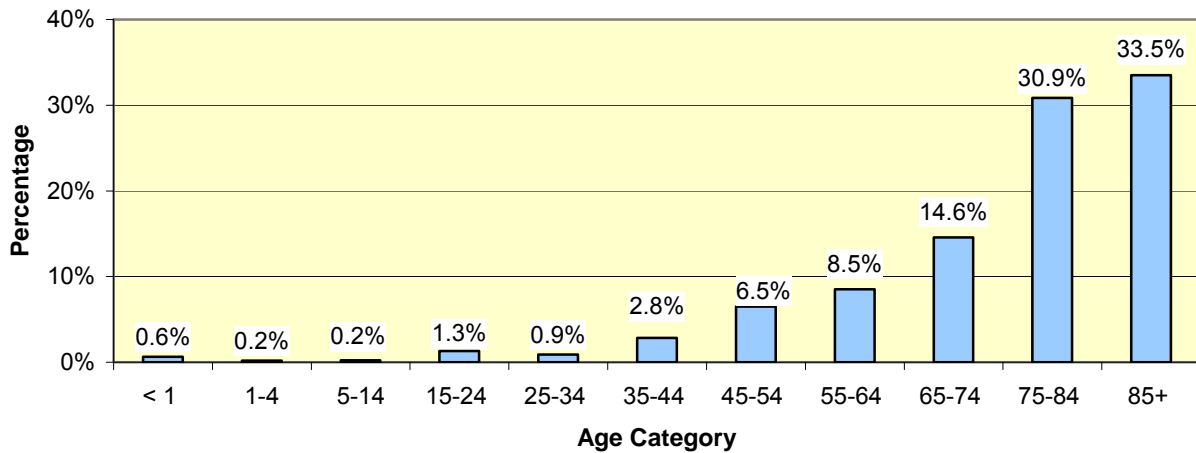
Diagnostic Category	Female		Male		All Residents	
	N	Percent	N	Percent	N	Percent
Diseases of the heart	269	27.23%	272	27.01%	541	27.12%
Malignant neoplasms (cancer)	239	24.19%	268	26.61%	507	25.41%
Cerebrovascular disease (stroke)	75	7.59%	50	4.97%	125	6.27%
Chronic lower respiratory diseases	65	6.58%	52	5.16%	117	5.86%
Unintentional injury deaths	37	3.74%	58	5.76%	95	4.76%
Alzheimer's disease	50	5.06%	23	2.28%	73	3.66%
Pneumonia and influenza	25	2.53%	31	3.08%	56	2.81%
Diabetes mellitus	19	1.92%	24	2.38%	43	2.16%
Suicides	1	0.10%	25	2.48%	26	1.30%
Chronic liver disease / cirrhosis	12	1.21%	13	1.29%	25	1.25%
All other causes of death	196	19.84%	191	18.97%	387	19.40%
Total	988	100%	1,007	100%	1,995	100%

Data Source: California Department of Health Services, Center for Health Statistics, Public Health Information System. Data analysis completed by the Epidemiologist, San Luis Obispo County Public Health Department.

Deaths by Age Category:

As shown in Figure 19-1, the vast majority (78.9%) of San Luis Obispo residents who died between 2003 and 2004 were 65 years of age and older.

Figure 19-1: Deaths (%) by Age Category
 San Luis Obispo County Residents, 2003-2004 Average



Data obtained from Public Health Information System (PHIS) Vital Statistics data from the California Department of Health Services, Center for Health Statistics. Data analysis and summary statistics by Health Care Analyst, San Luis Obispo Public Health Department.

National Objectives:

The Healthy People 2010 objectives for causes of death are summarized below. There is no objective for pneumonia and influenza deaths, chronic lower respiratory disease deaths (other than chronic obstructive pulmonary disease or asthma by age categories), chronic liver disease deaths (other than to reduce cirrhosis deaths to 3.0 per 100,000 population), or Alzheimer’s disease deaths.

- Reduce coronary heart disease deaths to 166 per 100,000 population
- Reduce overall cancer deaths to 159.9 per 100,000 population
 - Reduce lung cancer deaths to 44.9 per 100,000 population
 - Reduce breast cancer deaths to 22.3 per 100,000 population
- Reduce cerebrovascular disease deaths to 48 per 100,000 population
- Reduce unintentional injury deaths to 17.5 per 100,000 population
- Reduce diabetes death rate to 45 per 100,000 population
- Reduce suicide deaths to 5.0 per 100,000 population

Death Rates:

The California leading causes of death are shown in Table 19-2, with a comparison of California and San Luis Obispo County rates. Both the crude death rates and age-adjusted death rates are shown, with the higher rates in each category highlighted in bold. If one only looks at crude death rates, then San Luis Obispo County has a higher mortality rate (compared to California) for most health status indicators, as one would expect due to our higher percentage of elderly residents. However, if one looks at age-adjusted death rates, compared to the state, San Luis Obispo County has a lower mortality rate for the leading causes of death except unintentional injuries, suicides, and lung cancer. An age-adjusted rate is the hypothetical rate that a group (e.g., our county) would have if its population were distributed in the same proportions as the 2000 United States population.

Table 19-2: Death Rate Comparison for Leading Causes of Death
California versus San Luis Obispo County, 2001-2003 Average

Causes of Death	Crude Death Rate per 100,000 Population		Age-Adjusted Death Rate per 100,000 Population	
	California	San Luis Obispo County	California	San Luis Obispo County
1. Coronary heart disease	159.1	162.1	175.9	136.9 ¹
2. Deaths from all cancers	152.8	193.6	169.6	166.4
• Lung cancer	39.0	54.3	43.8	46.4
• Female breast cancer	23.5	26.2	23.4	20.5
3. Cerebrovascular disease (stroke)	50.3	63.2	58.9	49.7
4. Chronic Lower Respiratory Disease	38.1	47.8	45.1	40.7
5. Unintentional injuries ²	27.9	34.3	28.6	32.7
6. Pneumonia and influenza	37.2	34.2	16.7	11.4 ¹
7. Diabetes	19.2	17.5	21.3	14.8 ¹
8. Alzheimer's disease	12.7	18.3	15.1	14.6
9. Chronic liver disease / cirrhosis	10.6	8.8	11.4	9.4
10. Suicide	9.3	14.0	9.5	13.4
All causes of death	665.3	799.9	729.0	686.8 ¹

Note: Both the crude and age-adjusted death rates are shown, with the higher rates (between California and San Luis Obispo County) in each category highlighted in bold font.

¹ Indicates statistically significant difference in age-adjusted rates ($p < 0.05$) between San Luis Obispo County and State of California. Non-footnoted rates are not statistically significantly different.

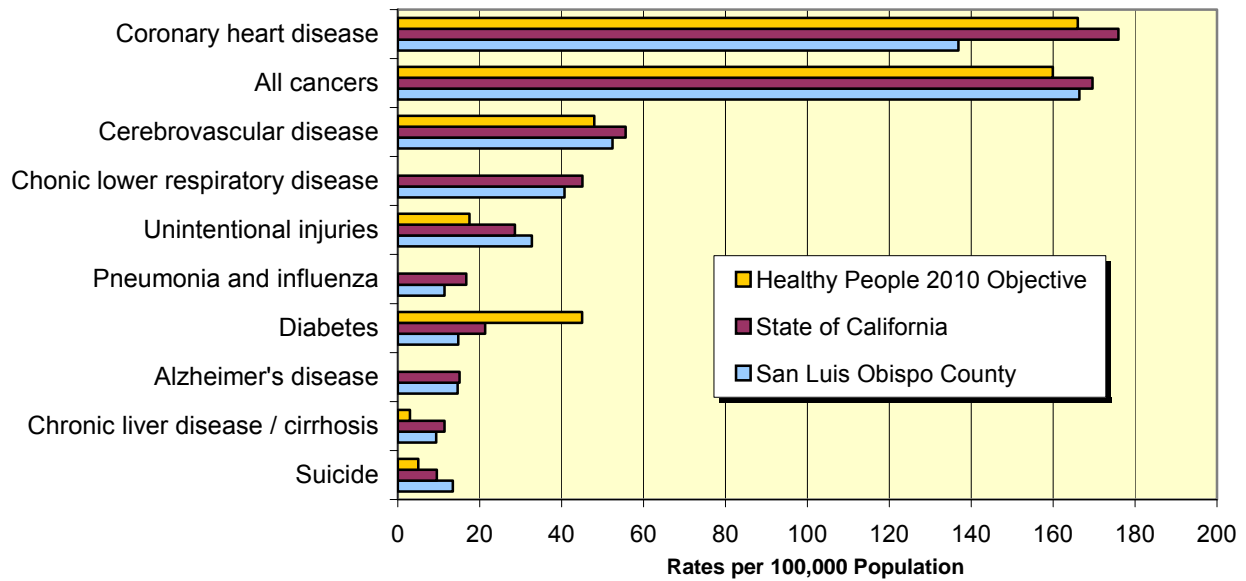
² Unintentional injuries are considered to be those from motor vehicle accidents, poisonings (including accidental drug or alcohol overdoses), falls, pedal cycle accidents, fires, near drownings, unintended firearm related injuries, and other causes.

