

Santa Cruz County 2003 Health Almanac

Immunization and Infectious Disease

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Agencies and Information Sources

Santa Cruz County (SCC) Health Services Agency - <http://www.santacruzhealth.org/>
The Health Services Agency (HSA) exists to protect and improve the health of the people in Santa Cruz County. The Agency provides programs in Environmental Health, Public Health, Medical Care, Substance Abuse Prevention and Treatment, and Mental Health.

Santa Cruz County's Public Health Communicable Disease Information site:
<http://www.santacruzhealth.org/phealth/cd/3communicable.htm>

Santa Cruz County's All Kids by Two - www.santacruzimmunization.org

California Department of Health Services - <http://www.dhs.ca.gov/default.htm>
To Protect and Improve the Health of All Californians

California Health Interview Survey - <http://www.chis.ucla.edu/index.html>
The California Health Interview Survey (CHIS) is the largest state health survey conducted in the United States. Every two years, CHIS plans to collect information on the health and health care needs of California's diverse population.

Centers for Disease Control and Prevention - <http://www.cdc.gov/default.htm>
CDC's Mission is to promote health and quality of life by preventing and controlling disease, injury, and disability. CDC specific site <http://www.cdc.gov/nip/> where you will find immunization information about vaccine preventable diseases, the benefits of immunization, and the risks of immunization versus the risk of disease, as well as educational materials and resources.

Infectious Disease Society of America - <http://www.idsociety.org/>

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Overall

For January through June 2001, nationally the percentage of adults who were vaccinated against influenza during the past 12 months were 64.3% for adults aged 65 years and over, 32.4% for adults aged 50-64 years, and 15.3% for adults aged 18-49 years.

There has been an increasing trend in the percent of adults aged 65 years and over who had ever received pneumococcal vaccine: 42.4% in 1997, 46.0% in 1998, 49.7% in 1999, 52.9% in 2000, and 53.4% in 2001.

Source: Early Release of Selected Estimates from the National Health Interview (NHIS)

Vaccination coverage for each of six recommended vaccines for the Nation among children 19-35 months of age increased in the United States from 1994 to 1999.

In 2000, the percent vaccinated against diphtheria, tetanus, pertussis was 82%, polio: 90%, measles: 91%, haemophilus 93%, and hepatitis B: 90%. The percent receiving combined series was 76%.

<http://www.cdc.gov/nchs/fastats/immunize.htm>

Common Cold

(All figures are for U.S.)

There are nearly **62 million** cases of the common cold annually (**1996**)

52.2 million of these cases affect Americans under age 17 (**1996**)

There are nearly **22 million** school-loss days annually due to the common cold (**1996**)

There are approximately **45 million** bed days annually associated with the common cold (**1996**)

Seventy-five percent of common colds suffered by children under 5 years are medically attended (**1996**)

<http://www.cdc.gov/nchs/fastats/colds.htm>

Hepatitis -- Viral

(All figures are for U.S.)

Deaths Annually: **5,357 (2000)**

Age-Adjusted Death Rate: **1.9 deaths per 100,000 population (2000)**

Hepatitis A Reported Annually: **13,397 cases (2000), 4.91 cases per 100,000 population**

Hepatitis B Reported Annually: **8,036 (2000), 2.96 per 100,000 population**

<http://www.cdc.gov/nchs/fastats/hepatits.htm>

Immunization

(All figures are for U.S.)

Vaccinations of children 19-35 months of age for selected diseases:

Percent Receiving Combined Series: **76% (2000)**

Percent Vaccinated Against Diphtheria, Tetanus, Pertussis: **82% (2000)**

Percent Vaccinated Against Polio: **90% (2000)**

Percent Vaccinated Against Measles: **91% (2000)**

Percent Vaccinated Against Haemophilus: **93% (2000)**

Percent Vaccinated Against Hepatitis B: **90% (2000)**

<http://www.cdc.gov/nchs/fastats/immunize.htm>

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Santa Cruz/CA Immunization Rates 2000 to 2002 Data

