

Welcome to the Reporting Guide



Santa Cruz County Health Services Agency
All Hazards Public Health Authority

September 1, 2003

Dear Health Care Providers:

The health and the well-being of the citizens of our county depend on continuous vigilance by medical professionals like you.

Together, we face routine public health problems such as bites by rabid animals or poisonings by potato salad. We care for people with communicable diseases like meningitis, tuberculosis, and HIV/AIDS. We may confront epidemics of common or exotic diseases at any time. And we must now be alert for signs of the unthinkable – the specter of bioterrorism.

Critical to success of all public health scenarios is reporting from the medical front lines. That's why reporting is mandated by California law. Without complete and current information about diseases and conditions in our county, our Disease Control Unit could not generate accurate statistics or coordinate effective public health interventions.

To that end, we offer this *Reporting Guide* to help physicians, clinics, and labs know what to report, how to report, when to report, and why. This binder is modular to accommodate revisions and additions that we'll send you from time to time.

We appreciate your comments and suggestions on how to make the reporting process easier and our public health efforts more effective.

Sincerely,

David McNutt, MD, MPH
County Health Officer

Disease Control Unit

☎ 454-4114

☎ 454-5049 fax

☎ 471-1183 hotline
off hours, weekend, & holidays

🌐 www.santacruzhealth.org

📄 Disease Control Unit
SCC Health Services Agency
1060 Emeline Avenue, Bldg. F
Santa Cruz CA 95060

Public Health Lab

☎ 454-5445

☎ 454-5000 fax

Environmental Health

☎ 454-2022

Vector Control

☎ 454-2590

Animal Services

☎ 454-7303

ALPHA

All Hazards Public Health Authority

☎ 454-7529

*All Santa Cruz County numbers above
are area code 831*

CDC

Bioterrorism Hotline
(770) 488-7100



During major emergencies, please limit calls and faxes to context-urgent topics only. Keep vital lines of communication open.

Example: During a bioterrorism attack, you would report exotic or severe conditions (such as smallpox, anthrax, plague, VHF, Q fever, Nipah virus, botulism, ricin toxin, etc.) in previously unaffected populations, but you would not clog the system with reports of simple chlamydia infections.

Table of Contents

Welcome

1. Report these diseases

List of diseases and conditions that physicians should report
Confidential Morbidity Report (CMR)

2. Report these lab results

Medical laboratories can sound an early-warning alarm
Reporting tuberculosis
Testing for rabies

3. Specific diseases & conditions

- a. Think TB!
- b. Reporting SARS
- c. HIV/AIDS
- d. Animal bites and rabies
- e. Pesticide illness & injury
- f. Ticks & tick-borne diseases

4. Bioterrorism

Detecting bioterrorism
BT agent categories and resources
Category A disease factsheets

5. Vaccine Reactions

To improve safety of vaccines, the CDC & FDA track
adverse vaccine reactions from across the country.
Adverse reactions following smallpox vaccination

6. Public Health Reporting & Privacy

HIPAA specifically allows reporting of patient information
for public health purposes



What's new in public health reporting?

We have new reporting guidelines for HIV positive patients as well as new forms for HIV, TB, and animal bites.

Please note the page on reportable illnesses in Section 1 which can be displayed near office phones for easy reference. Section 4 on bioterrorism is designed as a quick reference for physicians, nurses, and labs.

The health of our community depends on medical providers adhering to reporting regulations. Every report that our Disease Control Unit receives is assigned to a Public Health Nurse who conducts a thorough investigation, including contact tracing.

Thank you for preventing outbreaks of serious illnesses in our community by reporting promptly and completely.

This Guide is modular. Please insert revisions as you get 'em, and feel free to add supplemental material that you find useful.

If you have some particularly good material relevant to public health reporting, send HSA a copy and we might make it available to all users of this Reporting Guide.

1. Report these diseases

All physicians and health care providers in Santa Cruz County should report the following conditions to HSA so we can issue appropriate public health alerts and coordinate intervention. Reporting is not only vital for public health, but it's required by California state law (CCR Title 17, §2500).

Phone HSA's Disease Control Unit immediately!

📞 454-4114 workdays

📞🕒 471-1183 hotline
off hours, weekend, & holidays

If you diagnose or suspect:

Anthrax
Botulism
Brucellosis
Cholera
Dengue
Diarrhea in newborn
Diphtheria
E. coli 0157
Hantavirus
Hemolytic Uremic Syndrome
Meningococcal infections
Plague (human or animal)
Rabies (human or animal)
SARS (Severe Acute Respiratory Syndrome)
Seafood poisoning
(*Domoic acid, Ciguatera, Scrombroid, Paralytic Shellfish*)
Smallpox
Tularemia
Varicella (deaths only)
Viral Hemorrhagic Fever (Ebola, Crimean-Congo, Lassa, or Marburg viruses)
Yellow Fever

Outbreaks of any disease

**Thank you for your
vigilance and prompt
response**

Phone or fax within 1 working day

📞 454-4114

📠 454-5049 fax

If you diagnose or suspect:

Amebiasis
Anisakiasis
Babesiosis
Campylobacteriosis
Colorado Tick Fever
Conjunctivitis
(*acute infection in newborn*)
Cryptosporidiosis
Encephalitis
Haemophilis influenzae
Hepatitis A
Listeriosis
Lymphocytic choriomeningitis
Malaria
Measles (Rubeola)
Meningitis
Pertussis
Poliomyelitis
Psittacosis
Q Fever
Relapsing Fever
Salmonellosis
Shigellosis
Streptococcal Infections
(*in food handlers & dairy workers*)
Swimmer's Itch
Syphilis
Trichinosis
Tuberculosis
Typhoid Fever
Vibrio infections
Yersiniosis

Any food-borne illness
Any water-borne illness
Any unusual disease.

All phone numbers area code 831

Phone, fax, or mail within 1 week

📞 454-4114

📠 454-5049 fax

📧 Disease Control Unit

**SCC Health Services Agency
1060 Emeline Avenue, Bldg. F
Santa Cruz CA 95060**

If you diagnose or suspect:

AIDS
Chancroid
Chlamydial infections
Coccidioidomycosis
Cysticercosis
Echinococcosis
Ehrlichiosis
Giardiasis
Gonococcal infections
Hepatitis B, C, D
Hepatitis (other acute)
HIV
Kawasaki's Syndrome
Legionellosis
Leprosy
Leptospirosis
Lyme Disease
MRSA
Mumps
NGU
PID
Reye's Syndrome
Rheumatic fever (acute)
Rocky Mountain Spotted Fever
Rubella
Tetanus
Toxic Shock Syndrome
Toxoplasmosis
Vancomycin Resistant Enterococci
**Reportable Non-communicable
Diseases/Conditions**
Alzheimer's Disease and related conditions
Disorders characterized by Lapses of Consciousness

CMR: Confidential Morbidity Report

You will use the standardized CMR (a form developed by California Department of Health Services) to report most diseases and conditions that might affect public health in our county.

The thumbnail below is a reduced copy of this one-page form.

Confidential

As the form's name implies, **data about your patient will be kept confidential.** Data about the disease will be used to guide the public health response, and to generate accurate statistics.