Data Sources: California Department of Health Services, Center for Health Statistics. All data are an average for 2001-2003 (from County Health Status Profiles 2005) *except* (a) Chronic Lower Respiratory Disease death data are for 1999-2000 (January 2003 DHS report), (b) Pneumonia and Influenza death data are for 1996-1998 (January 2001 DHS report), (c) Alzheimer's Disease death data are for 1999-2001 (September 2003 DHS report), and (d) Chronic liver disease / cirrhosis death data are for 2000-2002 (April 2004 DHS report).

**Death Rates
(continued):**

The leading causes of death in California are shown in Figure 19-2, with a comparison of California and San Luis Obispo County age-adjusted death rates. The data are from 2001-2003 except chronic lower respiratory disease data are from 1999-2000, Alzheimer's Disease data are from 1999-2001, and pneumonia and influenza data are from 1996-1998. The national Healthy People 2010 objectives, if available, are also shown.

Figure 19-2 Age-Adjusted Death Rates
 San Luis Obispo, California, and Healthy People 2010



Data Sources: California and San Luis Obispo County data from California Department of Health Services, Center for Health Statistics. Data are from 2001-2003 *except* chronic lower respiratory disease and chronic liver disease / cirrhosis data are from 1999-2000, Alzheimer's disease data are from 1999-2001, and pneumonia / influenza data are from 1996-1998. Healthy People 2010 data from Dept. of Health Services, Office of Public Health and Science.

Summary:

- The San Luis Obispo County 2001-2003 average age-adjusted death rate of 686.8 per 100,000 for all causes of death was lower than the rate for the State of California (729.0).
- The San Luis Obispo County 2001-2003 average age-adjusted death rates for the top three causes of death (coronary heart disease, cancer, and cerebrovascular disease) were lower compared to the State of California.
- The San Luis Obispo County most recent available age-adjusted death rates for chronic lower respiratory disease, pneumonia and influenza, diabetes, Alzheimer's disease, and chronic liver disease / cirrhosis were lower compared to the State of California.
- The 2001-2003 age-adjusted mortality rates due to unintentional injuries and suicides among San Luis Obispo County residents were higher than those of the State of California; however, the differences were not statistically significant.

Data Sources:

Data sources for this report include:

- California Department of Health Services, Center for Health Statistics: (a) Public Health Information System, (b) County Health Status Profiles 2005 and (c) other DHS reports specified in Table 19-2.
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science.

Chronic Diseases

Definition:

According to the American Public Health Association, chronic diseases can be defined as those that have a prolonged course of illness, that do not resolve spontaneously, and for which a complete cure is rarely achieved. They are generally characterized by uncertain etiology (cause), multiple risk factors, and functional impairment or disability. Examples of the most common chronic diseases and a brief definition of each include:

- **Cardiovascular disease (CVD)** refers to a wide variety of blood vessel diseases, including coronary heart disease, hypertension (high blood pressure), cerebrovascular disease (stroke), and rheumatic heart disease. Coronary heart disease, also called ischemic heart disease or coronary artery disease, is a term used to identify several disorders that reduce the blood supply to the heart muscle. This impairment of circulation to the heart is most frequently the result of narrowing of the coronary arteries by atherosclerosis. The most common manifestations of coronary heart disease are angina pectoris (chest pain), myocardial infarction (heart attack), and sudden death.
- **Cancer** refers to many different types of diseases characterized by uncontrolled growth and spread of abnormal cells. The principal danger of a cancer is its tendency to metastasize, or invade neighboring tissues or organs, and to grow in other areas of the body. If this spread remains untreated, cancer cells invade vital organs or cause dysfunction by displacing normal tissue.
- **Chronic lung disease** refers to a diverse group of disorders with varying symptoms, diagnostic criteria, and causative factors. Most of the disorders are accompanied by impairment in lung function. A relatively common diagnosis is “chronic obstructive pulmonary disease”, which includes patients with chronic bronchitis and emphysema, and a subset of patients with asthma.
- **Diabetes** refers to a disease in which the body is unable to sufficiently produce and/or properly use insulin, a hormone needed to convert glucose into energy. If glucose levels are too high, the patient will develop a condition called ketoacidosis, which is fatal without treatment.
- **Cirrhosis and Other Chronic Liver Diseases** refer to four major categories of liver disease: alcoholic fatty liver, hepatitis, cirrhosis, and other or unspecified forms of liver disease.
- **Arthritis and Other Musculoskeletal Diseases** refer to more than 100 diseases, most of which are uncommon and are of unknown cause. However, two of these disorders make up the vast majority of disability and economic costs: (1) **osteoarthritis**, also known as degenerative joint disease, and (2) **osteoporosis**, a bone disorder in which the reduction of bone tissue occurs to extent that fractures occur with minimal or trivial trauma. Other conditions include rheumatoid arthritis (an autoimmune disease involving chronic inflammation that begins in the joints) and gout (a metabolic disease characterized by recurrent attacks of acute arthritis, an increase in serum uric acid concentration, and deposition of crystals in and around joints).
- **Chronic Neurological Disorders** refer to a variety of disorders. The most common of these and a brief description are summarized in Table 20-1.

Table 20-1: Types of Chronic Neurological Disorders

Category	Disorder	Description
Classic neurological diseases		
Dementia	Alzheimer's disease	Principle dementing disorder of adults, with symptoms of progressive loss of memory and other cognitive functions.
	Multi-infarct dementia	Stepwise progression of cognitive loss punctuated by multiple episodes of stroke-like events.
Neurodegenerative disorders	Parkinson's disease	Gradually progressive course characterized by rhythmical resting tremor, muscular rigidity, postural instability, and a slowness in the initiation and execution of movement.
	Amyotrophic lateral sclerosis (also known as Lou Gehrig's disease)	Fatal motor neuron disease that causes rapidly progressive muscle weakness and death within 2 to 3 years of onset.
Neuro-immunologic disorders	Multiple sclerosis	Characterized by plaques or lesions of the myelin sheath. Symptoms may include impaired vision, weakness, tremor, disturbances of sensation, and bowel or bladder difficulties.
	Guillain-Barre syndrome	Nonspecific immune response directed at peripheral nerves; characterized by muscle weakness that often progresses over days or weeks but is reversed in majority of patients.
Unintentional injuries		
	Brain injury	Mild brain injuries result from concussion of the brain, are usually associated with some period of loss of consciousness or amnesia for the event. Severe brain injuries result from contusion or hemorrhage and are often associated with neurological and cognitive deficits that may cause severe, permanent impairment.
	Spinal cord injury	Spinal cord injuries result in varying degrees of paresis or paralysis, depending on the region of the spinal cord injured.
	Carpal tunnel syndrome	Entrapment of the median nerve in the wrist...clinical hallmarks include tingling or burning pain in the affected hand, and an abnormal delay in median nerve conduction at the wrist.
	Low-back injury	Most low back pain is attributable to muscular sprain, strain, or spasm; ligamentous injury; or abnormalities of the vertebral bones, discs, or facet joints.
Intermittent disorders		
	Epilepsy	Epilepsy is the repeated occurrence of seizures in patients who have not been provoked to have such seizures.
	Headache	Two principal headache types are migraine, or vascular headaches, and muscle contraction headaches. There are no uniform case definitions for headache types/classifications.

Source: *Chronic Disease Epidemiological Control, American Public Health Association, 1993.*

Importance:

According to the American Public Health Association:

- **Chronic diseases** are the leading causes of death.
- **Heart disease, cancer, and cerebrovascular diseases (stroke)** account for nearly two-thirds of all deaths.
- **Chronic Obstructive Pulmonary Disease (COPD)** occurs most often in older people. As much as 10 percent of the population aged 65 years and older is estimated to have COPD. Between 80 and 90 percent of COPD is attributable to cigarette smoking.
- **Asthma** is a serious and growing health problem. The number of people with asthma increased by 102 percent between 1979-90 and 1993-94. An estimated 14.9 million persons in the United States have asthma. Asthma is responsible for about 500,000 hospitalizations, 5,000 deaths, and 134 million days of restricted activity a year. Yet most of the problems caused by asthma could be averted if persons with asthma and their health care providers managed the disease according to established guidelines.
- **Diabetes** prevalence has increased steadily over the past decade; presently, 10.5 million persons have been diagnosed with diabetes, while 5.5 million persons are estimated to have the disease but are undiagnosed. Over the past decade, diabetes has remained the seventh leading cause of death in the United States, primarily from diabetes-associated cardiovascular disease. In the United States, diabetes is the leading cause of non-traumatic amputations (approximately 57,000 per year or 150 per day); blindness among working-aged adults (approximately 20,000 per year or 60 per day); and end-stage renal disease (ESRD) (approximately 28,000 per year or 70 per day).
- **Cirrhosis**, caused primarily by sustained heavy alcohol consumption, is one of the 10 leading causes of death in the United States. Cirrhosis occurs when healthy liver tissue is replaced with scarred tissue until the liver is unable to function effectively. Higher State excise tax rates on distilled spirits are associated with lower death rates from cirrhosis.
- **Arthritis** is the leading cause of disability. Arthritis limits the major activities of nearly 3 percent of the entire U.S. population (7 million persons), including nearly 1 out of every 5 persons with arthritis.
- **Osteoporosis:** Per the U.S. Department of Health and Human Services, about 13 to 18 percent of women aged 50 years and older and 3 to 6 percent of men aged 50 years and older have osteoporosis, a reduction in bone mass or density that leads to deteriorated and fragile bones. The major health consequence of osteoporosis is an increased risk of fractures. Approximately 1.5 million fractures per year are attributed to osteoporosis. One in three women and one in eight men aged 50 years and older will experience an osteoporotic-related fracture in their lifetime. Health care costs for these fractures are estimated at \$13.8 billion per year in 1996 dollars.

