

COMMUNICABLE DISEASES

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COMMUNICABLE DISEASES

◆ Tuberculosis ◆ Influenza/Pneumonia ◆ Immunizations

TUBERCULOSIS

Background

Tuberculosis (TB) is a bacterium that attacks the lungs, intestines, brain and other organ systems.¹

Of the people who have been infected with TB, between 5 and 10 percent will become sick with **active pulmonary TB** during their lifetime. Only those who are sick with active TB in their lungs are infectious. Tuberculosis can be transmitted by coughing, talking or spitting.¹

Size

*San Diego County*²

In 1997, 333 cases of “active” TB were reported in San Diego County; 13 cases were reported among children under the age of 5.

San Diego County active TB cases:

◀ **1996 Rate:** 12.2 per 100,000 population (not age adjusted). (**Fig. 1**)

◀ **1993-97 Trend:** Decreased 17.9 to 12.2 per 100,000 population (not age adjusted). (**Table 1**)

National

In 1993, a total of 25,287 active TB cases in the United States were reported to the Centers for Disease Control and Prevention.³

In addition to those with active TB, an estimated 15 million people in the United States have latent TB infections and may develop active TB at some time in their lives.⁴

Annually, there are 22,680 new cases of tuberculosis in the US – 8.7 cases per 100,000 population.³

During 1997, 19,855 cases of TB were reported nationwide.³

It is estimated that 10% of the national population is infected with TB (test positive to a tuberculosis skin test).³

Global

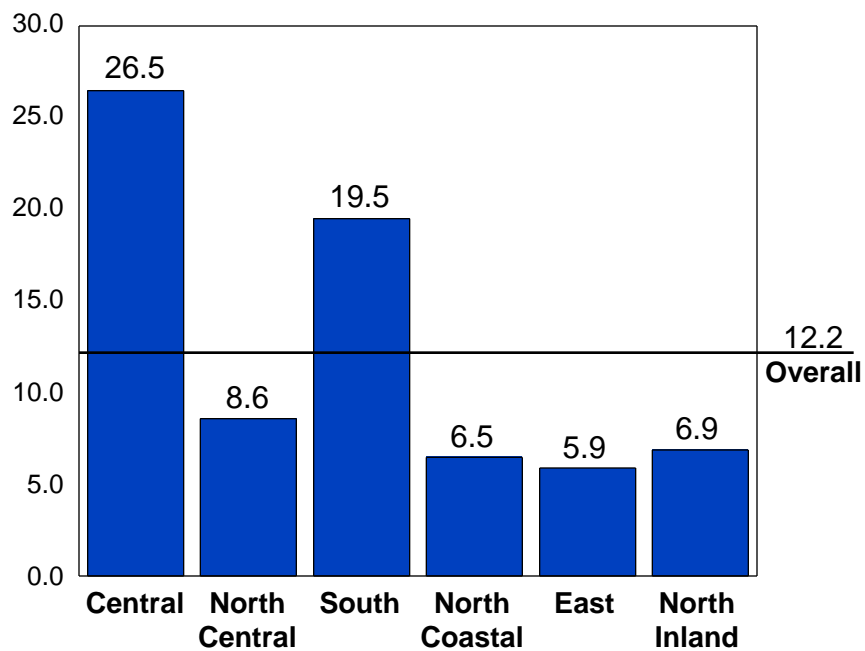
Approximately 1.7 billion people - one-third of the world's population - are infected with tuberculosis (TB) (test positive on a tuberculosis skin test).

TB is the leading infectious killer of youth and adults worldwide, killing more people than malaria and AIDS combined.

Table 1
San Diego vs. the Nation—Active Tuberculosis Case Rates^{*,5}

San Diego County 1997	County Trends 1993-1997	California 1997	National 1997	HP2000 Objective
12.2	Decreased 17.9-12.2	11.8	7.4	3.5

Figure 1
Tuberculosis Reported Active Case Rates* by San Diego County Region 1997⁵



* Rates per 100,000 population

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Seriousness

Healthy People 2000 Objective: The San Diego County rate of active tuberculosis (12.2) is lower than the state rate (12.6) but higher than the Healthy People 2000 Objective (3.5).