The image shows a thumbnail of the 'CONFIDENTIAL MORBIDITY REPORT' form. Several sections are highlighted with red boxes and arrows pointing to text on the right:

- Top Section:** Patient's Last Name, Social Security Number, Birth Date, Age, Ethnicity, Race, Address, City/Town, State, ZIP Code, Area Code, Home Telephone, Work Telephone, Gender, Pregnant?, Patient's Occupation/Setting, and Reporting Health Care Provider (Name, Address, City, State, ZIP Code, Telephone Number, Fax).
- DATE OF ONSET:** Month, Day, Year.
- DATE DIAGNOSED:** Month, Day, Year.
- DATE OF DEATH:** Month, Day, Year.
- SEXUALLY TRANSMITTED DISEASES (STD):** Syphilis (Primary, Secondary, Early latent, Latent), Neurosyphilis, Gonorrhea (Urethral/Cervical, PID, Other), Chlamydia (Urethral/Cervical, PID, Other), PID (Unknown Etiology, Chancroid, Non-Gonococcal Urethritis).
- STD TREATMENT INFORMATION:** Treated (Drug, Dosage, Route), Date Treatment Initiated, Untreated (Will treat, Unable to contact patient, Refused treatment, Referred to).
- TUBERCULOSIS (TB):** Status (Active Disease, Suspected, Infected, No Disease), Mantoux TB Skin Test (Date Performed, Results), Chest X-Ray (Date Performed, Results), Bacteriology (Date Specimen Collected, Source, Culture, Other tests).
- VIRAL HEPATITIS:** Hep A, B, C, D (Delta) with various test results (anti-HAV IgM, HBsAg, anti-HBc, anti-HBc IgM, anti-HBe, anti-HCV, PCR-HCV, anti-Delta).
- Suspected Exposure Type:** Blood transfusion, Other needle exposure, Sexual contact, Household contact, Child care, Other.
- TREATMENT INFORMATION:** Current Treatment (INH, RIF, PZA, EMB, Other), Date Treatment Initiated, Untreated (Will treat, Unable to contact patient, Refused treatment, Referred to).

You don't have to fill out every single box

A complete report form is great. But a CMR with just critical information is better than no report at all. We know you're busy serving your patients.

We ask you to complete at least these sections:

- Sufficient patient ID (name, DOB, & phone) to avoid confusion and to facilitate possible public health contact with patient
- Reporting health care provider (you) and date the CMR is submitted
- Date of Onset
- For STDs, treatment information
- For Tuberculosis, status and treatment information

Local CMR makes history

A local dermatologist had three patients with unusual lesions, all of whom had pedicures at the same salon. She called the health department, which started an investigation.

Ultimately, we identified over 100 cases and the salon was closed. New regulations for pedicure baths were enacted and treatment recommendations for this previously uncommon organism were developed.

The outbreak garnered national media attention, including a segment on 20/20 and an article in the Journal of the American Medical Association.

Of course, we can't guarantee that every CMR will land you an interview with Barbara Walters. But we can say that every report gives us a better understanding of local patterns of disease – increasing our ability to prevent, prepare, and protect the community.

When phoning in an urgent morbidity report to us, you might find it helpful to organize your notes on a scratch CMR before dialing.

2. Report these lab results

All medical laboratories in Santa Cruz County should report test results of public health significance to HSA so we can issue appropriate public health alerts and coordinate intervention. Reporting is not only vital for public health, but it's required by California state law (CCR Title 17, §2505).

Phone HSA's Disease Control Unit immediately!

📞 454-4114 workdays

📞🕒 471-1183 hotline
off hours, weekend, & holidays

If results indicate:

Anthrax

Botulism

Brucellosis

Plague (animal or human)

SARS (Severe Acute Respiratory
Syndrome)

Smallpox

Tularemia

Viral Hemorrhagic Fever (Ebola,
Crimean-Congo, Lassa, or Marburg
viruses)

**Medical labs are in the
position to sound an early-
warning alarm for a
number of infectious
diseases.**

All phone numbers area code 831

Phone or fax within 1 working day

📞 454-4114

📠 454-5049 fax

If results indicate:

Chlamydial infections

Cryptosporidiosis

Diphtheria

Encephalitis (arboviral)

Escherichia coli O157:H7 infection

Gonorrhea

Hepatitis A

*acute infection by HAV IgM antibody
test or positive antigen test*

Hepatitis B

*acute infection by IgM anti-HBc
antibody test or positive antigen test*

Listeriosis

Malaria

Measles (Rubeola)

*acute infection by IgM antibody test
or positive viral antigen test*

Rabies (animal or human)

Salmonella

Shigella

Syphilis

Tuberculosis

Typhoid

Vibrio infections

What to report

Include this information in your report to Disease Control Unit:

- Date specimen was obtained and source (blood, sputum, etc.)
- Specimen accession or unique ID #
- Lab findings for tests performed and date of result
- Patient ID number
- Patient info (name, gender, DOB, address, phone)
- Health care provider who ordered test (name, address, phone)

Special reporting for E. coli O157:H7 , Shigella, & Salmonella


The Public Health Lab will need to examine the culture that confirmed the infection.

Special reporting for Malaria

The Public Health Lab will examine the blood film slides to confirm. If you ask upfront, we'll return the slides to you.

Special reporting for Tuberculosis

Please see special requirements for TB specimens on next page of this Lab section. You might also want to review the article "Think TB" in Section 3.

 To prevent contamination or loss, please do not send any specimens or culture samples by mail or courier to HSA. We will arrange pickup at your lab.

Tuberculosis lab results

Any laboratory that isolates *Mycobacterium tuberculosis* from a patient specimen must submit a culture to the public health laboratory as soon as available from the primary isolate on which a diagnosis is established.

Drug susceptibility

When tuberculosis is detected, clinical laboratories must test the specimen for drug susceptibility.

The exception is if such testing has already been performed on a sample obtained from the same patient within the previous three months.

Multi-drug resistant

If drug susceptibility testing determines the culture to be resistant to at least **isoniazid** and **rifampin**, prepare another culture or subculture from each patient for the public health lab.

Because multi-drug resistant (MDR) TB patients pose a high risk to public health, all instances of MDR TB must be reported promptly to the public health department.

Positive AFB Stain

Whenever a clinical laboratory finds a positive AFB stain in a patient with known or suspected tuberculosis and the patient has not had a culture which identifies that acid fast organism within the past 30 days, the clinical laboratory shall culture and identify the acid fast bacteria or refer a subculture to another laboratory for those purposes.

Phone or fax within 1 working day

☎ 454-4114

📠 454-5049 fax

... when your lab reports multi-drug resistance TB results to any health care provider within Santa Cruz County.

Include this information in your report:

- Date specimen was obtained and source (sputum, wound drainage, etc.)
- Specimen accession or unique ID
- Lab findings for tests performed and date of result
- Patient ID
- Patient info (name, gender, DOB, address, phone)
- Health care provider who ordered test (name, address, phone)

What about out-of-county medical providers with in-county patients?

If the patient lives in Santa Cruz County but the referring provider is out of county, you must notify both the other county's public health department as well as Santa Cruz County HSA (as noted above).



To prevent possible infection of medical staff or other patients, do not send any TB patient directly to HSA or any other medical facility. Phone first so that arrangements can be made for an appropriate reception.

See also:
Section 3
Specific Diseases & Conditions
Think TB!
for additional information about TB testing and referring TB patients.

Testing animals for rabies

Any dog or cat that dies or is euthanized within 10 days of biting a person must be tested for rabies.

Testing for rabies

The HSA Public Health Laboratory performs rabies tests on domestic or wild animals at risk for rabies. Animals like mice, rats, gophers, rabbits and squirrels are unlikely to transmit rabies. As testing involves examination of the brain tissue, it's necessary to euthanize the animal to perform rabies testing.

Testing Schedule

Animal necropsies for rabies testing are done Monday, Tuesday, Thursday, and Friday afternoons. The animal must arrive at the laboratory before noon.

Always phone 454-4652 before you bring an animal to the Laboratory. Owned animals must be accompanied by payment for the test. Make checks payable to County of Santa Cruz Health Services Agency.

Transport and disposal of animals is done by County of Santa Cruz Animal Control. Call 454-7303 for charges.

Non-owned animals

The Communicable Disease Unit will determine whether and when a stray or wild animal will be tested.

Call 454-4114 before you bring in any stray or wild animals.

HSA Public Health Lab

1080 Emeline Avenue, Bldg. D
Santa Cruz, CA 95060

📞 **454-4652**

... for questions about where and when to bring an animal.

*See also:
Section 3d
Specific Diseases & Conditions
Animal bites and rabies
for information about reporting animal bites.*

Dogs Facts

**Number of dogs in
Santa Cruz County: 90,000**

**Number reported lost
each year: 4,500**

**Dog bites reported in county
each year: 600.**



3a. Think TB!

Symptoms

Consider a diagnosis of tuberculosis in patients with the any following symptoms, especially if other causes have been ruled out:

- Cough lasting over 3 weeks
- Hemoptysis
- Night sweats
- Unexplained fatigue or weight loss
- Persistent fever or weakness

TB infection of other parts of the body

Also, consider extrapulmonary TB, especially in HIV infected individuals, if there are symptoms which cannot be ascribed to other causes.