Disability

Many chronic diseases lead to disability. Disability is defined as difficulty with or reporting one or more of eight measures:

- 1) Difficulty with one or more specified functional activities
- 2) Difficulty with one or more activities of daily living (ADLs)
- 3) Difficulty with one or more instrumental activities of daily living
- 4) Reporting one or more selected impairments
- 5) Use of assistive aids (e.g., wheelchair/crutches/cane/walker) for >6 months
- 6) Limitation in the ability to work around the house
- 7) Limitation in the ability to work at a job or business (for ages 16 – 67 years)
- 8) Receiving federal benefits on the basis of an inability to work.

Leading causes of disability in the United States are summarized in Table 20-2.

Main Condition	Number Disabled	Percentage of All Disabilities
Arthritis or rheumatism	7,207,000	17.5%
Back or spine problem	6,780,000	16.5%
Heart trouble / hardening of the arteries	3,209,000	7.8%
Lung or respiratory problem	1,931,000	4.7%
Deafness or hearing problem	1,794,000	4.4%
Limb/extremity stiffness	1,747,000	4.2%
Mental or emotional problem	1,541,000	3.7%
Diabetes	1,399,000	3.4%
Blindness or vision problem	1,361,000	3.3%
Stroke	1,160,000	2.8%
Broken bone/fracture	885,000	2.1%
Mental retardation	827,000	2.0%
Cancer	792,000	1.9%
High blood pressure	692,000	1.7%
Head or spinal cord injury	452,000	1.1%
Learning disability	408,000	1.0%
Alzheimer disease/senility/dementia	354,000	0.9%
Epilepsy	217,000	0.5%
Alcohol or drug problem	210,000	0.5%
AIDS or AIDS-related condition	132,000	0.3%
Cerebral palsy	141,000	0.3%
All other conditions	7,928,000	19.3%

Data Source: Centers for Disease Control. Prevalence of Disabilities and Associated Health Conditions Among Adults – United States, 1999. MMWR 2001; 50:120-125.

**Population included civilian non-institutionalized persons aged 18 or older with disabilities.*

National Objectives: Healthy People 2010 objectives related to chronic disease deaths are summarized in the Leading Causes of Death chapter.

Key Findings: Consistent with the State of California and the United States, chronic disease illnesses and deaths are a major health care issue for San Luis Obispo County.

- In the Leading Causes of Death chapter, our county death rates are compared to California and Healthy People 2010 objectives, when available, for the major chronic diseases, (heart disease, cancer, stroke, chronic lower respiratory disease, diabetes, Alzheimer’s disease, and chronic liver disease/ cirrhosis). The age-adjusted rates for each of these chronic conditions was lower among San Luis Obispo County residents compared to that of Californians.
- Chronic disease prevalence data for San Luis Obispo County has been limited until 2001, when the California Health Interview Survey (CHIS), a collaboration of the UCLA Center for Health Policy Research, the California Department of Health Services, and the Public Health Institute, released the results of its 2001 survey. CHIS is a random-digit dial telephone survey of representative households from counties in California. Many CHIS questions are adapted from the National Health Interview Survey, other national and state surveys, and individual research projects that focus on population health. CHIS reports are created every two years, however some of the topics in this chapter were not re-evaluated in 2003, so 2001 data was used. The CHIS 2001 completed sample size for San Luis Obispo County was 807 adults, 68 adolescents, and 152 children. The CHIS 2001 completed sample size for California was 55,428 adults, 5,801 adolescents, and 12,592 children.
- As shown in Table 20-3, compared to California, San Luis Obispo County had a lower age-adjusted rate of heart disease prevalence. San Luis Obispo County also had a lower percentage of adults with heart disease who took medications to control their heart disease, as shown in Table 20-4.

Table 20-3: Heart Disease* Prevalence Among Adults San Luis Obispo County and California, 2001				
Geographic Region	Age-Adjusted Rate**	95% Confidence Interval	Crude Rate**	95% Confidence Interval
San Luis Obispo County	6.6	4.9 – 8.3	7.1	5.2 – 9.0
California	7.2	7.0 – 7.4	6.9	6.7 – 7.2

* Persons who reported being diagnosed with heart disease.

**Rate is per 100 county or state population.

Data Source: Lund, L.E., and Pheatt, N., Prevalence of Heart Disease in California Counties, 2001, University of California at Los Angeles (UCLA) Center for Health Policy Research and State of California, Department of Health Services. 2001 California Health Interview Survey (CHIS). Data prepared by Department of Health Services, Center for Health Statistics.

Table 20-4: Adults with Heart Disease Taking Medications to Control Their Heart Disease San Luis Obispo County and California, 2001		
Geographic Region	Medication Rate¹	95% Confidence Interval
San Luis Obispo County	51.7	37.7 – 65.6
California	60.6	58.7 – 62.6

¹ Medication Rate = crude rate per 100 persons with heart disease.

Data Source: Lund, L.E., and Pheatt, N., *Prevalence of Heart Disease in California Counties, 2001*, University of California at Los Angeles (UCLA) Center for Health Policy Research and State of California, Department of Health Services 2001 California Health Interview Survey (CHIS). Data prepared by Department of Health Services, Center for Health Statistics.

- As shown in Table 20-5, San Luis Obispo County had a lower age-adjusted rate of diabetes prevalence compared to that of California. Neither California nor San Luis Obispo County have met the Healthy People 2010 objective for diabetes prevalence of no more than 2.5 cases per 100 adult population. However, only five counties and one region have significantly lower rates than the state, and SLO County is one of them according to L.E. Lund’s report “Prevalence of Diabetes in California Counties, 2003 Update.”
- The report (“Prevalence of Diabetes in California Counties, 2001”) also provides the rate of individuals (by county and for the State as a whole) with diabetes receiving one or more, and two or more Hemoglobin A1C Tests. This test provides persons with diabetes and their health care providers with a summary measure of average blood sugar levels over a three-month period.
- The prevalence of diabetes among children (ages 0 to 17 years) in California was 0.8 per 100 state population. San Luis Obispo County had below the minimum required for reporting. [Data Source: University of California at Los Angeles Center for Health Policy Research and State of California, Department of 2001 California Health Interview Survey, UCLA Center for Health Policy Research, AskCHIS Query, 2006.]

Table 20-5: Diabetes* Prevalence Among Adults San Luis Obispo County and California, 2003				
Geographic Region	Age-Adjusted Rate**	95% Confidence Interval	Crude Rate**	95% Confidence Interval
Healthy People 2010 Objective	2.5	-	-	-
San Luis Obispo County	3.2	1.8 – 6.5	4.1	2.3 – 6.0
California	6.6	6.3 – 6.8	6.5	6.2 – 6.9

* Persons who reported being diagnosed with diabetes by a physician at any time.

**Rate is per 100 county or state population.

Data Source: Lund, L.E., and He, G., *Prevalence of Diabetes in California Counties, 2003 Update*, Data Source: University of California at Los Angeles (UCLA) Center for Health Policy Research and State of California, Department of Health Services. 2003 California Health Interview Survey (CHIS). Data prepared by Department of Health Services, Center for Health Statistics.

- As shown in Table 20-6, San Luis Obispo County had a higher age-adjusted rate of arthritis prevalence compared to that of California.

Table 20-6: Arthritis* Prevalence Among Adults San Luis Obispo County and California, 2001				
Geographic Region	Age-Adjusted Rate**	95% Confidence Interval	Crude Rate**	95% Confidence Interval
San Luis Obispo County	23.2	20.1 – 26.3	24.4	21.2 – 27.5
California	19.9	19.6 – 20.2	19.3	18.9 – 19.7

* Persons who reported being diagnosed with diabetes by a physician at any time.

**Rate is per 100 county or state population.

Data Source: Lund, L.E., *Prevalence of Arthritis in California Counties, 2001*, Data Source: University of California at Los Angeles (UCLA) Center for Health Policy Research and State of California, Department of Health Services. 2001 California Health Interview Survey (CHIS). Data prepared by Department of Health Services, Center for Health Statistics.