Each year, approximately 2-3 million people die of TB, including 100,000 children.¹

Tuberculosis (TB), a chronic bacterial infection, causes more deaths worldwide than any other infectious disease.⁴

TB can almost always be cured as long as people take all of their medicine. When people stop taking their medicine, because they start to feel better or they do not have a reliable drug supply, they may develop drug-resistant TB. This may increase the treatment cost from \$2,000 per patient to \$250,000.¹

Community Concerns

Focus Group Discussion Points:

Tuberculosis was mentioned as a rising problem amongst the **East African** community.

Risk Factors

Risk factors include:⁴

- < Poverty
- < Injection drug use
- < Homelessness
- < Crowded shelters and prisons
- < Weak immune systems from poor nutrition, drug addiction, and alcoholism
- < Poor health, especially HIV
- < Long-term care facilities such as nursing homes
- < Age

High Risk Populations

Age(s): The age group with the highest rate of cases in San Diego County was the over 65 age group (25.6). (**Fig. 2**)

Ethnicity(s): In 1997, Asian/Pacific Islanders had the highest rate of TB in San Diego County (57.9). This rate is three times higher than Hispanics, who have the next highest rate (19.8). (**Fig. 3**)

TB cases of individuals born outside of the US comprised 66% of San Diego County's 1997 cases, mostly from the Philippines and Mexico.

Special Populations: Immigrants, people with HIV or AIDS, cancer patients or substance abusers.

County Areas Most Affected by active TB: (1997 not age adjusted)

- < **Regions:** Central, South (**Fig. 1**)
- < **SRAs:** National City, Central, Mid-City (**Table 2**)

Figure 2
Reported Active Tuberculosis Case Rates* by Age
San Diego County 1997⁵

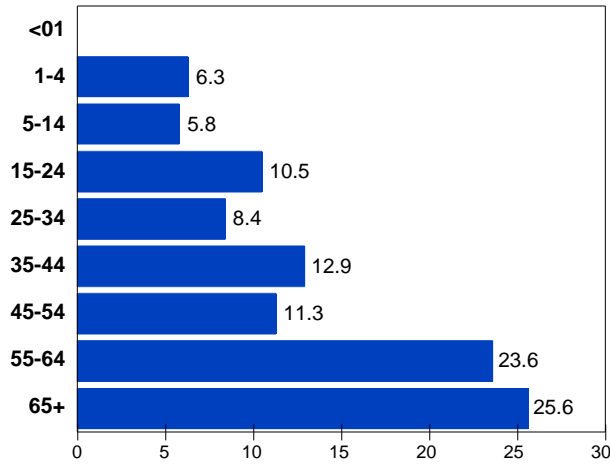


Figure 3
Reported Active Tuberculosis Case Rates* by Race/Ethnicity
San Diego County 1997⁵

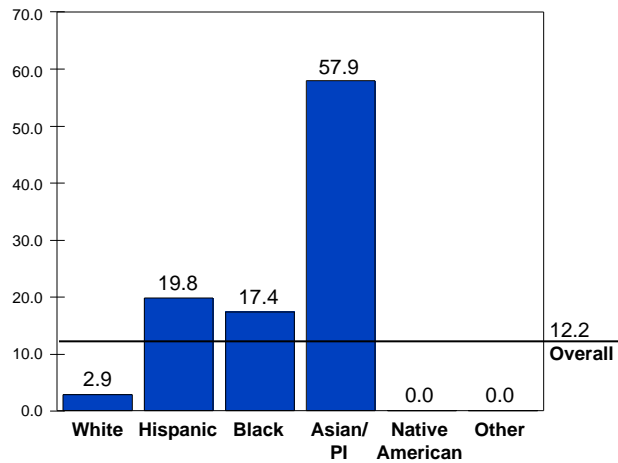


Table 2
San Diego County SRAs with the Highest
Active Tuberculosis Case Rates,* 1997⁵

San Diego County	National City	Central	Mid-City
12.2 (333 cases)	32.0 (18 cases)	28.7 (47 cases)	27.4 (42 cases)

*Rates per 100,000 population

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Community Health Improvement Partners