Conditions associated with progression to active TB

- Immunosuppression (HIV, organ transplant, immunosuppressive medications)
- Diabetes
- End-stage renal disease
- Substance abuse (especially IV drug use)
- Recent contact to an infectious active TB case
- Recent PPD skin test conversion (an increase of 10 mm of induration within a 2 year period)
- Silicosis
- Gastrectomy, jejunioileal bypass
- Cancer of the head and neck

Persons with these conditions should have TB considered in their differential diagnoses, and a thorough history taken. The history should include specific questions about any exposure to active TB, travel to endemic countries, or history of a positive skin test or abnormal x-ray.

Some people have higher rates of TB:

- Foreign-born visitors or migrants from Mexico, Central or South America, Africa, Eastern Europe, Asia, the Pacific Islands, or the Middle East
- HIV infected individuals
- Homeless and medically underserved persons
- Residents of long-term care facilities (prisons or nursing homes)

County TB services

Santa Cruz County HSA provides consultation, case management, and clinical services for patients with active TB disease and eligible patients with latent TB infection.

A field public health nurse is assigned to every active TB case to promote patient compliance and to conduct a contact investigation. In addition, educational materials about TB, and TB screening and diagnosis are available for providers and patients through the County TB Coordinator, who can be reached at 454-4114.



A negative PPD skin test does not rule out active TB. The clinical picture and patient history should always be taken into account.

Up to 50% of persons with disseminated active TB will be skin test negative. Furthermore, it can take up to 12 weeks for a positive reaction to develop in a newly infected person.

See next page for skin test info.

Active TB:

Report by phone or fax within 1 working day

454-4114

454-5049 fax

Do not wait for lab results to confirm the diagnosis prior to reporting.

For faxed reports, use the *Confidential Morbidity Report* included with this binder. Please fill out the TB section at the bottom as completely as possible.

Do not wait for lab results to confirm diagnosis of active TB prior to reporting.

Latent TB:

Report by fax or mail within 1 week

454-5049 fax

Disease Control Unit
SCC Health Services Agency
1060 Emeline Avenue, Bldg. F
Santa Cruz CA 95060

Report only recent converters (patients with PPD skin test indurations increasing 10 mm or more in 2 years) and all children under 6 years of age. Use the *Confidential Morbidity Report*.

All phone numbers area code 831

TB Screening & Referral

TB skin test

Tuberculosis screening of the general population is no longer recommended. Screening should be targeted to populations with higher rates of TB infection (*see previous page*); persons with an increased risk of progression to active TB if infected; and those likely to be exposed or to expose others, such as health care workers and volunteers.

Mantoux Test

The Mantoux test (0.1 cc PPD injected intradermally in the inner forearm) is the only recommended method of skin testing for TB. Multiple-puncture "tine" tests are unreliable and should not be used.

The test should be read by a trained professional 48-72 hours after injection. The edge of the induration (palpable swelling, not redness) is marked with a ballpoint pen and the diameter is measured in millimeters.

For most people, the test is positive if the induration is **10 mm or larger**.

The test is considered positive if the induration is **5-9 mm**, and one or more of the following apply:

- HIV infected, immunosuppressed
- A close contact to an infectious TB case (pulmonary or laryngeal)
- Symptoms highly suggestive of TB
- Chest x-ray suspicious for TB

Test limitations

The tuberculosis skin test is neither 100% sensitive nor specific. Vaccination within the last year or multiple vaccinations with BCG (Bacille Calmette Guerin) can cause a false positive, as can infection with non-TB *Mycobacteria*. Generally BCG is ignored in skin test interpretation if it was given over one year ago, or if the induration is 15 mm or larger.

Quantiferon test

This screening tool for latent TB was recently approved by the FDA. It's a blood test that also has controls for BCG and *Mycobacterium avium*. Local laboratories may or may not offer this test.

Tuberculosis screening of the general population is no longer recommended. Screening should be targeted to populations with high rates of TB infection.

Managing positive reactions

If the TB skin test is positive or a patient has symptoms compatible with TB, a chest x-ray is indicated.

Active TB

If the chest x-ray suggests active disease, the patient should be isolated and put on appropriate 4 drug therapy immediately. Isolation should be continued until three consecutive sputum smears collected on different days are negative for acid fast bacilli.

Latent TB Infection (LTBI)

If the chest x-ray is not suggestive of active TB, the patient may be a candidate for latent TB treatment (formerly called "prophylaxis"). Preventive therapy is especially indicated for LTBI patients who are at high risk for progression to active disease (*see previous page*), and for children under age 5.

Current recommendation for LTBI treatment is **Isoniazid** for 9 months, or alternate drug regimens.

Consultation for LTBI treatment for low income patients is available through the County TB Clinic.

Acid-fast testing

Infections which fail to show an organism on standard cultures or which do not respond to conventional antibiotics can be cultured for acid-fast bacilli to rule out TB or other *Mycobacteria*.

Referral of Active TB patients to County Tuberculosis Clinic

Contact HSA Disease Control Unit by phone 454-4114 or fax 454-5049 to request clinic services.

! To prevent possible infection of medical staff or other patients, do not send an active TB patient directly to HSA or any medical facility without prior notification. Phone first so that arrangements can be made for an appropriate reception.

Referral of Latent TB patients to County Tuberculosis Clinic

Please complete both sides of *Referral Form for Treatment of Latent TB* and fax it to 454-5049 along with a copy of the chest x-ray report.

To be eligible for services at the County TB Clinic, the patient must:

- reside in Santa Cruz County;
- not have insurance coverage for LTBI services; and
- score 50 or more points on the risk assessment scale on page 2 of the form.

Persons with symptoms of active TB may be eligible as a suspect.

Thumbnail of County TB Referral form:

The image shows a thumbnail of a 'Referral Form for Treatment of Latent TB'. The form includes fields for patient name, date of birth, sex, race, and ethnicity. It also has sections for 'Date of origin', 'Work/Travel history', and 'Medical history'. There are checkboxes for 'HIV positive', 'HIV negative', 'HIV unknown', 'HIV not tested', 'HIV test result', 'HIV test date', 'HIV test location', 'HIV test result', 'HIV test date', 'HIV test location'. At the bottom, there is a note: 'Referrals for LTBI treatment should be made after the results of the patient's TB risk assessment have been reviewed. Please complete the Risk Assessment Scale on reverse side of this form.'

Referral Form for Treatment of Latent TB

Phone: 831-454-4114 FAX: 831-454-5049

PATIENTS WITH KNOWN OR SUSPECTED ACTIVE TB SHOULD BE REPORTED IMMEDIATELY BY PHONE!

Referring Agency/MD:				Phone:	
Address:				Fax:	
Client Name:		Date of Birth:		Age:	Sex: M F
Address, City, ZIP				Phone:	
Country of Origin:			Month/Year Arrived in U.S.:		
Does this patient have medical coverage? Y N If yes, type:					
Note: Non-HSA patients with medical coverage and an established medical home are not typically eligible for LTBI services through HSA.					
TB Skin Test (TST)	Date Given	Date Read	Size (mm)	Facility Name Reading TST	
Current					
Prior ¹					
Chest X-Ray	Date:	Results: (attach report)			
Facility/Provider Performing Chest X-Ray:					
Symptoms: (circle) Cough >3 weeks Blood in Sputum Night Sweats Persistent Fever Weight Loss Fatigue Weakness Call 454-4114 ASAP if you suspect active TB!					
Referrals for LTBI treatment should be made after the results of the patient's x-ray have been received. Please complete the Risk Assessment Scale on reverse side of this form.					

¹ Prior **documented** TST only, not by patient history.