- As shown in Table 20-7, San Luis Obispo County had a lower age-adjusted rate of arthritis symptom prevalence (in past year) compared to that of California.

Table 20-7: Arthritis Symptom* Prevalence Among Adults San Luis Obispo County and California, 2001				
Geographic Region	Age-Adjusted Rate**	95% Confidence Interval	Crude Rate**	95% Confidence Interval
San Luis Obispo County	56.4	49.3 – 63.5	13.6	11.1 – 16.1
California	63.1	62.0 – 64.2	12.1	11.8 – 12.5

* Persons with arthritis who reported experiencing arthritis symptoms (defined as joint pain, swelling, or stiffness for at least one month) within the past year.

**Rate is per 100 county or state population.

Data Source: Lund, L.E., *Prevalence of Arthritis in California Counties, 2001*, Data Source: University of California at Los Angeles (UCLA) Center for Health Policy Research and State of California, Department of Health Services. 2001 California Health Interview Survey (CHIS). Data prepared by Department of Health Services, Center for Health Statistics.

- As shown in Table 20-8, San Luis Obispo County had a higher percentage of adults with asthma compared adults with asthma in California as a whole, but a lower percentage of children with asthma than California as a whole.

Table 20-8: Asthma* Prevalence San Luis Obispo County vs. California, 2003			
Geographic Region	Children (Ages 0-17)	Adults (Ages 18+)	All Ages
	Percent (90% Confidence Interval)		
San Luis Obispo County	12.2 (6.0 – 18.4)	15.1 (11.5-18.7)	14.5 (11.4-17.6)
California	14.8 (13.9-15.7)	12.3 (11.9-12.8)	13.0 (12.6-13.4)

* Persons who reported being diagnosed with asthma by a physician at any time.

Data Source: California Health Interview Survey 2003: UCLA Center for Health Policy Research, 2006.

Cost Analysis: The costs of chronic diseases are enormous, not only in the illnesses, deaths, and economic losses, but also in the negative impact that chronic diseases may have on the quality of life of individuals and their families and friends. Individuals suffering from chronic disease may experience chronic pain, dysfunction and disability, depression, economic hardship, social isolation, and increased risk of life-threatening events. According to the Institute for Health and Aging, the estimated number of persons with chronic conditions and corresponding direct medical cost estimates:

- In 2000, 105 million persons affected; \$503 billion cost estimate
- In 2050, 167 million persons affected; \$906 billion cost estimate

Primary Prevention Activities: The goals of chronic disease control are to reduce disease incidence, prevent or delay disability onset, reduce the severity of the disease, and prolong the individual's life.

Data Sources:

- American Public Health Association, Chronic Disease Epidemiology Control, 1993.
- Centers for Disease Control. Prevalence of Disabilities and Associated Health Conditions Among Adults – United States, 1999. MMWR 2001; 50:120-125.
- CLA Center for Health Policy Research, 2001 and 2003 California Health Interview Survey; AskCHIS Query, <http://www.chis.ucla.edu>
- The Institute for Health and Aging, UCSF: Chronic care in America: a 21st century challenge, Princeton, NJ, 1996, The Robert Wood Johnson Foundation, p. 9; Cost estimates based on the 1987 National Medical Expenditure Survey, UCSF-Institute for Health and Aging, 1995.
- Department of Health Services, Center for Health Statistics.

Risk Factors and Health Behaviors

Definitions:

People at risk include those who engage in certain activities or who have certain characteristics that increase their potential for contracting an illness, injury, or health problem.

Risk factors are derived by contrasting the frequency of a disease or health condition in persons *exposed* to a specific trait or risk factor with the frequency in another group *not exposed* to the same risk factor. Risk factors are generally in one of three major categories: (1) behavioral or lifestyle patterns; (2) environmental factors; and (3) inborn or inherited characteristics.

Health behaviors include lifestyle patterns such as smoking, sedentary lifestyle, alcohol and other drug use that are associated with an increased risk or chance for developing chronic diseases.

Importance:

Three risk factors – tobacco use, high blood pressure, and poor nutrition – are believed to account for approximately 73% of premature deaths in the United States.

According to the United States’ Preventive Services Task Force (Department of Health and Human Services, 2004):

- Smoking alone contributes to one out of every five deaths in the United States.
- Physical inactivity and dietary factors contribute to coronary atherosclerosis, cancer, diabetes, osteoporosis, and other common diseases.

Examples of several chronic diseases and associated risk factors are provided in Table 21-1.

Modifiable Risk Factors	Chronic Disease Examples			
	Cardiovascular Disease	Cancer	Chronic Lung Diseases	Diabetes
Tobacco use	Risk factor	Risk factor	Risk factor	-
Alcohol use	Possible risk factor	Risk factor	-	-
High cholesterol	Risk factor	-	-	-
High blood pressure	Risk factor	-	-	-
Poor nutrition	Risk factor	Risk factor	Possible risk factor	Possible risk factor
Physical inactivity	Risk factor	Risk factor	-	Risk factor
Obesity	Risk factor	Risk factor	-	Risk factor
Stress	Possible risk factor	Possible risk factor	-	-
Occupation	-	Risk factor	Risk factor	-
Pollution	-	Risk factor	Risk factor	-
Low socioeconomic status	Risk factor	Risk factor	Risk factor	Risk factor

Data Source: Chronic Disease Epidemiological Control, American Public Health Association, 1993.

National Objectives: Examples of Healthy People 2010 national objectives related to risk factors or health behaviors are summarized in Tables 21-2A through 21-2H, along with results for the United States or California and San Luis Obispo County.

Table 21-2A: Physical Activity
Healthy People 2010 Leading Health Indicators

National Objective and Baseline	National Baseline Results	San Luis Obispo County Results
Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day to 30 percent . <i>Source: Healthy People 2010</i>	33 percent of adults aged 18 years and older engaged in vigorous physical activity for at least 30 minutes 3 or more days per week in 2005. <i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i>	38 percent of residents engaged in vigorous physical activity (such as brisk walking or gardening) for a combined total of 30 minutes or more for 5 or more days per week in 2005. <i>Data source: 2005 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i>
Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion to 85 percent . <i>Source: Healthy People 2010</i>	The percentage of students who participated in 20 minutes of vigorous physical activity at least 3 times in the past week, and/or 30 minutes of moderate physical activity during the past week was 68.7 percent . <i>Data source: Youth Risk Behavior Surveillance System (YRBSS), CDC, NCCDPHP, 2005</i>	The percentage of students who participated in 20 minutes of vigorous physical activity at least 3 times in the past week was: * 81 percent in Grade 7 * 83 percent in Grade 9 * 69 percent in Grade 11 <i>Data source: California Healthy Kids Survey, Fall 2005/Spring 2006</i>

Table 21-2B: Overweight/Obesity
Healthy People 2010 Leading Health Indicators

National Objective	California Baseline Results	San Luis Obispo County Results
Reduce the proportion of adults who are obese to 15 percent . <i>Source: Healthy People 2010</i>	34.9 percent of adults were overweight (body mass index (BMI): 25 - 29.9) and 21.2 percent of adults were obese (BMI: 30+) in 2005. <i>Data source: 2005 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i>	39.4 percent of adults were overweight (BMI: 25 - 29.9) and 17.2 percent of adults were obese (BMI: 30+) in 2005. <i>Data source: 2005 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i>
Reduce the proportion of children and adolescents who are overweight or obese* to 5 percent . <i>Source: Healthy People 2010</i> * Overweight or obese in children and adolescents is defined as at or above the gender- and age-specific 95th percentile of body mass index based on the revised CDC Growth Charts for the United States.	14.2 percent of adolescents in California aged 12-17 in 2005 had a Body Mass Index greater than or equal to 95 th percentile (of 2000 CDC growth chart percentiles). <i>Data source: 2005 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research;</i>	9.7** percent of children and adolescents aged 12-17 in 2005 had a Body Mass Index greater than or equal to 95 th percentile (of 2000 CDC growth chart percentiles). <i>Data source: 2005 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research;</i> ** Data is statistically unstable either because to few respondents and/or exceeded acceptable values for the coefficient of variance.