Minorities are affected disproportionately by TB: 54 percent of active TB cases nationally in 1995 were among African American and Hispanic people, with an additional 17.5 percent found in Asians.⁴

In some sectors of US society, TB rates now surpass those in the world's poorest countries. Among African American men in New York City aged 35 to 44, for example, 315 out of 100,000 had active TB in 1993, many times the national average of 9.8 cases per 100,000 people.⁴

Prevention

In the United States, prevention has focused on identifying infected individuals early—especially those who run the highest risk of developing active disease—and treating them with drugs in a program of directly observed therapy.⁴

To stop the spread of TB, “sick” individuals with active TB should:

- ◀ Complete their full course of medicine
- ◀ Cover their mouth when coughing, sneezing or laughing
- ◀ Not attend work or school until non-infectious
- ◀ Have good air circulation in their environment

Resources

Tuberculosis Control, Health and Human Services Agency, County of San Diego, (619) 692-8600

American Lung Association, (619) 297-3901, www.lungusa.org

National Center for Infectious Disease, Centers for Disease Control and Prevention, www.cdc.gov/ncidod

National Institute for Allergy and Infectious Disease, National Institutes of Health, www.niaid.nih.gov

National Center for HIV, STD, & TB Prevention, Centers for Disease Control and Prevention, www.cdc.gov/nchstp

National Prevention Information Network, www.cdcnpin.org

References

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2. County of San Diego. (1997). Tuberculosis Control Program 1997 Fact Sheet. Health and Human Services Agency, County of San Diego.
3. Centers for Disease Control and Prevention. National Center for Health Statistics FASTATS. Retrieved from the World Wide Web: <http://www.cdc.gov/nchswww/fastats/fastats.htm>
4. National Institute of Allergy and Infectious Diseases. Retrieved from the World Wide Web: <http://www.niaid.nih.gov>
5. Statistics based on information provided to the San Diego County Health and Human Services Agency from the California Department of Health Services, Center for Health Statistics, Vital Statistics Section.

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INFLUENZA AND PNEUMONIA

Background

Pneumonia and other lower respiratory infections are major causes of illness for the very young and the very old.¹

Flu shots are recommended for people 65+, people who have chronic heart or lung conditions and those living in institutional facilities.¹

Size

San Diego County

941 deaths from pneumonia and influenza were reported in San Diego in 1996.²

◀ **1996 Rate:** 16.8 deaths per 100,000 population, age adjusted; 35.1 not age adjusted. (**Table 1**)

◀ **1993-1996 Trend:** Increased 32.0 to 35.1 per 100,000 (not age adjusted) (**Fig. 1**)

National

Annually, there are 1.1 million pneumonia cases under age 5 and 555,000 cases for ages 5 to 17, in the US.³

Annually, there are 90.4 million cases of influenza in the US - 7.6 million influenza cases under age 5 and 22.9 million cases for ages 5 to 17.³

Seriousness

Average Years of Productive Life Lost in San Diego County: 17.5 years per death

Pneumonia and influenza account for more than 45,000 deaths annually in the US, mostly in the elderly.¹

80 – 90% of all influenza-associated deaths occur in people over age 65.⁴

Annually, there are 607 influenza deaths in the U.S and 69.3 million lost workdays due to flu.³