Kindergarten - Fall

Year	# of students	# of schools	State % up to date	Santa Cruz % up to date	% needing 1 or more vaccines	PME* (SC)	PBE** (SC)	PBE (CA)
00	3,359	50	92.2%	90.1%	6.3	0.2%	2.1%	1.0%
01	3,456	59	90.9%	88.31%	6.4	.29%	4.98%	1.19%
02	3,351	62	92.3%	87.76%	6.5	.36%	5.43%	1.1%

Child Care

Year	# students 2-5 yr.	# of centers	State	Santa Cruz	% needing 1 or more vaccines	PME (SC)	PBE (SC)	PBE (CA)
00	3,095	70	94.1%	94.1%	7.5%	0.2%	2.1%	1.1%
01	2,942	90	91.8%	89.1%	10.9%	.5%	4.2%	1.3%
02	3,101	75	94.3%	88.5%	11.5%	.7%	4.6%	1.3%

7th Graders

Year	# of students	# of schools	State % up to date	Santa Cruz % up to date	% needing 1 or more vaccines	PME (SC)	PBE (SC)	PBE (CA)
00	3,256	26	69.5%	75.3%	20.6%	0.1%	4.1%	1.1%
01	3,161	26	70.1%	72.22%	22.8%	0.16%	4.8%	1.36%
02	3,445	33	74.1%	73.5%	22.5%	.93%	3.19%	1.29%

* PME - Personal Medical Exemptions

** PBE - Personal Belief Exemptions - in 2002 for Kindergarten, Santa Cruz has the 3rd highest rate in the State.

Source: Santa Cruz Public Health Department

All Kids by Two – 4/03 www.santacruzimmunization.org

The Countywide All Kids by Two Immunization Coalition, serving all of Santa Cruz County, has asked the County of Santa Cruz to act as lead agency for three local organizations seeking Immunization Collaborative Funds.

The Alliance is applying in the category of "Case Management/Follow-up/Investigative Tracking" by continuing its successful outreach and tracking program to parents and providers. This proposal targets the hardest to reach Medi-Cal child 0-2 years old, with known delays in their immunizations.

The Community Bridges is applying under the "WIC" category. WIC currently enrolls 2,500 infants and children under the age of 2 year. The WIC proposal will replicate the successful VENUS (Vaccinate Every Newborn Under the Sun) Project. Additionally, WIC will implement the Monthly Voucher Pick-up system and all protocols recommended by the State Immunization Branch as a demonstrated way to increase rates. This funding proposal reaches beyond the previous one of "assess and refer" and actually assists them in getting brought up to date.

The County of Santa Cruz Health Services Agency has a proposal in the "Existing Successful Projects" category to continue to provide support staff for the All Kids by Two (AKT) Coalition. This will allow us to

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build a stronger local immunization coalition; one that maximizes the resources and potential of the private sector working cooperatively with the public sector. Each of the collaborative partners participate in the Steering Committee and general coalition activities.

BR

SIDS Not Linked to Number and Variety of Childhood Vaccines

WASHINGTON -- The evidence does not support a causal link between sudden infant death syndrome (SIDS) and either the diphtheria, tetanus, and whole-cell pertussis (DTwP) vaccine or exposure to multiple childhood vaccines, says a new report from the Institute of Medicine of the National Academies. Only an older version of a vaccine against diphtheria and pertussis that is no longer administered to infants is causally related to fatal anaphylaxis, a rare and severe inflammatory reaction. These and other findings about childhood vaccines, SIDS, and other types of sudden unexpected death in infancy (SUDI) do not warrant a review of the childhood vaccination schedule, the report concluded.

"Although the timing of infant vaccinations coincides with the period when SIDS is most likely to occur, parents should rest assured that the number and variety of childhood vaccines do not cause SIDS," said Marie McCormick, chair of the committee that wrote the report and professor and chair, department of maternal and child health, Harvard School of Public Health, Boston. "We do not have the data that would definitively answer all questions about links between vaccines and SIDS and other forms of sudden, unexpected death in infancy. However, we believe that the data we do have, along with the increasing rarity of these kinds of infant deaths, make a review of the vaccine schedule unnecessary."