Table 21-2C: Tobacco Use
Healthy People 2010 Leading Health Indicators

National Objective	National Baseline Results	San Luis Obispo County Results
Reduce tobacco use (cigarettes) by adults to 12 percent . <i>Source: Healthy People 2010</i>	21 percent of adults aged 18 years and older smoked cigarettes in 2004 (age adjusted to the year 2000 standard population) <i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i>	13.4 percent of residents smoked cigarettes every day or some days, a decline from 16.3% in 2001 and 17.1% in 1999. <i>Data source: Action for Healthy Communities, 2003</i> 16.0 percent of adults indicated they were current smokers. <i>Data source: 2003 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i>
Reduce tobacco use (cigarettes) by students (in Grades 9 through 12) to 16 percent . <i>Source: Healthy People 2010</i>	35 percent of adolescents (in Grades 9 through 12) used cigarettes in past 30 days. <i>Data source: Youth Risk Behavior Surveillance System (YRBSS), CDC, NCCDPHP 2005</i>	The percentage of students who smoked one or more cigarettes in the past 30 days in 2003 was: - 3 percent in Grade 7 - 13 percent in Grade 9 - 24 percent in Grade 11 <i>Data source: California Healthy Kids Survey, Fall 2003</i>

Table 21-2D: Substance Abuse
Healthy People 2010 Leading Health Indicators

National Objective	National Baseline Results	San Luis Obispo County Results
Increase the proportion of adolescents <u>not</u> using alcohol or any illicit drugs during the past 30 days to 89 percent . <i>Source: Healthy People 2010</i>	75 percent of adolescents aged 12 to 17 years reported <u>no</u> alcohol or illicit drug use in the past 30 days in 2004. <i>Data source: National Household Survey on Drug Abuse (NHSDA), SAMHSA</i>	The percentage of students who did <u>not</u> report using alcohol or drugs in the past 30 days in 2003 was: - 85 percent in Grade 7 - 69 percent in Grade 9 - 53 percent in Grade 11 <i>Data source: California Healthy Kids Survey, Fall 2003</i>
Reduce the proportion of adults using any illicit drug during the past 30 days to 2 percent . <i>Source: Healthy People 2010</i>	6.49 percent of adults aged 25 years and older used any illicit drug during the past 30 days in 2004. <i>Data source: National Household Survey on Drug Abuse (NHSDA), SAMHSA</i>	Data not available.
Reduce the proportion of adults engaging in binge drinking (5 or more drinks in a sitting) during the past 30 days to 6 percent . <i>Source: Healthy People 2010</i>	19.5 percent of adults aged 25 years and older engaged in binge drinking during the past 30 days in 2004. <i>Data source: National Household Survey on Drug Abuse (NHSDA), SAMHSA</i>	17.3 percent of adults aged 18 and older engaged in binge drinking in 2003. <i>Data source: 2003 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i>

Table 21-2E: Food Security
Healthy People 2010 Leading Health Indicators

National Objective	National Baseline Results	San Luis Obispo County Results
<p>Increase food security* among U.S. households and in so doing reduce hunger to 94 percent.</p> <p><i>Source: Healthy People 2010</i></p>	<p>88 percent of all U.S. households were food secure in 2004.</p> <p><i>Data sources: Food Security Supplement to the Current Population Survey, U.S. Department of Commerce, Bureau of the Census; National Food and Nutrition Survey (beginning in 2001), HHS and USDA</i></p>	<p>In any given month, the percentage of residents who have to go without basic needs such as food, clothing, childcare, housing, or health care was 8.0 percent. Of this 8.0 percent, 35.7 percent had to go without food. Therefore, an estimated 2.9 percent (8.0 x 30.9) of residents indicated they have to go without sufficient food.</p> <p><i>Data source: Action for Healthy Communities, 2003</i></p>

* Food security means that people have access at all times to enough food for an active, healthy life. It implies that people have nutritionally adequate and safe foods and sufficient household resources to ensure their ability to acquire adequate, acceptable foods in socially acceptable ways—that is, through regular marketplace sources and not through severe coping strategies like emergency food sources, scavenging, and stealing. Hunger in this context refers to the uneasy or painful sensation caused by a lack of food.

Table 21-2F: Blood Pressure Control
Healthy People 2010 Leading Health Indicators

National Objective	National Baseline Results	San Luis Obispo County Results
<p>Reduce the proportion of adults with high blood pressure to 16 percent.</p> <p><i>Source: Healthy People 2010</i></p>	<p>22 percent of adults aged 20 years and older had high blood pressure in 2004 (age adjusted to the year 2000 standard population).</p> <p><i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i></p>	<p>26 percent of adults aged 18 years and older had at some point in their life been diagnosed with high blood pressure.</p> <p><i>Data source: 2003 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i></p>
<p>Increase the proportion of adults with high blood pressure whose blood pressure is under control to 50 percent.</p>	<p>18 percent of adults aged 18 years and older with high blood pressure had it under control in 1988-94 (age adjusted to the year 2000 standard population).</p> <p><i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i></p>	Data not available.
<p>Increase the proportion of adults with high blood pressure who are taking action (e.g., losing weight, increasing physical activity, or reducing sodium intake) to help control their blood pressure to 95%.</p>	<p>18 percent of adults aged 18 years and older with high blood pressure had it under control in 1988-94 (age adjusted to the year 2000 standard population).</p> <p><i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i></p>	Data not available.

Table 21-2G: Cholesterol Control
Healthy People 2010 Leading Health Indicators

National Objective	National Baseline Results	San Luis Obispo County Results
<p>Reduce the proportion of adults with high total blood cholesterol levels to 17 percent.</p> <p><i>Source: Healthy People 2010</i></p>	<p>21 percent of adults aged 20 years and older had total blood cholesterol levels of 240 mg/dL or greater in 1988-94 (age adjusted to the year 2000 standard population).</p> <p><i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i></p>	<p>Data not available.</p> <p><i>In the 2003 California Health Interview Survey, this question was only asked of adults who were ever told by a doctor that they had heart disease and/or high blood pressure and ever had their blood cholesterol checked. The results for San Luis Obispo revealed 30.2% had high blood cholesterol levels.</i></p>
<p>Reduce the mean total blood cholesterol levels among adults to 199 mg/dL (mean).</p> <p><i>Source: Healthy People 2010</i></p>	<p>206 mg/dL was the mean total blood cholesterol level for adults aged 20 years and older in 1988-94 (age adjusted to the year 2000 standard population).</p> <p><i>Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS</i></p>	<p>Data not available.</p>
<p>Increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years to 80 percent.</p> <p><i>Source: Healthy People 2010</i></p>	<p>67 percent of adults aged 18 years and older had their blood cholesterol checked within the preceding 5 years in 1998 (age adjusted to the year 2000 standard population).</p> <p><i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i></p>	<p>Data not available.</p> <p><i>In the 2001 California Health Interview Survey, this question was only asked of adults who were ever told by a doctor that they had heart disease and/or high blood pressure and ever had their blood cholesterol checked. The results for San Luis Obispo revealed 93.6% had their blood cholesterol checked within the preceding 5 years.</i></p>

Table 21-2H: Cancer Screening
Healthy People 2010 Leading Health Indicators

National Objective	National Baseline Results	San Luis Obispo County Results
<p>Increase the proportion of women aged 18 years and older who receive a Pap test in the past three years to 90 percent.</p> <p><i>Source: Healthy People 2010</i></p>	<p>78 percent of women aged 18 years and older received a Pap test in the past three years (age adjusted to the year 2000 standard population; includes women without a uterine cervix).</p> <p><i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i></p>	<p>82.6 percent of women aged 18 years and older received a Pap test in the past three years, compared to 83.2 percent Statewide. (Women diagnosed with cervical cancer or who had a hysterectomy were not included in these analyses.)</p> <p><i>Data source: 2003 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i></p>
<p>Increase the proportion of adults ages 50 years and older who have received recent colorectal cancer screening (fecal occult blood test <u>in the past two years</u> or sigmoidoscopy / colonoscopy <u>in the past five years</u>) to 50 percent.</p> <p><i>Source: Healthy People 2010</i></p>	<p>35 percent of adults aged 50 years and older received a fecal occult blood test within the preceding two years.</p> <p>37 percent of adults aged 50 years and older <u>ever</u> received a sigmoidoscopy.</p> <p><i>Data source: National Health Interview Survey (NHIS), CDC, NCHS</i></p>	<p>41.4 percent of adults aged 50 years and older in San Luis Obispo County received a recent colorectal cancer screening (fecal occult blood test <u>within the past year</u> or sigmoidoscopy / colonoscopy <u>in the past five years</u>, compared to 38.4 percent Statewide.</p> <p><i>Data source: 2003 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i></p>
<p>Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding two years to 70 percent.</p> <p><i>Source: Healthy People 2010</i></p>	<p>69.5 percent of women aged 40 years and older received a mammogram within the preceding two years in 2003.</p> <p><i>Data source: Health, United States, 2005 CDC, NCHS</i></p>	<p>78.3 percent of women aged 30 years and older received a mammogram within the preceding two years, compared to 76.1 percent Statewide.</p> <p><i>Data source: 2003 California Health Interview Survey (CHIS), UCLA Center for Health Policy Research</i></p>

Data Sources:

Data sources for this report include:

- American Public Health Assoc., Chronic Disease Epidemiological Control, 1993.
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>.
- *National baseline results (survey data) from National Health Interview Survey, National Health and Nutrition Examination Survey, Food Security Supplement to the Current Population Survey, National Household Survey on Drug Abuse, and Youth Risk Behavior Surveillance System were all obtained from Healthy People 2010, U.S. Department of Health and Human Services, Office of Public Health and Science.*
- UCLA Center for Health Policy Research, 2003 California Health Interview Survey; AskCHIS Query, <http://www.chis.ucla.edu>
- Ponce NA, Babey SH, Etzioni DA, Spencer BA, Brown ER, and Chawla N. *Cancer Screening in California: Findings from the 2001 California Health Interview Survey*. Los Angeles: UCLA Center for Health Policy Research, 2003.