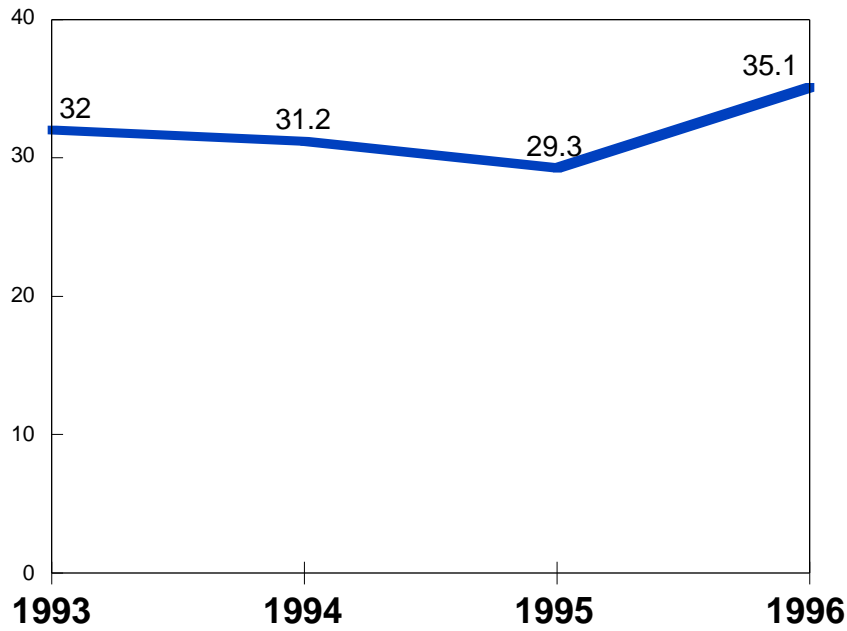
Risk Factors

Risk factors include age and chronic conditions, such as alcoholism, hypertension, and heart or lung disease.⁵

Table 1
San Diego vs. the Nation—Pneumonia/Influenza Death Rates^{*,2}

San Diego County 1996	County Trends 1993-1996	California 1995	National 1995	HP2000 Objective
35.1	Increased 32.0-35.1	33.4	31.6	Not available

Figure 1
Pneumonia/Influenza Death Rate* Trend
San Diego County 1993-1996²



*Rates per 100,000 population

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High Risk Populations

Age(s): Seniors over age 65 and people with chronic health problems. **(Fig. 2)**

Ethnicity(s): The age adjusted rate of pneumonia and influenza deaths for Blacks is highest at 20.0 followed by Whites at 17.4. **(Fig. 3)**

County Areas: (Based on 1996 age adjusted rates)

◀ **Region:** East, South, Central **(Fig. 4)**

◀ **SRAs:** National City, Escondido, Chula Vista **(Table 2)**

African Americans and Hispanics are less likely than whites to be immunized for influenza and pneumonia nationally.¹

Groups at Increased Risk for Influenza-Related Complications:⁵

◀ Persons 65 years of age and older

◀ Residents of nursing homes and other chronic-care facilities

◀ Adults and children with chronic heart or lung disease, including asthma

◀ Adults and children who have required regular medical care or hospitalization during the preceding year because of a chronic illness

◀ Children and teenagers, age 6 months to 18 years, who are receiving long-term aspirin therapy. These individuals would be at risk for the serious disease known as Reye syndrome if they developed the flu while taking aspirin.

◀ Pregnant women who will be in their second or third trimester of pregnancy during the influenza season

Schools are an excellent place for transmission of flu viruses, so families with school-age children have a higher rate of infection than other families, with an average of one-third of the family members infected each year.⁶

Figure 2
Reported Pneumonia and Influenza Death Rates* by Age San Diego County 1996²

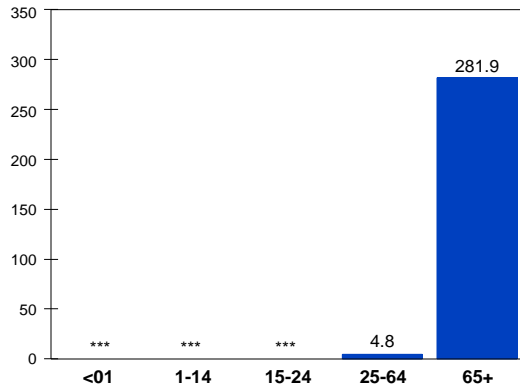


Figure 3
Reported Pneumonia and Influenza Death Rates* by Race/Ethnicity San Diego 1996^{},²**

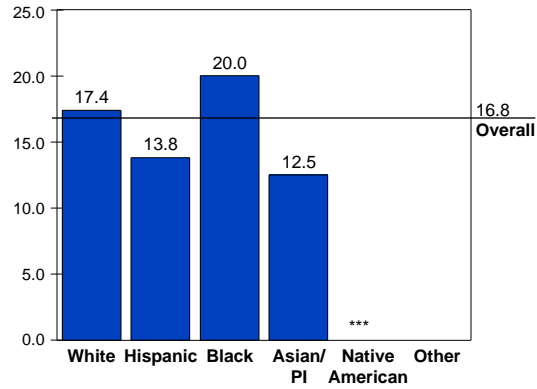


Figure 4
Reported Pneumonia and Influenza Death Rates* by Region San Diego County 1996^{},²**