American children routinely receive five vaccines against seven infectious agents before age 1: the DTaP vaccine -- which contains a different form of the pertussis component than DTwP, which it replaced in the United States in 1997 -- and vaccines against **Haemophilus influenzae** type b, hepatitis B (HepB), polio, and pneumococcal bacteria. Although HepB is given to newborns, the others typically are administered at 2 months of age, with additional doses of certain vaccines given at 4 and 6 months.

SUDI encompasses sudden, unexpected deaths in which there may or may not be a clear cause of death. SIDS is the diagnosis most often given for infant deaths that occur without warning and for which no cause is identified. Medical researchers have not reached consensus on the risk factors for SIDS or how it occurs, although current guidelines to place babies on their backs or sides to sleep are based on theories that the prone position may contribute to SIDS. Another possible explanation, the "triple-risk" hypothesis, postulates that SIDS may occur through the interaction of an underlying biological vulnerability, a critical development period, and exposure to an outside trigger. It has been speculated that vaccination may act as such a trigger. Further research could show that there are many causes of SIDS.

Evidence from studies based on human exposure is strong enough to favor rejection of any causal connection between SIDS and multiple doses of different vaccines. In addition, the report reaffirmed previous findings that SIDS is not linked to the older DTwP. Because the currently used DTaP vaccine has fewer side effects than DTwP, the committee found no reason to suspect any link between DTaP and SIDS. However, without sufficient or adequate evidence available, the committee could not definitively reject a link between DTaP and SIDS. Evidence was also insufficient or inadequate to determine whether relationships exist between other individual vaccines and SIDS.

Although some research suggests that an abnormal immune response to common respiratory bacteria or viruses may be a factor in SIDS, there are no studies demonstrating the ability of vaccines to provoke abnormal inflammatory responses of the kinds seen in some SIDS cases. The committee concluded that the ability of vaccines to act as triggers of SIDS is only theoretical. A similar conjecture that fever or other common side effects of vaccination could spur an acute metabolic reaction in babies with an innate metabolic condition is also theoretical.

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Although very rare, anaphylaxis from any cause -- such as a food, drug, or environmental allergen -- can lead to sudden, unexpected death. On the basis of a well-documented case of fatal anaphylactic shock in twin babies that occurred after each received a second dose of diphtheria toxoid and whole-cell pertussis vaccine (DwP), the committee concluded that the evidence favors acceptance of a link between this vaccine and infant death due to anaphylaxis. The case occurred in 1946, however, and the committee did not find any other well-documented reports of infant deaths related to anaphylaxis following vaccination, despite the widespread use of childhood vaccines during the 57 years since that case. Moreover, DwP is no longer used in the United States.

While the number and variety of vaccines infants receive is not linked to SIDS, there is not enough evidence to determine whether exposure to multiple different vaccines is causally linked to SUDI in general. Evidence also is not sufficient or adequate to determine if HepB, the only vaccine given to newborns, is linked to neonatal deaths, the report says.

A standard definition of SUDI should be developed, and criteria related to SIDS and SUDI should be consistently applied for research and reporting purposes. Comprehensive postmortem work-ups should be performed on all infants who die suddenly and unexpectedly, the report says.

The number of infant deaths declined between 1990 and 2000, dropping from 9.2 deaths per 1,000 live births to 6.9 per 1,000, the lowest infant mortality rate ever recorded in the United States. Because SUDI are difficult to define, there are no data on the national rate of SUDI in the United States. SIDS is the leading diagnosis for postneonatal death -- death occurring after the first 27 days -- and there were 2,523 deaths attributed to SIDS in the United States in 2000. The rate of SIDS has been declining over the past several years.

This study is the sixth in a series of eight on vaccine safety sponsored by the Centers for Disease Control and Prevention and the National Institute of Allergy and Infectious Diseases. The Institute of Medicine is a private, nonprofit institution that provides health policy advice under a congressional charter granted to the National Academy of Sciences. A committee roster follows.