Unintentional Injury Hospitalizations and Deaths

Definition:

Unintentional Injury Hospitalizations: the rate per 100,000 population of hospitalizations due to unintentional injuries.

Unintentional Injury Deaths: the age-adjusted rate of deaths due to unintentional injuries per 100,000 population.

Unintentional injuries are considered to be those from motor vehicle accidents, poisonings, falls, pedal cycle accidents, fires, near drownings, unintended firearm related injuries, and other causes. Not included are self-inflicted injuries, which are addressed in a separate report. Also not included are intentional injuries or homicides due to assaults, which are also addressed in a separate report.

Importance:

Per the Department of Health and Human Services:

- More than 400 Americans die each day from injuries due primarily to motor vehicle crashes, firearms, poisonings, suffocation, falls, fires, and drowning. The risk of injury is so great that most persons sustain a significant injury at some time during their lives.
- More persons aged 1 to 34 years die as a result of unintentional injuries than any other cause of death. Unintentional injury is the fifth leading cause of death in the United States.
- Motor vehicle crashes account for approximately half the deaths from unintentional injuries; other unintentional injuries rank second, and falls rank third, followed by poisonings (which includes drug and alcohol overdoses), suffocations, and drownings.

National Objectives:

Unintentional Injury Hospitalizations: A Healthy People 2010 National Objective for the general category of unintentional injuries is in development. The objective is to “reduce nonfatal unintentional injuries.” There are specific objectives related to motor vehicle accidents, seatbelt use, poisonings, etc.

Unintentional Injury Deaths: Healthy People National Objectives for age-adjusted death rate due unintentional injuries per 100,000 population are:

- Year 2000: 29.3
- Year 2010: 17.5

Motor Vehicle Deaths: Reduce deaths caused by motor vehicle crashes to no more than 9.2 per 100,000 population.

Key Finding:

Unintentional Injury Hospitalizations: Table 22-1 shows a summary of the 2004 number of hospital discharges due to unintentional injuries among San Luis Obispo County residents. More than half (58.6%) of the 1,418 nonfatal injuries (resulting in hospitalization) in San Luis Obispo County in 2004 were due to falls, compared to the state percentage of 51%. San Luis Obispo County has a higher percentage of elderly compared to the state, so the difference is not surprising, since most falls occur among the elderly population. Approximately 8% of the nonfatal injuries in San Luis Obispo County in 2004 were due to motor vehicle accidents, compared to 17% for the state. Among those ages 65 and older, the most common type of nonfatal unintentional injury was falls (79%).

Table 22-1: Nonfatal Hospitalized Unintentional Injuries
San Luis Obispo County Residents, 2004

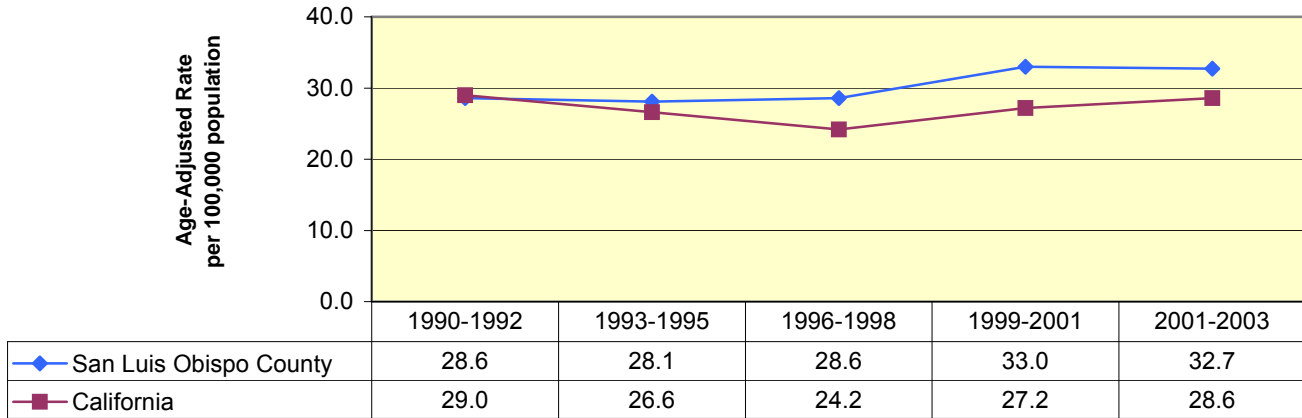
Unintentional Injury Type	Number (Percent)	
	All Ages	65 and Older
Fall	831 (58.6%)	592 (79.0%)
Motor vehicle accident	115 (8.1%)	15 (2.0%)
Poisoning (includes drug/alcohol)	90 (6.3%)	29 (3.9%)
Transport (other than motor vehicles)	75 (5.3%)	6 (0.8%)
Natural/Environmental	27 (1.9%)	4 (0.5%)
Overexertion	52 (3.7%)	20 (2.7%)
Bicyclist (other than with motor vehicle)	9 (0.6%)	1 (0.1%)
Cut/Pierce	22 (1.6%)	1 (0.1%)
Fire/Burn	21 (1.5%)	4 (0.5%)
Machinery	15 (1.1%)	0 (0%)
Drowning/Submersion	2 (0.1%)	0 (0%)
Firearms (not homicide or suicide)	2 (0.1%)	0 (0%)
Pedestrian (other than with motor vehicle)	14 (1.0%)	2 (0.3%)
Other	123 (8.7%)	55 (7.3%)
	1,418 (100%)	749 (100%)

Data source: California Office of Statewide Health Planning and Development, Patient Hospital Discharge Data, prepared by California of Health Services, Epidemiology & Prevention for Injury Control (EPIC) Branch; data summarized by Health Care Analyst, San Luis Obispo County Public Health Department.

Unintentional Injury Deaths:

As seen in Figure 22-1, for San Luis Obispo County residents, there were 33 deaths per 100,000 population caused by unintentional injuries in 2004, compared to 48 for California. The trends in unintentional injury death for San Luis Obispo County have mirrored that of the state. San Luis Obispo ranked 20th among the 58 California counties (i.e., 19 counties had a lower death rate due to unintentional injuries). Neither California nor San Luis Obispo County met the Healthy People 2010 national objective for unintentional injury deaths.

Figure 22-1: Unintentional Injury Death Rate
San Luis Obispo and California, 1990-2003



Data source: California Office of Statewide Health Planning and Development, Patient Hospital Discharge Data, prepared by California of Health Services, Epidemiology & Prevention for Injury Control (EPIC) Branch; data summarized by Health Care Analyst, San Luis Obispo County Public Health Department.

A summary of the 1999-2002 San Luis Obispo County deaths due to unintentional injuries by type of injury is presented in Table 22-2. Key findings include:

- The majority (76%) of unintentional injury deaths were due to motor vehicle accidents, poisonings, and falls.
- The majority (61%) of unintentional injury deaths were of males.
- The majority (68%) of the motor vehicle accident deaths were of males.
- The majority (88%) of the deaths due to unintentional poisoning were in the 25 to 55 year age category.

Table 22-2: Deaths due to Unintentional Injuries by Type of Injury
San Luis Obispo County Residents, 1999-2002 (Average)

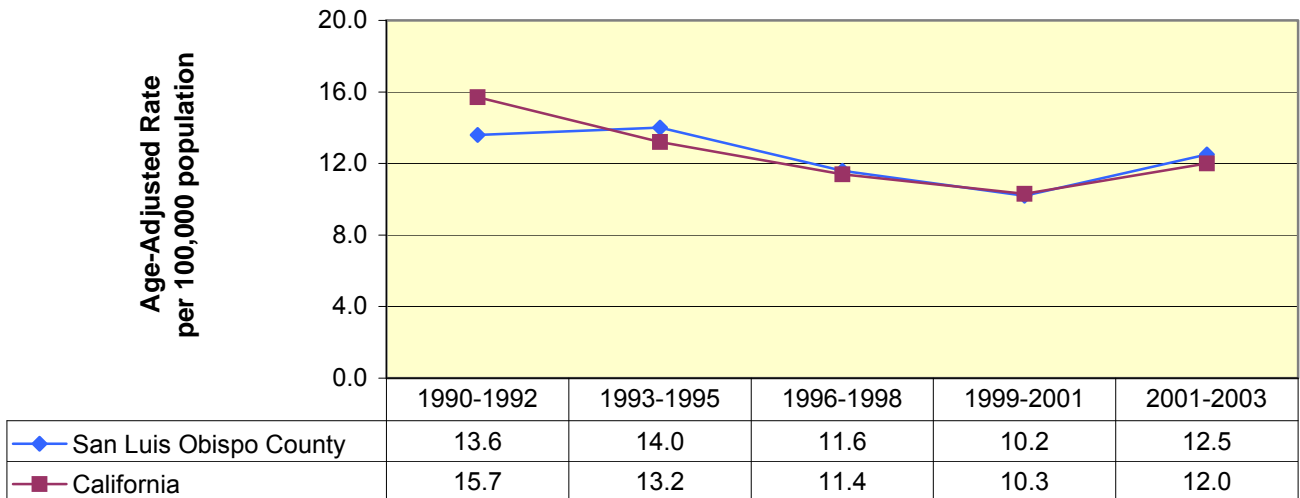
Unintentional Injury Type	Number (Percent)		
	Males	Females	Total
Motor vehicle accidents	19.5 (37.0%)	9.3 (27.2%)	28.8 (33.2%)
Poisonings (includes drug/alcohol)	14.0 (26.6%)	9.3 (27.2%)	23.3 (26.8%)
Falls	6.8 (12.9%)	7.3 (21.3%)	14.0 (16.1%)
Fires	1.0 (1.9%)	1.3 (3.8%)	2.3 (2.6%)
Drowning	1.3 (2.5%)	0.5 (1.5%)	1.8 (2.1%)
Gunshots	0.3 (0.6%)	0.0 (0.0%)	0.3 (0.3%)
Other	9.8 (18.6%)	6.5 (19.0%)	16.3 (18.8%)
Total	52.5 (100%)	34.0 (100%)	86.5 (100%)