Latent Tuberculosis Infection (LTBI) Risk Assessment Scale

Name: _____

DOB: _____

A cumulative score of 50 points indicates a heightened lifetime risk for progression to active TB disease. To qualify for TB program-funded clinic services through HSA, a person must have at least 50 points on the following scale:

Characteristic	Check if Present	Value	Total Score
Age: Less than 5 years		50	
Age: At least 5 but less than 10 years		30	
Age: At least 10 but less than 15 years		25	
Age: At least 15 but less than 20 years		11	
Age: At least 20 but less than 25 years		9	
Age: At least 25 but less than 30 years		7	
Arrived less than 5 years ago from TB endemic zone ²		15	
Arrived more than 5 years ago from TB endemic zone		5	
Carcinoma of the head/neck		20	
Class 4 TB (Evidence of scarring/healed TB on chest x-ray)		35	
Close Contact to Case of Active TB		50	
Diabetes, gastrectomy		10	
Documented TST Conversion ³ in Past Year		30	
Documented TST Conversion in Past 2 Years		20	
HIV Infection		50	
Homeless		10	
Incarceration within the past 12 months		25	
Injection Drug or Other Substance Abuser		20	
Renal disease, hemodialysis		30	
Silicosis, jejunioileal bypass, advanced cardiac or other high risk conditions		50	
Total Points			

² Includes Mexico, Central and South America, Asia, Africa, Philippines, Pacific Islands, Middle East and Eastern Europe.

³ TST Conversion: Patient's tuberculin skin test results convert from negative to positive. All others with positive skin test are termed reactors.

3b. Reporting SARS

Severe Acute Respiratory Syndrome is highly contagious. Therefore, rapid isolation of SARS patients combined with prompt reporting are crucial to prevent widespread epidemic.


Diagnosis & Evaluation

Initial testing should include

- CXR
- Sputum cultures, Gram stain, *Legionella* culture, & DFA
- Pulse oximetry
- CBC with differential
- Blood cultures
- Urine for *Legionella pneumophila*
- Nasopharyngeal swabs or washings for viral studies: influenza A & B, parainfluenza, RSV
- Acute sera for special studies: *Chlamydia*, *Mycoplasma*

Specimens to be collected for processing by California DHS Lab:

- Nasopharyngeal swabs (dacron or cotton only) shipped in viral transport medium
- Nasopharyngeal lavage or bronchial aspirate
- 5-10 ml whole blood in serum separator tube
- 5-10 ml whole blood in EDTA (purple top) tube
- Stool in sterile container

 Medical knowledge of SARS increases daily as we learn more about the disease since its initial outbreak in 2003.

For current information about SARS, consult: www.cdc.gov

Case Definition

Clinical Criteria

- Asymptomatic or mild respiratory illness.
- Moderate respiratory illness
 - Temperature >100.4°F (>38°C), and
 - One or more clinical findings of respiratory illness (cough, shortness of breath, difficulty breathing, or hypoxia).
- Severe respiratory illness
 - Temperature >100.4°F (>38°C), and
 - One or more clinical findings of respiratory illness (cough, shortness of breath, difficulty breathing, or hypoxia), and
 - Radiographic evidence of pneumonia, or
 - Autopsy findings consistent with pneumonia or respiratory distress syndrome without an identifiable cause, or
 - Respiratory distress syndrome.


Epidemiologic Criteria

- Travel (including airport) within 10 days of onset of symptoms to an area with current or previously documented or suspected community transmission of SARS, or
- Close contact within 10 days of onset of symptoms with a person known or suspected to have SARS.

Laboratory Criteria

- Confirmed
 - Detection of antibody to SARS-associated coronavirus (SARS-CoV) in a serum sample, or
 - Detection of SARS-CoV RNA by RT-PCR confirmed by a second PCR assay, by using a second aliquot of the specimen and a different set of PCR primers, or
 - Isolation of SARS-CoV.
- Negative
 - Absence of antibody to SARS-CoV in a convalescent-phase serum sample obtained >28 days after symptom onset.
- Undetermined
 - Laboratory testing either not performed or incomplete.


If you diagnose or suspect SARS in any patient, phone HSA's Disease Control Unit immediately!

 **454-4114** workdays

  **471-1183** hotline
off hours, weekend, & holidays


To coordinate shipping & processing of SARS specimens, call our

Public Health Lab

 **454-5445**

All phone numbers area code 831



 **Protect your patients, your staff, and yourself**

As soon as you suspect a patient may have SARS:

- Place **surgical mask** on patient
- Place patient in negative pressure **isolation room** or move to separate, clearly-labeled assessment area
- Healthcare workers should wear **N-95 respirator**, gown, eye protection, and gloves
- Use **contact and airborne precautions** and practice maximum hand hygiene
- **Compile list** of people who have had contact with patient at your facility.

3c. Reporting HIV/AIDS

State of California regulations require that all health care providers and medical labs report cases of HIV infection to the local health department.

Non-name code used to ensure privacy

Reporting HIV-infected people who do not have AIDS utilizes a cryptic code to identify the patient uniquely without revealing his or her name. The code is a combination of:

- Soundex (partial name algorithm issued by testing lab)
- Complete DOB (mm/dd/yyyy)
- Gender
- Last 4 digits of Social Security number (0000 if unknown)

Please see next page for a diagram of the *HIV Reporting Process* from the California Dept. of Health Services.

HIV tests

Lab tests that indicate HIV infection include, but are not limited to:

- HIV antigen
- HIV antibody
- Quantitative HIV viral load

AIDS vs HIV Reporting

A diagnosis of AIDS is determined by the presence of HIV infection in conjunction with one or more specific opportunistic infections or clinical conditions. A person may not meet the definition of AIDS for years after initial HIV infection. Therefore, it's difficult for epidemiologists to track trends in the HIV epidemic.

In California, AIDS has been reportable by name since 1983. In 2002, the state adopted the non-name HIV reporting method. The health department does not have a record of the name of HIV-infected people, only case reports with the non-name code. California's system is designed to monitor the HIV epidemic while protecting the privacy of people with confirmed HIV test results.

Why is reporting HIV/AIDS mandatory?

Our public health department is charged with helping local HIV/AIDS patients. Your reports are the foundation of accurate statistics on the disease – which are forwarded to State DHS and federal CDC.

Report all new cases to Santa Cruz County HIV/AIDS Surveillance Coordinator within 1 week.

☎ 454-4487

☰ HIV/AIDS Surveillance Pgm.

SSC Health Services Agency
 1070 Emeline Avenue, Bldg. G
 Santa Cruz, CA 95060

Feel free to phone us so that our staff can guide you through the rather complex 2-page HIV report form.

ADULT HIV/AIDS CONFIDENTIAL CASE REPORT
 (Patients ≥ 13 years of age at time of diagnosis)

Section I: Patient Information (Name, DOB, Sex, Race, Ethnicity, etc.)

Section II: Demographic Information (Date of Birth, Sex, Race, Ethnicity, etc.)

Section III: Clinical History (Date of Onset, Date of Diagnosis, etc.)

Section IV: Laboratory Data (HIV Test Results, CD4 Count, etc.)

Section V: Reporting Information (Reporting Facility, Date Reported, etc.)

Section VI: Clinical Status (AIDS Status, Opportunistic Infections, etc.)

Section VII: Reporting Information (Reporting Facility, Date Reported, etc.)

Section VIII: Reporting Information (Reporting Facility, Date Reported, etc.)