Copies of [Immunization Safety Review: Vaccinations and Sudden Unexpected Death in Infancy](#) will be available later this year from the National Academies Press; tel. (202) 334-3313 or 1-800-624-6242 or on the Internet at <http://www.nap.edu>. Reporters may obtain a pre-publication copy from the Office of News and Public Information (contacts listed above).

Infectious Disease

(All figures are for U.S.)

Number of Hepatitis B Cases Annually: **8,036 (2000)**
Number of Tuberculosis Cases Annually: **16,337 (2000)**
Number of Syphilis Cases Annually: **31,575 (2000)**
Number of Chlamydia Cases Annually: **702,093 (2000)**
Number of Gonorrhea Cases Annually: **358,995 (2000)**
Number of Salmonella Cases Annually: **39,574 (2000)**
<http://www.cdc.gov/nchs/fastats/infectis.htm>

Influenza

(All figures are for U.S.)

Number of Deaths Annually: **1,765 (2000)**
Number of Cases Reported Annually: **95 million (1996)**
Number of Cases per 100 Persons: **36 (1996)**
Number of Restricted-Activity Days Due to Flu: **346 million (1996)**
Number of Bed Days Due to Flu: **192 million (1996)**
Number of Work-Loss Days Due to Flu: **70 million (1996)** <http://www.cdc.gov/nchs/fastats/flu.htm>

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Measles

(All figures are for U.S.)

Number of Deaths Annually: **1 (2000)**

Number of Cases Annually (Rubeola): **86 (2000)**

Number of Cases Per 100,000: **0.03 per 100,000 population (2000)**

Number of German Measles Cases Annually (Rubella): **176 (2000)**

Number of Cases Per 100,000: **0.06 per 100,000 population (2000)**

Percent of Children Ages 19-35 Months Vaccinated Against Measles: **91% (2000)**

<http://www.cdc.gov/nchs/fastats/measles.htm>

Pneumonia

(All figures are for U.S.)

Deaths Annually: **63,548 (2000)**

Number of Hospital Discharges for Patients with Pneumonia: **1.3 million (2000)**

<http://www.cdc.gov/nchs/fastats/pneumonia.htm>

SARS - Severe Acute Respiratory Syndrome

See SCC Public Health Department <http://www.santacruzhealth.org/phealth/cd/3sars.htm>

Pertussis (Whooping Cough)

(All figures are for U.S.)

Reported Cases Annually: **7,867 (2000)**

Reported Cases Per 100,000: **2.88 (2000)**

Percent of Children (ages 19-35 months) Who've Received DTP Vaccination: **82% (2000)**

<http://www.cdc.gov/nchs/fastats/whooping.htm>

Specifics: In the 20th century pertussis has been one of the most common childhood diseases and a major cause of childhood mortality in the United States. Prior to the availability of pertussis vaccine in the 1940s, over 200,000 cases of pertussis were reported annually.

In unimmunized populations in the world, pertussis remains a major health problem among children, with an estimated 300,000 deaths per year due to the disease.

Clinical Features

The **incubation period** of pertussis is commonly 7 to 10 days, with a range of 4 to 21 days, and rarely may be as long as 42 days. The clinical course of the illness is divided into three stages. The first stage, the **catarrhal stage**, is characterized by the insidious onset of coryza (runny nose), sneezing, low-grade fever, and a mild, occasional cough, similar to the common cold. The cough gradually becomes more severe, and after 1-2 weeks, the second, or paroxysmal stage, begins.

It is during the **paroxysmal stage** that the diagnosis of pertussis is usually suspected. Characteristically, the patient has bursts, or paroxysms of numerous, rapid coughs, apparently due to difficulty expelling thick mucus from the tracheobronchial tree. At the end of the paroxysm, a long inspiratory effort is usually accompanied by a characteristic high-pitched whoop. During such an attack, the patient may become cyanotic (turn blue). Children and young infants, especially, appear very ill and distressed. Vomiting and exhaustion commonly follow the episode. The patient usually appears normal between attacks. Paroxysmal attacks occur more frequently at night, with an average of 15 attacks per 24 hours. During the first 1 or 2 weeks of this stage the attacks increase in frequency, remain at the same level for 2 to 3 weeks, and then gradually decrease. The paroxysmal stage usually lasts 1 to 6 weeks, but may persist for up to 10 weeks. Infants under 6 months of age may not have the strength to have a

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whoop, but they do have paroxysms of coughing.