Data sources: California Department of Health Services, Center for Health Statistics, Vital Statistics Section (using their Public Health Information System); data summarized by the Epidemiologist, San Luis Obispo County Public Health Department.

Motor Vehicle Deaths:

As shown in Figure 22-2, for San Luis Obispo County residents, there were 12.5 deaths per 100,000 population caused by motor vehicle crashes (2001-2003 average), compared to 12.0 for California. San Luis Obispo ranked 18th among the 58 California counties (i.e., 17 counties had a lower death rate due to motor vehicle crashes). Neither California nor San Luis Obispo County met the Healthy People 2010 national objective of 9.2 deaths per 100,000 population, though both have been making progress toward this objective since 1990.

Figure 22-2: Motor Vehicle Crash Death Rate
San Luis Obispo County and California, 1990-2003



Data source: California Office of Statewide Health Planning and Development, Patient Hospital Discharge Data, prepared by California of Health Services, Epidemiology & Prevention for Injury Control (EPIC) Branch; data summarized by Health Care Analyst, San Luis Obispo County Public Health Department.

Primary Prevention Activities:

Primary prevention activities include:

- Increasing enforcement of primary seat belt, speeding, and drunk-driving laws.
- Increasing support and activities of targeted information and educational programs, including proper use of child safety seats, bicycle helmets, seat belts, and drunk-driving prevention.
- Providing drug abuse prevention and treatment programs to reduce unintentional poisoning with illegal drugs.
- Enacting and enforcing pool-fence ordinances to prevent drowning.

Cost Analysis:

Although the greatest impact of injury is in human suffering and loss of life, the financial cost is also staggering, per the Department of Health and Human Services. Included in the costs associated with injuries are the costs of direct medical care and rehabilitation as well as lost income and productivity. By the late 1990s, injury costs were estimated at more than \$441 billion annually, an increase of 42 percent over the 1980s. As with other health problems, it costs far less to prevent injuries than to treat them. For example:

- Every child safety seat saves \$85 in direct medical costs and an additional \$1,275 in other costs.
- Every bicycle helmet saves \$395 in direct medical costs and other costs.
- Every smoke detector saves \$35 in direct medical costs and an additional \$865 in other costs.
- Every dollar spent on poison control centers saves \$6.50 in medical costs.

Costs for unintentional injuries:

According to the National Center for Injury Prevention and Control 2000 report on unintentional injuries:

- The 50 million fatal and non-fatal injuries in 2000 that required medical treatment cost approximately \$406 billion, a combination \$80.3 billion in medical costs and \$326 billion in lost productivity costs.
- 70% of total lifetime injury costs (\$283 billion) can be attributed to males.
- Motor vehicle injuries account for 22% (\$89 billion) of total lifetime injury costs.
- Fall injuries account for 20% (\$81 billion) of lifetime injury costs.
- Persons between the ages of 25 and 44 years of age represent 30% of the U.S. population and 40% (\$164 billion) of total lifetime injury costs.

Data Sources:

Data sources for this report include:

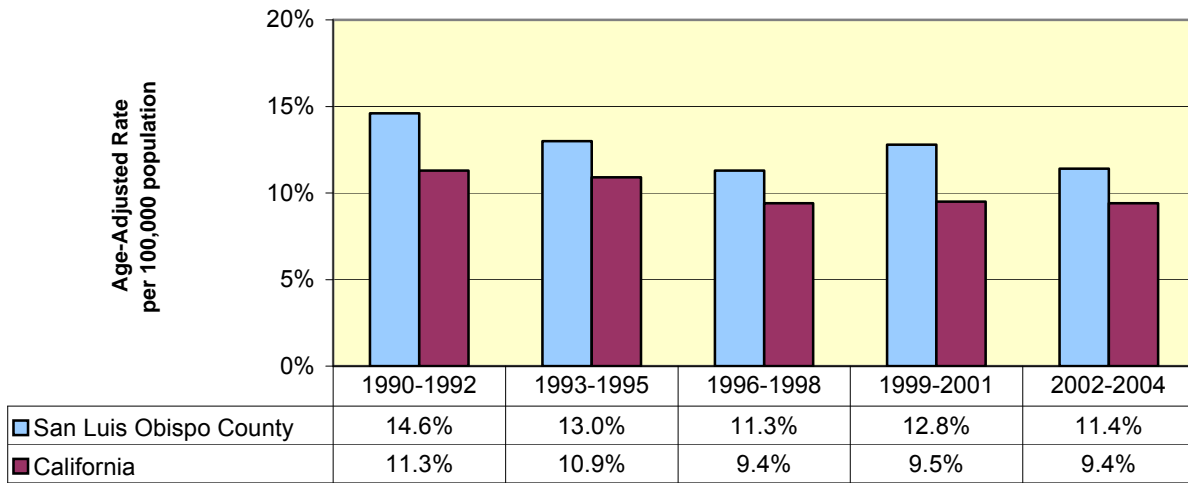
- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>.
- California Department of Health Services, Center for Health Statistics, County Health Status Profiles; available at: <http://www.dhs.ca.gov/hisp/chs/OHIR/publicationindex.htm>
- California Department of Health Services, Center for Health Statistics, Vital Statistics Section, Public Health Information System.
- National Center for Injury Prevention and Control, Incidence and Economic Burden of Injury in the United States; available at: http://www.cdc.gov/ncipc/factsheets/CostBook/Economic_Burden_of_Injury.htm

Suicide Attempts and Deaths

- Definition:** Suicide Attempts: Number of residents who attempted suicide, were hospitalized as a result, and were discharged during a specified year.
- Suicide Deaths: Age-adjusted crude death rate (per 100,000 population) for residents who died of suicide during specified year(s).
- Importance:** Suicide is a complex behavior that can be prevented in many cases by early recognition and treatment of mental disorders.
- Suicide is the eleventh leading cause of death in the United States.
 - Between 1952 and 1995, the incidence of suicide among adolescents and young adults nearly tripled.
 - For every two victims of homicide in the U.S. 3 people take their own lives.
 - The majority (61%) of all suicides involve firearms.
 - Males are four times more likely to die from suicide than are females. However, females are more likely to attempt suicide than are males.
 - Suicide rates among the elderly are highest for those who are divorced or widowed; key risk factors include depression and social isolation. In the month prior to suicide, 75% of elderly persons had visited a physician.
 - More teenagers and young adults die from suicide than from cancer, heart disease, AIDS, birth defects, stroke, pneumonia and influenza, and chronic lung disease, combined.
 - At least 90 percent of all people who kill themselves have a mental or substance abuse disorder. Other risk factors include prior suicide attempt, stressful life events, and access to lethal suicide methods.
- National Objectives:** The Healthy People 2010 national objective for suicide deaths is to reduce the death rate due to only 5 suicides per 100,000 population.
- Key Findings:** Key findings include:
- Age-Adjusted Death Rate: As shown in Figure 23-1, the age-adjusted rates (per 100,000 population) for deaths due to suicide has been higher among San Luis Obispo County residents compared to California residents as a whole, though the difference has not been statistically significant. During 2002-2004, San Luis Obispo ranked 28th out of 58 counties (i.e., 27 counties had a lower suicide death rate than San Luis Obispo) compared to 37th from 2001-2003. Neither San Luis Obispo County nor the state met the 2010 Healthy People national objective of 5.
 - Elderly: As shown in Figure 23-2, the elderly (65 and older) in San Luis Obispo County were more vulnerable to suicide deaths than their share of the population would have projected, which is similar to the state trend. Figure 23-3 shows that elderly men were much more vulnerable to suicide compared to elderly women.
 - Method: Table 23-1 shows that the primary methods of suicide deaths among county residents were firearms (53%), followed by hanging/strangulation/suffocation (25%) and self-poisoning (15%).