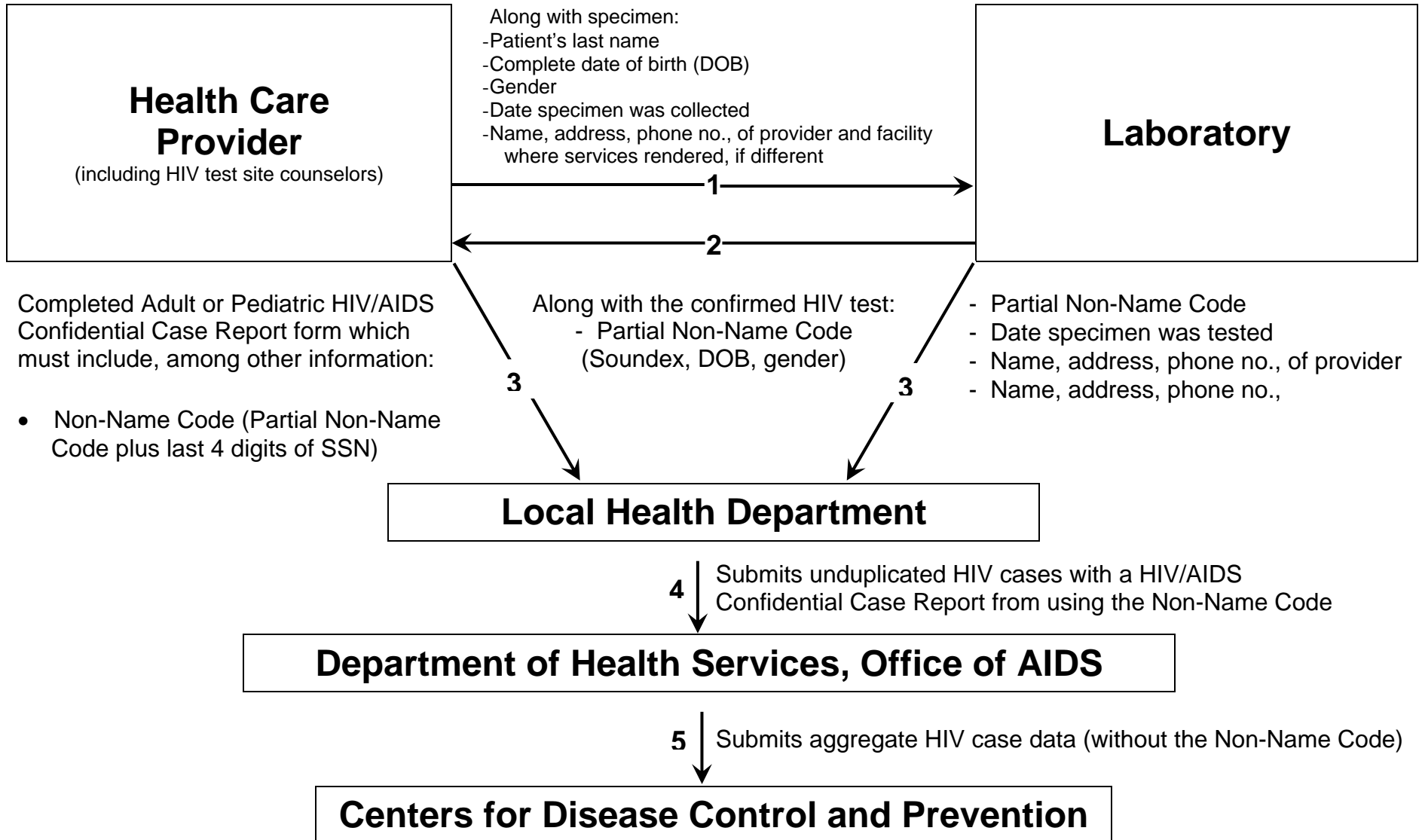
Section IX: Reporting Information (Reporting Facility, Date Reported, etc.)

Section X: Reporting Information (Reporting Facility, Date Reported, etc.)

! Please do not use the Confidential Morbidity Report (CMR) to report HIV.

Instead, use the specific form: HIV/AIDS Confidential Case Report.

CALIFORNIA'S NON-NAME BASED HIV REPORTING PROCESS



Source: California Department of Health Services, Office of AIDS

3d. Animal bites & rabies

About 600 people are bitten by dogs in Santa Cruz County each year.

Many others are chomped by other animals, wild or domestic. Because bites may spread rabies, health care providers must report all animal bites to the Animal Services Authority.

Please note that it's highly unlikely that a rodent, squirrel, gopher, or rabbit bite will transmit rabies.

Please fax or mail report of animal bite to:

**Santa Cruz County
 Animal Services
 Authority**

27 Janis Way

(turn east off Scotts Valley Drive onto El Pueblo Road, then first left onto dead-end Janis Way)
 Scotts Valley, CA 95066

454-7210

454-7303

That's for bites.

If you diagnose rabies disease:

**Phone HSA's
 Disease Control Unit
 immediately!**

454-4114 workdays

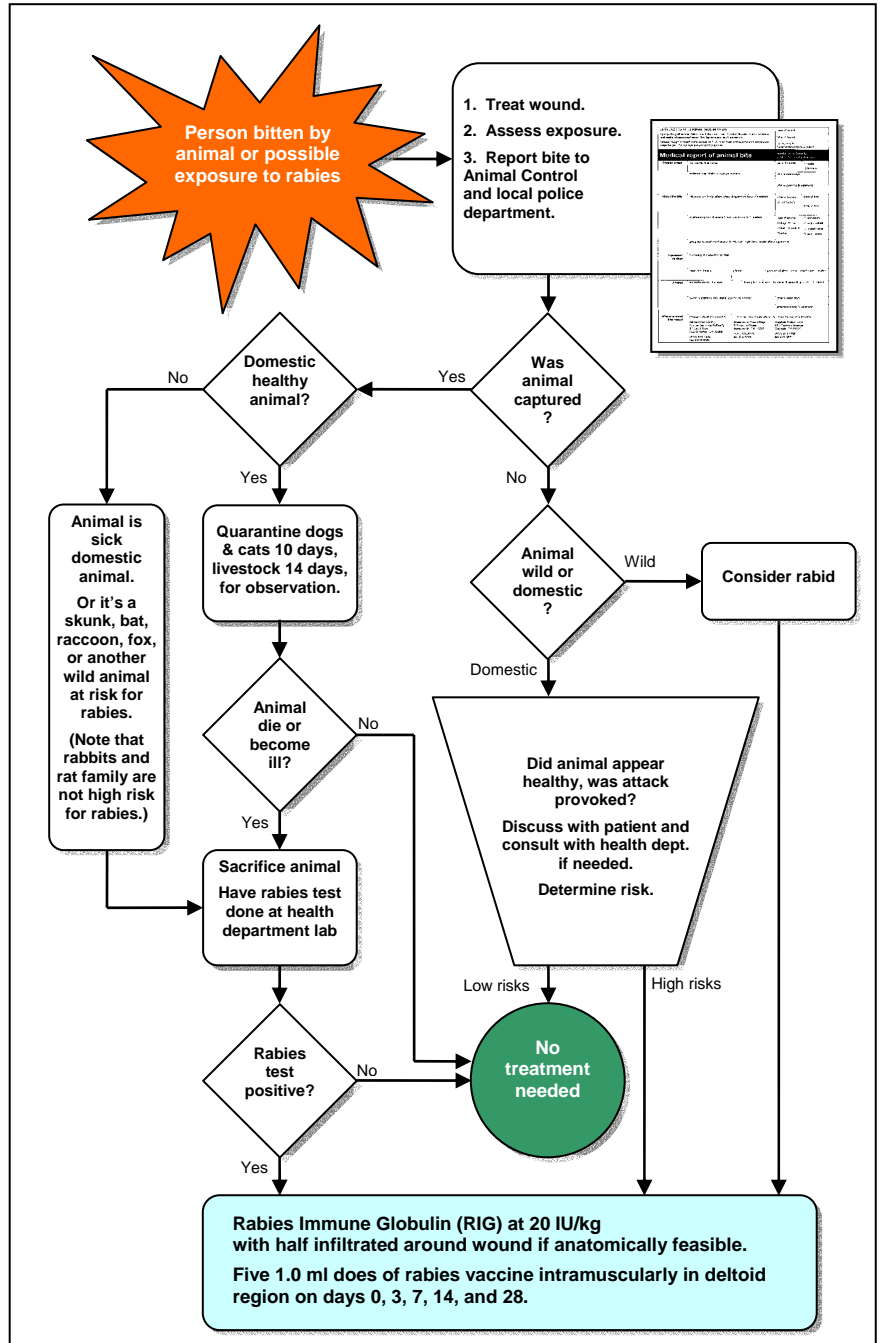
471-1183 hotline
 off hours, weekend, & holidays

See also:

Section 2

Testing animals for rabies
 for information about getting animals tested at the Public Health Lab

Rabies exposure guide



Visual rabies postexposure prophylaxis guide

Flowchart shows general steps to take when your patient has been bitten, or has had non-intact skin or mucous membranes exposed to saliva.

<p>Santa Cruz County is a Rabies-Declared County.</p> <p>By reporting all animal bites, you help local public health officials control potential outbreaks of diseases transmitted by animals, such as rabies.</p> <p>Please assign a health care worker to fill out this form and submit it to addresses listed below. Do not ask patient to fill out form.</p>	date of report
	time of report
	<input type="checkbox"/> revision # supersedes previous report.