In the **convalescent stage**, recovery is gradual. The cough becomes less paroxysmal and disappears over 2 to 3 weeks. However, paroxysms often recur with subsequent respiratory infections for many months after the onset of pertussis. Fever is generally minimal throughout the course of pertussis. Older persons (*i.e.*, **adolescents and adults**), and those partially protected by the vaccine may become infected with *B. pertussis*, but usually have milder disease. Pertussis in these persons may present as a persistent (>7 days) cough, and may be indistinguishable from other upper respiratory infections. Inspiratory whoop is uncommon. *B. pertussis* is estimated to account for up to 7% of cough illnesses per year in older persons. Even though the disease may be milder in older persons, these infected persons may transmit the disease to other susceptible persons, including unimmunized or underimmunized infants. Adults are often found to be the first case in a household with multiple pertussis cases.

Complications

Young infants are at highest risk for acquiring clinical pertussis, and for pertussis-associated complications. The most common complication, and the cause of most pertussis-related deaths, is secondary bacterial pneumonia. Data from 1997-2000 indicate that pneumonia occurred among 5.2% of all reported pertussis cases, and among 11.8% of infants <6 months of age. Neurologic complications such as seizures and encephalopathy (a diffuse disorder of the brain) may occur as a result of hypoxia (reduction of oxygen supply) from coughing, or possibly from toxin. Neurologic complications of pertussis are more common among infants. In 1997-2000, seizures and encephalopathy were reported among 0.8% and 0.1%, respectively, of all cases, and among 1.4% and 0.2%, respectively, of infants <6 months of age. Other less serious complications of pertussis include otitis media, anorexia, and dehydration. Complications resulting from pressure effects of severe paroxysms include pneumothorax, epistaxis, subdural hematomas, hernias, and rectal prolapse. In 1997-2000, 20% of all reported pertussis cases required hospitalization, including 63% of all infants <6 months of age. In this 4 year period, 62 deaths were due to pertussis (case-fatality rate 0.2%). Fifty-six (90%) of these deaths occurred in children <6 months of age.

Routine DTaP Primary Vaccination Schedule

<u>Dose</u>	<u>Age</u>	<u>Interval</u>
Primary 1	2 months	---
Primary 2	4 months	4 wks
Primary 3	6 months	4 wks
Primary 4	15-18 months	6 mos

<http://www.cdc.gov/nip/publications/pink/pert.pdf>

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Disease Fatality Rates –World Data

Rates are expressed in percentages

Ebola	36 to 88
Smallpox	30
Gastrointestinal anthrax	25 to 60
Cutaneous anthrax	20
Dengue hemorrhagic fever	20
Yellow fever	20
Bubonic plague	15.4
SARS	15
Meningoccal disease*	12
West Nile virus	12
Tetanus	11
Diphtheria	10
Typhoid fever	10
Rocky Mountain Spotted Fever	5.2

SOURCES: CDC,WHO, state and national public health departments, university research centers

* Figure is for U.S. cases only

Santa Cruz County Communicable Disease Unit

April 2003

CD Control:

Disease control has brought forth some challenges this year with the advent of the national smallpox program, SARS and several “old-fashioned” outbreaks.

The emerging and re-emerging diseases provide a particular challenge to the unit.

In terms of business as usual we investigated about 250 communicable disease reports, including 7 outbreaks in institutions (i.e. summer camps, and residential care facilities). The staff traced over 300 contacts to a communicable disease (i.e. pertussis, meningitis, Hepatitis A or B) and insured that they received timely prophylactic treatment.

We have had 2 community outbreaks—pertussis(whooping cough), involving almost 40 cases; and salmonella typhimurium, which involved a multi-county, and multi-agency investigation of the illegal sale of contaminated Mexican queso fresco.