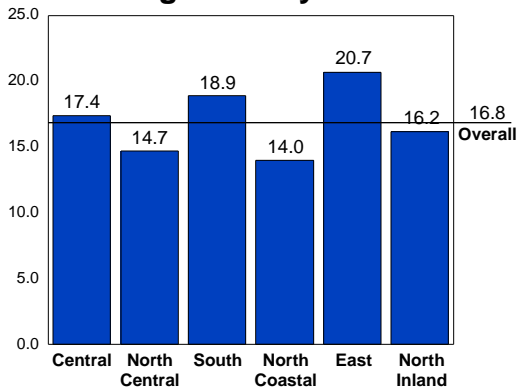


Table 2
San Diego County SRAs with the Highest Influenza and Pneumonia Death Rates,* 1996^{},²**

San Diego County	National City	Escondido	Chula Vista
16.8 (941 cases)	41.7 (30 cases)	29.9 (98 cases)	21.4 (53 cases)

* Rates per 100,000 population

**Age adjusted using the US 1940 standard million population

***Rate not calculated for less than 5 cases

Prevention

Vaccination is an effective strategy to reduce illness and deaths due to pneumonia and influenza. Strategies to increase vaccination rates include more public information and education campaigns and more physician recommendations.¹

Influenza and pneumococcal immunizations in elderly populations have resulted in fewer hospitalizations and significant cost savings.^{7,8}

Model Programs

California Medical Review, Inc. is currently conducting statewide adult immunization campaigns to increase influenza and pneumococcal immunizations among high-risk populations. They are targeting their intervention efforts at physician offices, outpatient clinics, hospitals, long-term care facilities, health maintenance organizations, and Medicare beneficiaries. Intervention components include:⁹

- ◀ Patient education materials to educate the remind patients about the importance of influenza and pneumococcal immunizations
- ◀ Tip sheets and medical chart stickers to motivate health care providers to immunize their elderly patients

Resources

American Lung Association, www.lungusa.org

National Center for Infectious Disease, Centers for Disease Control and Prevention, www.cdc.gov/ncidod

National Institute for Allergy and Infectious Disease, National Institutes of Health, www.niaid.nih.gov

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2. Unless otherwise noted, all San Diego influenza and pneumonia statistics were based upon information provided to the San Diego County Health and Human Services Agency from the California Department of Health Services, Center for Health Statistics, Vital Statistics Section
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IMMUNIZATIONS

Background

Immunization is one of the most effective ways to prevent disease.¹

By 2 years of age, a child should have 80% of their needed vaccine doses.¹

Children should be vaccinated against:¹

- < Hepatitis B
- < Diphtheria
- < Tetanus
- < Pertussis
- < H. influenzae B (HIB)
- < Polio
- < Measles, Mumps, Rubella
- < Varicella

Size

San Diego County

San Diego County immunization percentages for two-year-old children.

- < **1996 Percentage:** 78% of two-year-olds were adequately immunized.² (Table 1)
- < **1993-1996 Trend:** Increased from 65% to 78% of all two-year-olds.

National

In 1994, 89.5% of Americans were vaccinated against diphtheria, tetanus, and pertussis, 82.6% against polio, 87.5 % against measles, 88.7% against Haemophilus influenzae B, and 26.0% against hepatitis B.³

Immunization levels in many parts of the country remain dangerously low. According to the Centers for Disease Control and Prevention, in 1997, only 67% of our nation's children were fully immunized by age two and levels in some areas of the country are as low as 10%.¹

Table 1
Percentage of Children Adequately Immunized at Age Two
San Diego County 1996²

San Diego County 1996	California 1996	National 1995	HP2000 Objective
78.0%	72%	76.2%	90%

Seriousness

Years of Productive Life Lost: Not Available

Healthy People 2000 Objective: The San Diego County percentage (78%) of child immunizations is higher than the 1996 state percentage (72%) but lower than the Healthy People 2000 Objective percentage (90%).