Medical report of animal bite

**Santa Cruz County
Health Services Agency**

Person bitten	last name, first name		patient's DOB	<input type="radio"/> male <input type="radio"/> female
	address, city, state, zip (<i>no po boxes</i>)		phone weekdays	
			phone evening & weekend	
About the bite	places(s) on body bitten (<i>draw diagram on back if needed</i>)		<input type="radio"/> skin broken <input type="radio"/> not broken	date of bite time of bite
	brief description of attack (<i>continue on back if needed</i>)		type of animal	<input type="radio"/> provoked <input type="radio"/> unprovoked
			<input type="radio"/> dog <input type="radio"/> cat <input type="radio"/> bat <input type="radio"/> rodent <input type="checkbox"/> other :	<input type="radio"/> tested rabid <input type="radio"/> don't know
	geographic location of attack & info that might help locate attacking animal			
Treatment to date	summary of treatment to date			
	treatment facility	phone	name of physician or health care provider	
Animal	animal's owner, if known	description of animal, its name, license #, pound <input type="checkbox"/> dead		
	owner's address, city, state, zip (<i>no po boxes</i>)		phone weekdays	
			phone evening & weekend	
Where to send this report	<i>Please submit this report to:</i>		<input type="checkbox"/> Animal lives inside city limits. <i>Also file report with either:</i>	
	Santa Cruz County Animal Services Authority 27 Janis Way Scotts Valley, CA 95066 (831) 454-7303 fax 454-7210		Watsonville Police Dept. 215 Union Street Watsonville, CA 95076 (831) 728-6078 fax 724-3335	Capitola Police Dept. 422 Capitola Avenue Capitola, CA 95101 (831) 474-7300 fax 479-8881

3e. Pesticide illness & injury

Health care providers in Santa Cruz County must notify the County Agricultural Commissioner when they encounter any significant illness or injury caused by pesticides.

Why the Ag Commissioner?

The Agricultural Commissioner has been deputized by the County Health Officer to receive and act on reports of people hurt by agricultural chemicals on the farm, at home, or on the roadside.

Upon receipt of your timely report, the Commissioner will immediately investigate and take action to prevent further damage from the exposure. That's good for both public health and environmental health.

In all cases, phone within 1 working day

 (831) 763-8080

if you diagnose or suspect significant illness or injury caused by pesticides.

Do not mail or fax your Pesticide Illness Report

Make the phonecall. A representative from the Ag Commissioner will come and take your report in person.

What do I do if exposure occurred in a neighboring county?

Contact the County Health Officer in that county:

Monterey County (831) 759-7325

Santa Clara County (408) 918-4600

San Mateo County (650) 363-4700


San Benito County (831) 637-534

For occupational incidents within Santa Cruz County

In addition to the immediate pesticide illness phonecall, complete a *Doctor's First Report of Occupational Injury or Illness* form when the incident is occupational.

Mail or fax it within 1 week to:

 Ag Commissioner
 175 Westridge Drive
 Watsonville, CA 95076

 (831) 763-8255 fax

Not First Aid

Treatment for pesticide related illness or injury is not considered first aid, and is therefore reportable under Worker's Comp laws.

Failure to report pesticide related illnesses is punishable by a fine of \$250 for each unreported case.

Thumbnail of Pesticide Illness Report on the next page. Use this State form to report illness or injury caused by pesticides.



State of California Environmental Protection Agency (CalEPA)		Office of Environmental Health Hazard Assessment	
PESTICIDE ILLNESS REPORT (For illnesses caused by pesticides—including sanitizers and disinfectants)			
PATIENT:			
Name:	Age:	Sex:	<input type="checkbox"/> M <input type="checkbox"/> F
Address:	City:	County:	
Phone No.:	Social Security Number:	Occupation:	
	Language:	<input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Other	
PHYSICIAN FILING REPORT:			
Physician's name:			
Physician's address:			
INJURY:			
At Address:	<input type="checkbox"/> At Home <input type="checkbox"/> At Work—agriculture	City:	County:
If at work:	<input type="checkbox"/> At Work—nonagriculture <input type="checkbox"/> Other exposure		
a) Employer's name:			
Employer's address:			
b) Manager or Supervisor:			
Date of exposure:	/ /	Time of exposure:	: : a.m. [] p.m.
Date of onset:	/ /	Date of death:	/ /
Is there reason to believe others were exposed? <input type="checkbox"/> No <input type="checkbox"/> Yes			
PATIENT'S DESCRIPTION OF EXPOSURE:			
Activity at time of exposure:			
<input type="checkbox"/> Applying pesticides <input type="checkbox"/> Manufacturing pesticides <input type="checkbox"/> Mixing pesticides <input type="checkbox"/> Entering pesticide areas			
<input type="checkbox"/> Transfer of pesticides or tree contents <input type="checkbox"/> Using contaminated food			
<input type="checkbox"/> Other exposure (explain):			
Name of pesticide(s):		Ingredient(s) of pesticide(s):	
Primary route of exposure: <input type="checkbox"/> Oral <input type="checkbox"/> Dermal <input type="checkbox"/> Eye <input type="checkbox"/> Inhalation <input type="checkbox"/> Unknown			
PHYSICIAN'S DESCRIPTION OF EXPOSURE:			
Date first seen: / /			
Time first seen: : :			
Major signs, symptoms, adverse reactions:			
Hospitalized? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, hospital name: _____ City: _____			
Emergency room only? <input type="checkbox"/> No <input type="checkbox"/> Yes			
Physician's office only? <input type="checkbox"/> No <input type="checkbox"/> Yes			
Diagnostic studies ordered? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, which studies? _____			
Diagnosis: _____			
Treatment: _____			
Brief description of incident (if female, indicate if pregnant): _____			
AGENCY COMPLETING FORM:			
Agency/County:		By whom:	
Address:			
Phone no:			
Form OEHPS 004 (Rev. 5/96) (HLS/ALC)			

PESTICIDE ILLNESS REPORT

(For illnesses caused by pesticides--including sanitizers and disinfectants)

PATIENT:

Name: _____ Age: _____ Sex: ¹M ²F
Address: _____ City: _____ County: _____
Phone No.: () _____ Social Security Number: _____
Occupation: _____ Language ¹English ²Spanish ³Other

PHYSICIAN FILING REPORT:

Physician's name: _____
Physician's address: _____

INJURY:

At Address: _____ City: _____ County: _____
Was injury: ¹ At Home ² At Work--agriculture ³ At Work--nonagriculture ⁴ Other exposure
If at work: a) Employer's name: _____
Employer's address: _____
b) Manager or Supervisor: _____

Date of exposure: / / Time of exposure: [:] a.m. [:] p.m.
Date of illness: / / Date of death: / /
Is there reason to believe others were exposed? ¹ No ² Yes

PATIENT'S DESCRIPTION OF EXPOSURE:

Activity at time of exposure:
 ¹ Applying pesticides ² Manufacturing pesticides ³ Mixing pesticides ⁴ Entering pesticide areas
 ⁵ Disposing of pesticides or their containers ⁶ Eating contaminated food
 ⁷ Other exposure (explain): _____
Name of pesticide(s): _____ Ingredient(s) of pesticide(s): _____

Primary route of exposure: ¹ Oral ² Dermal ³ Eye ⁴ Inhalation ⁵ Unknown

PHYSICIAN'S DESCRIPTION OF EXPOSURE:

Date first seen / / Time first seen: _____
Major signs, symptoms, adverse reactions: _____

Hospitalized? ¹ No ² Yes If Yes, hospital name: _____ City: _____
Emergency room only? ¹ No ² Yes
Physician's office only? ¹ No ² Yes
Diagnostic studies ordered? ¹ No ² Yes If Yes, which studies?
Diagnosis: _____
Treatment: _____

Brief description of incident (if female, indicate if pregnant): _____

AGENCY COMPLETING FORM:

Agency/County: _____ By whom: _____
Address: _____
Phone no.: _____

3f. Ticks & tick-borne diseases

The prevalence of ticks carrying the agents of Lyme Disease and ehrlichiosis may be higher in Santa Cruz County than other areas of California. A two-year study by biologists at San Jose State University found infection rates for these agents ranging from 5 to 6 percent among western black-legged ticks (*Ixodes pacificus*) and American dog ticks (*Dermacentor variabilis*) in Santa Cruz County. This is higher than the 1 to 2 percent previously estimated.