The Field PHN staff has participated in smallpox vaccination education and have been instrumental in staffing the county smallpox clinics.

To round the season out, we have had our first suspect SARS case and been very involved in staff and community education about the newest member of the communicable disease world.

STD Control:

STD remains a challenge locally. Our statistics demonstrate an increase in most diagnosis's (i.e. chlamydia, gonorrhea and especially syphilis) similar to the statewide trend. The field public health staff investigated about 500 cases in 2002. The PHN's provided education to all and treatment to over 100 cases and contacts in 2002. 29% of the clients were under 20 years of age. Other targeted populations were pregnant women; those lost to follow-up by their primary provider and those with high-risk behaviors.

We have also participated in 2 grants: the Chlamydia Awareness and Prevention Program (CAPP), a statewide project geared to identify resources, strengths, and gaps in services, especially when compared to local STD incidence statistics. Participation in the statewide database allows for comparison of data with other jurisdictions.

The Chlamydia Screening Project (ClaSP), is a CDC-funded grant for the implementation of chlamydia screening and treatment programs for high-risk adolescents--our local project is conducted in Juvenile Hall. During the first quarter of 2003, 28 screens were completed. There was a 4% positivity rate for chlamydia and 7% for gonorrhea. Ninety-three% of the minors were screened within 72 hours of intake.

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Fifty-nine% of the males and 100% of the females were screened within 1 day of intake. During the first quarter of testing, 100% of the positive cases were treated within 7 days of diagnosis

TB Control:

The number of active cases of TB remains low in our county—6 in 2002. The field PHN staff also investigated 31 suspect cases of active TB and provided preventative therapy to over 300 clients infected (though not actively ill) with TB. As a reflection of the declining TB patient population and modifications of the national standard of TB control our services have decreased. We have eliminated 2 TB Clinics each month. Public Health nursing time in the TB program has been reduced in correspondence with this change. The TB program coordinator has been busy providing education, and consultation to key agencies and organizations (i.e. shelters, Head Start, community clinics, detention facilities) to assure quality TB surveillance activities in the county.

Santa Cruz County Communicable Disease Prevention Services

See: <http://www.santacruzhealth.org/phealth/cd/3communicable.htm>

The Disease Control Program responds to reports of over 80 serious infectious diseases. A team of highly skilled public health nurses and community health workers coordinate disease control and prevention activities in a wide variety of settings throughout the community. Consultation on communicable disease control is available to health care providers and the general public.

- Smallpox Vaccination Information
- Winter 2002 Communicable Disease Newsletter
- List of Communicable Diseases
- How to Report a Communicable Disease
- Information for Health Professionals
- Frequently Asked Question (FAQs)
- AIDS/HIV Services
- Bioterrorism Information (including Smallpox)
- Enteric (Water or Food Borne) Illnesses
- Head Lice Information and Treatment
- Health Information for Travelers at HSA
- Immunizations
- Information for People who are traveling to other countries
- Lyme Disease and Ticks
- Mold in Your Home
- Severe Acute Respiratory Syndrome (SARS)
- Sexually Transmitted Diseases (STDs)
- Tuberculosis (TB)
- West Nile Virus
- What to do if you get bitten by an animal

Disease Tracking

[Health Canada Emerging Infectious Diseases](#)

[Outbreak - Emerging Infectious Diseases](#)

[ProMED \(Program Monitoring Emerging Infectious Diseases\)](#)

[WHO Disease Outbreak Bulletins](#)

[WHO Weekly Epidemiological Record](#)

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Surveillance Resources See: http://www.cdc.gov/health/surv_resources.htm

- 121 Cities Mortality Reporting System for pneumonia and influenza deaths
- Chronic Diseases and Risk Behaviors
- Infectious Diseases
- National Notifiable Infectious Diseases
 - Table of Notifiable Diseases
 - Public Health Surveillance Case Definitions
- Surveillance Evaluation
 - Draft Framework for Evaluating Syndromic Surveillance systems for Bioterrorism Preparedness
 - Guidelines for Evaluating Surveillance Systems
 - Updated Guidelines for Evaluating Surveillance Systems (2001)