For every \$1 spent on immunizations, \$6–\$29 worth of medical costs are saved.¹

Community Concerns

Focus Group Discussion Points:

The issue of immunizations was linked to teen parents and the importance of teens following the proper immunization schedule for their babies. Participants in the Latino, Central and North Central groups were particularly concerned about this issue. Suggestions were made to publicize recommended immunization schedules and to offer services in local neighborhoods through a mobile van or other community-based service.

Recently arrived Mexican immigrants may let immunizations lapse since they are accustomed to national outreach campaigns to immunize children in schools and other locations, not only in physician offices. This population needs targeted outreach efforts.

Risk Factors

Risk factors include:¹

- ◀ Poverty
- ◀ Lack of health insurance coverage
- ◀ Inadequate health insurance that does not cover vaccinations or basic preventive health care

High Risk Populations

Age(s): 0 – 14 years old

Ethnicity(s): Nationally in 1995, Blacks, Hispanics, and Southeast Asians had lower rates of immunizations than Whites and other Asians.

County Areas: Not Available

Babies are more likely to die from vaccine-preventable illness than older children.¹

Prevention

High immunization coverage levels in early childhood are the best way to prevent the spread of vaccine-preventable diseases in childhood and provide the foundation for controlling vaccine-preventable diseases among adults.⁴

The major strategies for ensuring that children are protected from vaccine-preventable diseases are:⁴

- ◀ Minimizing financial burdens for needy children
- ◀ Increasing community participation, education, and partnership
- ◀ Improving monitoring of disease and vaccination coverage
- ◀ Improving vaccines and vaccine use

Model Programs

San Diego County Infant Immunization Initiative (I-3)⁵

- ◀ Coalition of nearly 200 organizations including community based agencies, churches, schools, health care organizations and health care providers, and service clubs
- ◀ Goal of ensuring that by the year 2000, at least 90% of San Diego County's children are fully immunized by age two
- ◀ Program components include increasing access and availability of immunization services, community education, outreach, and assessment
- ◀ Specific program activities include:
 - Baby Shots Line helps callers check immunization status
 - Referrals to immunization clinics that provide free immunizations
 - Baby Track Program educates new mothers about immunizations and provides follow-up services
 - Case management and outreach services to follow-up on those with incomplete immunization coverage
 - Health education and community involvement focuses on educating families, community based organizations, child care providers, social service programs, refugee service programs, English as a Second Language programs, teen pregnancy programs, civic organizations, and the faith community on the importance of immunizations
 - Evaluation and assessment of immunization coverage levels in the community and I-3 program effectiveness
 - Immunization training and management consulting for medical care providers
 - Working with parents of children in social service programs such as CalWORKS, Medi-Cal, and Food Stamps, and WIC programs to assess immunization records, determine immunization status, provide referrals to providers, and provide appointment reminders

All Kids Count, San Diego⁶

- ◀ Countywide immunization monitoring and tracking system
- ◀ Designed to be the comprehensive repository of immunizations given by all providers
- ◀ Allows for accurate assessment of individual immunization status
- ◀ Forecasts future vaccination needs based on immunization standards
- ◀ Conducts reminder and follow-up calls
- ◀ Provides reports to assist providers in practice management and quality assurance
- ◀ Improves patient satisfaction

Resources

Infant Immunization Initiative (I-3), Health and Human Services Agency, County of San Diego, (619) 692-5760

National Immunization Program, Centers for Disease Control and Prevention, www.cdc.gov/nip

Every Child By Two, Campaign for Early Immunization, www.ecbt.org

References

1. Every Child By Two. Retrieved from the World Wide Web: <http://www.ecbt.org>
2. Unless otherwise noted, all San Diego immunizations statistics were based upon information provided to the San Diego County Health and Human Services Agency from the California Department of Health Services, Center for Health Statistics, Vital Statistics Section
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6. All Kids Count, County of San Diego, Health and Human Services Agency, (619) 692-8482