We know that many people in Santa Cruz County work and play in areas where the risk of tick exposure is high. Yet, reports of human Lyme Disease and ehrlichiosis among county residents are uncommon, less than 5 per year. It is unclear if the number of reported cases accurately reflects the prevalence of tick-borne disease in the county.

Symptoms of Lyme Disease

Untreated, Lyme Disease symptoms become more severe over time. One to two weeks after infection, many to most people will exhibit **erythema migrans (EM)**, a red, expanding rash radiating from the attachment site.

Other signs of early Lyme Disease may be mild and non-specific, or present as flu-like symptoms of fever, malaise, fatigue, headache, muscle and joint aches.

Late manifestations of Lyme Disease can occur days, weeks, or months after the appearance of the first EM lesion. Late disease affects the:

- **musculoskeletal system**, manifesting as migratory joint and muscle pain with or without obvious swelling
- **nervous system**, manifesting as meningitis, cranial neuropathy, and encephalopathy
- **cardiovascular system**, seen as myocarditis or acute onset of atrioventricular blocks of varying degrees.

See next page for discussion of *Ehrlichiosis*



Western black legged tick, responsible for carrying Lyme Disease in the Western US.

Lab testing for Lyme Disease:

Perform antibody testing using this two-step procedure:

1. Initial test with ELISA or IFA.
2. Follow any positive or equivocal results with an IgM and IgG Western Blot.

Timing is everything!

Patients may be seronegative if tested within the first 1-2 weeks after infection. Western Blot IgM titers are detectable 2 weeks after infection, peak at 3-6 weeks, and rapidly abate. IgG titers become detectable at 3-4 weeks, peaking at 6-8 weeks and persist 3 years or more. Seroreactivity alone is not a marker of active disease.

PCR testing of skin, blood, CSF and synovial fluid is not standardized for routine diagnosis of Lyme Disease. Isolation of the Lyme Disease bacterium from early EM lesions requires special media. Consult with our Disease Control Unit regarding the availability of this method for diagnosis.

Untreated, Lyme Disease symptoms become more severe over time.

Phone, fax, or mail within 1 week

📞 454-4114

📠 454-5049 fax

🏢 **Disease Control Unit**

SCC Health Services Agency
1060 Emeline Avenue, Bldg. F
Santa Cruz CA 95060

... if you diagnose or suspect Lyme Disease or ehrlichiosis.

Treatments for Lyme Disease

Doxycycline (100 mg twice daily) or amoxicillin (500 mg 3 times daily) for 14-21 days is recommended for treatment of early localized or early disseminated Lyme Disease associated with erythema migrans, in the absence of neurological involvement or third-degree atrioventricular heart block. Doxycycline is relatively contraindicated during pregnancy or lactation and for children aged <8 years.

Cefuroxime axetil (500 mg orally twice daily) is as effective as doxycycline in the treatment of erythema migrans and should be reserved as an alternative agent for those patients who can take neither doxycycline nor amoxicillin.

For children, amoxicillin (50 mg/kg/d, divided into 3 doses per day, maximum 500 mg/dose), or doxycycline for those aged ≥8 years (1-2 mg/kg twice per day, maximum 100 mg/dose). Cefuroxime axetil (30 mg/kg/d, divided into 2 doses daily, maximum 500 mg/dose) is an acceptable alternative.

Tick Testing Services

If your patient has removed a tick, it can be submitted to our Public Health Lab for free identification. If the tick is determined to be of a species capable of transmitting Lyme Disease, it can be forwarded to a regional lab to be tested for a modest fee.

The tick will only be evaluated for the agent that causes Lyme Disease; there is currently no routine testing of ticks for ehrlichiosis.

Ehrlichiosis

Besides Lyme Disease, the other illness caused by tick bites in Santa Cruz County is ehrlichiosis. This disease is not as well understood as Lyme Disease.

Symptoms of Ehrlichiosis

There are two forms of ehrlichiosis:

- HME, human monocytic ehrlichiosis
- HGE, human granulocytic ehrlichiosis

Both forms are similar clinically. Within 7-10 days of infection, there is acute onset of high fever, severe headache, malaise, chills, and muscle pain. Nausea, vomiting, and a maculopapular rash may also be present.

Renal, heart, or respiratory failure may occur; fatalities have been reported.

See previous page for discussion of Lyme Disease

Lab testing for Ehrlichiosis

The availability of confirmatory assays is limited. Therefore, treatment decisions should be based on epidemiologic and clinical clues. Routine clinical laboratory tests indicative of ehrlichiosis include low white blood cell count, low platelet count, and elevated liver enzymes.

The organisms can be demonstrated in blood smears. Ehrlichiosis can also be confirmed by PCR, culture of a clinical specimen, and/or a four-fold increase in antibody titer between acute and convalescent sera.

Treatments for Ehrlichiosis

Doxycycline (100 mg twice daily for adults; 4.4 mg/kg body weight per day in two divided doses for children under 45 kg (100 lbs)) is the drug of choice for patients with ehrlichiosis.

The optimal duration of therapy has not been established, but current regimens recommend continuation of treatment for at least 3 days after the fever subsides and until evidence of clinical improvement, for a minimum total course of 5 to 7 days. Severe or complicated disease may require longer treatment courses.

Because tetracyclines are contraindicated in pregnancy, rifampin has been used successfully in a limited number of pregnant women with documented HGE.

Phone, fax, or mail within 1 week

☎ 454-4114

📠 454-5049 fax

🏠 **Disease Control Unit**

SCC Health Services Agency
1060 Emeline Avenue, Bldg. F
Santa Cruz CA 95060

... if you diagnose or suspect ehrlichiosis or Lyme Disease.

🖱 For more information on tick-borne diseases in Santa Cruz County, visit:

www.santacruzhealth.org/phealth/cd/3lyme.htm

4. Bioterrorism

Health care providers become first responders during a bioterrorist attack. As horrific as potential scenarios might be, the medical community will save many lives if we prepare now with lots of hands-on training and simulations.

Bioterrorism agents are likely to cause acute outbreaks of unusual syndromes, or they can present common illnesses in the “wrong” season or geographic area.

If you can check one or more boxes in both categories at right ...

Phone HSA’s Disease Control Unit immediately!

📞 **454-4114** workdays

📞🕒 **471-1183** hotline
off hours, weekend, & holidays

Public Health Lab

📞 **454-5445**

for specimen submission.

Averting panic

If you suspect bioterror, recognize the possible **psychological impact** of premature public disclosure of your findings.



Limit discussion with your staff on a **need-to-know** basis so they can prepare your organization and your day’s patients. When you call us with your report, do so in private. After all, we all hope it turns out to be a false alarm.

Please do not talk to the media, but refer them to HSA officials.

If you maintain a **calm demeanor**, so will your associates and patients. Battling a bioterror agent is work enough without the complications of rumor or hysteria.

Early detection and reporting of BT symptoms by astute clinicians will minimize casualties.

Syndrome

- Acute severe pneumonia or respiratory distress
- Encephalopathy
- Acute onset neuromuscular symptoms
- Unexplained rash with fever
- Fever with mucous membrane bleeding
- Unexplained acute icteric syndromes
- Massive diarrhea, dehydration, and collapse

Setting

Atypical host characteristics:

- Patients <50 years old
- Immunologically intact
- No underlying illness
- No recent travel or unusual exposure

Serious, unexplained, acute illness:

- Abrupt onset
- Prostration
- Cardiovascular collapse
- Respiratory distress
- Obtundation
- Change in mental status
- Disseminated intravascular coagulation

Multiple cases with same symptoms, especially if:

- Geographically associated
- Closely clustered in time

Out of season syndromes, such as:

- Influenza-like illness during summer

(based on Zebra Pack bioterrorism kit prepared by Santa Clara County)

BT categories and resources

Bioterrorism agents are classified into three main categories, ranked in order of potential threat:

Category A

These are the Big 6 in bioterror: anthrax, botulism, plague, smallpox, tularemia, and viral hemorrhagic fevers (Ebola, Crimean-Congo, Lassa, or Marburg viruses), described on following pages.