- Nonfatal Suicide Attempts: As shown in Table 23-2, the majority of hospitalized, nonfatal suicide attempts among San Luis Obispo County residents in 2005 were among 45-55 years olds. These are age-specific rates, which means they are the number of attempts per 100,000 population in that age range.

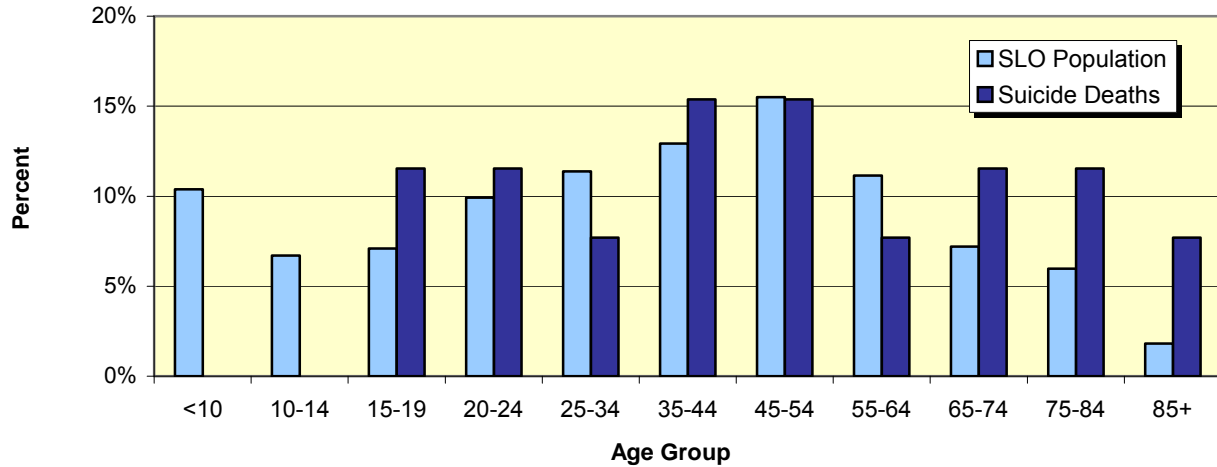
Figure 23-1: Suicide Death Rate Among Residents
San Luis Obispo and California, 1990-2004



Data source: California Dept. of Health Services, Center for Health Statistics, County Health Status Profiles, 2005.
 Note: Age-adjusted rates for 1999 and later were calculated using the weighted-averages derived from the 2000 Standard Population. Prior to 1999, the 1940 Standard Population for age adjustments was used; therefore, data comparisons between 1999-2001 and 2002-2004 and prior years may not be valid.

Figure 23-2: Distribution of SLO County and Suicide Deaths by Age Group

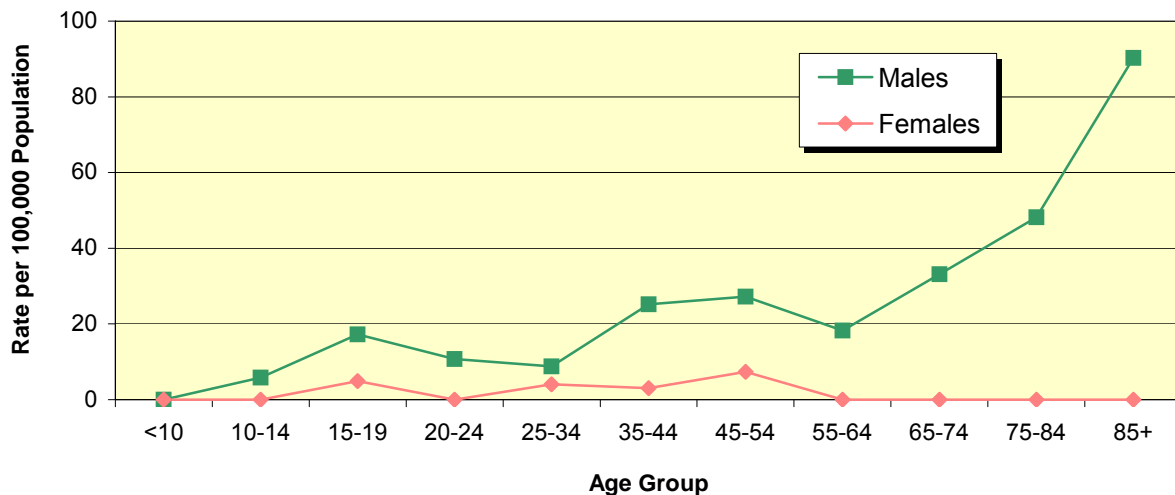
San Luis Obispo County Residents, 2004



Source: California Dept. of Health Services, Center for Health Statistics, EPICenter, California Injury Data Online 2004. Population data from American Community Survey, U.S. Census Bureau 2005.

Figure 23-3: Suicide Death Rate by Age Group and Sex

San Luis Obispo County, 2003-2004 (Average)



Source: California Dept. of Health Services, Center for Health Statistics, EPICenter, California Injury Data Online 2004. http://www.applications.dhs.ca.gov/epicdata/content/TB_fatal.htm
 Population data: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2050. Sacramento, CA, May 2004.

Table 23-1: Suicide Death Methods
San Luis Obispo County Residents, 2000-2004

Method of Suicide	Number (N)	Percent (%)
Firearms	86	53.1%
Self-poisoning (drugs or other solids, liquids, or gases/vapors)	25	15.4%
Hanging, strangulation or suffocation	41	25.3%
All other methods*	10	6.2%
Total	162	100%

* All others include: cutting/piercing, jumping from high places, drowning, crashing motor vehicle, or other.

Data source: California Department of Health Services, Center for Health Statistics, EPICenter, California Injury Data Online

Table 23-2: Age-Specific Rates of Hospital Discharges
With a Primary Diagnosis of Attempted Suicide
San Luis Obispo County Residents, 2005

Age	15-19	20-24	25-34	35-44	45-54	55-64	65-74	Over 75
Rate	13.7	0	23.8	23.4	32.1	7.2	0	5.2

Data Source: California Office of Statewide Health Planning and Development, Patient Discharge Dataset (data abstracted by Epidemiologist).

Population data source: State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2050. Sacramento, CA, May 2004.

Cost Analysis:

The greatest impact of suicide is in human suffering, loss of life, and the impact on others, especially friends and family. In addition, the medical costs are also very high. For San Luis Obispo County, the estimated lifetime costs (average for 1996-1997) for suicide attempts was \$11,819,536. For fatal suicides, the cost was estimated at \$21,738,299. The method of fatal suicides with the highest cost was firearms (\$11,018,950 of the \$21,738,299 costs). Cost data will be updated when more current data becomes available.

Primary Prevention Activities:

The U.S. Surgeon General issued a comprehensive report on suicide in May 2001 entitled *National Strategy for Suicide Prevention: Goals and Objectives for Action*. This was a collaborative effort by several national agencies and is available on the internet:

<http://www.mentalhealth.org/suicideprevention/>. Examples of goals:

- Promote awareness that suicide is a public health problem that is preventable.
- Develop and implement strategies to reduce the stigma associated with being a consumer of mental health, substance abuse, and suicide prevention services.
- Promote efforts to reduce access to lethal means and methods of self-harm.

Another strategy is to promote healthy relationships with family and friends for at risk individuals, and facilitate contacts with community organizations to prevent social isolation.

Data Sources:

Data sources include:

- Healthy People 2010 Objectives, U.S. Department of Health and Human Services, Office of Public Health and Science; available at: <http://www.health.gov/healthypeople/>.
- California Department of Health Services, Center for Health Statistics, County Health Status Profiles; available at: <http://www.dhs.ca.gov/hisp/chs/OHIR/Publication/publicationindex.htm>
- California Department of Health Services, Center for Health Statistics, Vital Statistics Section, Public Health Information System.
- U.S. Census Bureau; 2000 census of population; available at <http://www.census.gov>
- California Office of Statewide Health Planning and Development, Patient Discharge Dataset (prepared by California Department of Health Services, Injury Surveillance and Epidemiology Section); available at: <http://www.applications.dhs.ca.gov/epicdata/default.htm>
- Cost data are from the Injury Cost and Consequences Model, based on California Hospital Discharge Data and Vital Statistics, Pacific Institute for Research and Evaluation; available at: http://www.dhs.ca.gov/ps/cdic/epic/html/injury_data.html
- U.S. Surgeon General, National Strategy for Suicide Prevention: Goals and Objectives for Action. May 2001. Available on internet at: <http://www.mentalhealth.org/suicideprevention/>
- California Department of Health Services: EPICenter, California Injury Data Online; available at: <http://www.applications.dhs.ca.gov/epicdata>
- American Community Survey 2005 Population Data available at: <http://factfinder.census.gov>