Category A agents are considered the highest risk because they:

- can be easily disseminated or transmitted from person to person
- result in high mortality rates and have the potential for major public health impacts
- cause panic and social disruption
- require special public health preparedness (for example, your reading this document right now).

Category B

Diseases and agents in this category have these properties:

- moderately easy to disseminate
- moderate morbidity rates and low mortality rates
- require specific enhancements of CDC's diagnostic capacity and enhanced disease surveillance.

Examples in this category include: brucellosis, glanders, Q fever, typhus fever, psittacosis, and viral encephalitis. Also included are food safety threats like *E. coli* O157:H7, salmonella, and shigella; water safety threats like cryptosporidium and cholera; and the toxin ricin and epsilon toxin of *Clostridium*.

Category C

These are emerging pathogens that could be bio-engineered for mass dissemination. These diseases:

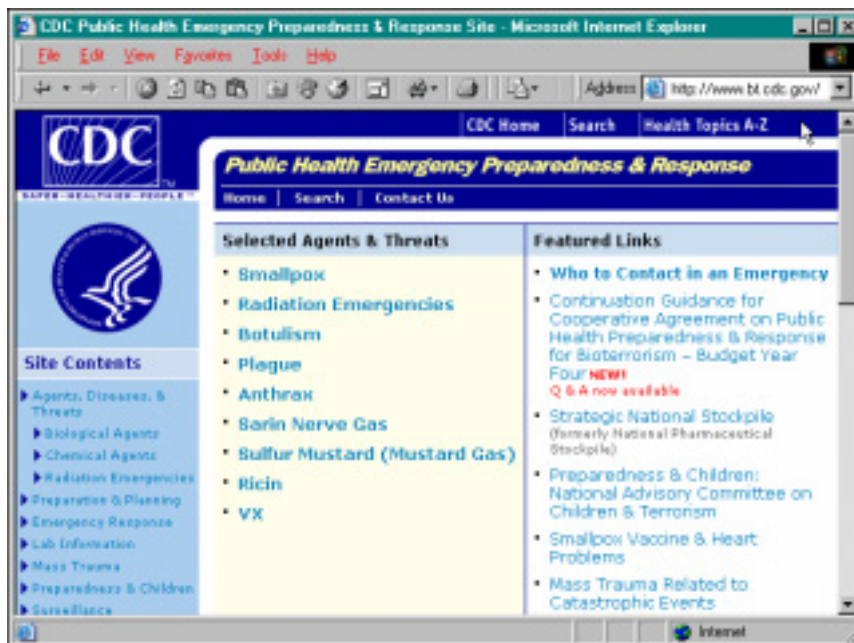
- are readily available
- are relatively easy to produce and disseminate
- have the potential for high morbidity and mortality rates and major health impacts.

Examples include emerging diseases such as Nipah virus and hantavirus.

Staying current

Information about BT agents is constantly evolving. Stay up to date by visiting the following authoritative websites:

www.bt.cdc.gov/



Website of the federal Centers for Disease Control & Prevention (CDC), which leads the nation's public health emergency preparedness and response.

www.santacruzhealth.org/phealth/cd/bioterrorism/4bioterrprovider.htm

Local information from the Santa Cruz County HSA website.

www.usamriid.army.mil/education/instruct.html

BT reference library maintained by the US Army Medical Research Institute of Infectious Diseases.

www.dhs.ca.gov/ps/dcdc/bt/pdf/CA_BT_Surv_Epi_Plan-2002b.pdf

The detailed Bioterrorism Surveillance and Epidemiologic Response Plan prepared by California Department of Health Services.

Note: Web addresses above may change, so if you don't find a specific web page, try going to the organization's home page and drilling down from there.

**CDC Bioterrorism Hotline
(770) 488-7100**

ANTHRAX

ALL SUSPECT CASES OF ANTHRAX MUST BE REPORTED IMMEDIATELY TO THE PUBLIC HEALTH DEPARTMENT COMMUNICABLE DISEASE CONTROL

Epidemiology:

- Anthrax can be transmitted by inhalation, ingestion, or inoculation (inhalation is the most likely during a bioterrorist attack)
- The spore form of anthrax is highly resistant to physical and chemical agents; spores can persist in the environment for years
- **Anthrax is not transmitted from person to person**

Clinical:

- Incubation period is 1-5 days (range up to 43 days)
- Inhalation anthrax presents as acute hemorrhagic mediastinitis
- Biphasic illness, with initial phase characterized by nonspecific flu-like illness followed by acute phase characterized by acute respiratory distress and toxemia (sepsis)
- Chest x-ray findings: **Mediastinal widening in a previously healthy patient in the absence of trauma is pathognomonic for anthrax**
- Mortality rate for inhalation anthrax approaches 90%, even with treatment. Shock and death within 24 – 36 hours

Laboratory Diagnosis:

- Laboratory specimens should be handled in a Biosafety Level 2 facility (e.g. California state Microbial Diseases Laboratory)
- Gram stain shows gram positive bacilli, occurring singly or in short chains, often with squared off ends (safety pin appearance). In advanced disease, a gram stain of unspun blood may be positive
- Distinguishing characteristics on culture include: non-hemolytic, non-motile, capsulated bacteria that are susceptible to gamma phage lysis
- ELISA and PCR tests are available at national reference laboratories

Patient Isolation:

- Standard barrier isolation precautions. Patients do not require isolation rooms
- **Anthrax is not transmitted person to person**

Treatment:

- Prompt initiation of antibiotic therapy is essential
- Antibiotic susceptibility testing is KEY to guiding treatment
- Ciprofloxacin (400 mg IV q 12 hr) is the antibiotic of choice for penicillin-resistant anthrax or for empiric therapy while awaiting susceptibility results
- All patients should be treated with anthrax vaccine if available; antibiotic treatment should be continued until 3 doses of vaccine have been administered (day 0, 14 and 28). If vaccine is unavailable, antibiotic treatment should be continued for 60 days.

Prophylaxis:

- If vaccine is available, all exposed persons (as determined by local and state health depts) should be vaccinated with 3 doses of anthrax vaccine (days 0, 14 and 28)
- Start antibiotic prophylaxis immediately after exposure with ciprofloxacin (500 mg po q 12 hrs) or doxycycline (100 mg po q 12 hrs). (If strain is penicillin-susceptible, therapy can be modified to penicillin or amoxicillin.)
- Antibiotic prophylaxis should be continued until 3 doses of vaccine have been administered; if vaccine is unavailable, antibiotics should be continued for 60 days.

BOTULISM

ALL SUSPECT CASES OF BOTULISM MUST BE REPORTED IMMEDIATELY TO THE PUBLIC HEALTH DEPARTMENT COMMUNICABLE DISEASE CONTROL

Epidemiology:

- Botulism neurotoxins (A-F) could be transmitted by aerosol or contamination of food and water supplies
- **Botulism is not transmitted from person to person**

Clinical:

- Incubation period is 12-36 hours (can be several days)
- Early symptoms include blurred vision, diplopia, and dry mouth
- Later symptoms include dysarthria, dysphagia, dysphonia, ptosis and the development of a symmetrical, descending progressive paralysis and respiratory failure
- Patients are usually alert and afebrile

Laboratory Diagnosis:

- Diagnosis is primarily based on a compatible clinical presentation
- Spinal protein is normal and characteristic findings are seen on EMG (facilitation of the compound muscle action potential on repetitive nerve stimulation)
- Toxin can be detected in serum (collect 30 cc in red top) and stool (foodborne botulism) by mouse neutralization bioassay performed at California Microbial Diseases Laboratory

Patient Isolation:

- Standard precautions. Patients do not require isolation rooms.

Treatment:

- Supportive care is the mainstay of therapy; prolonged ventilatory support is often required in severe cases
- Botulism anti-toxin (for A, B and E toxins) is in limited supply and is available only from the Division of Communicable Disease Control, California Dept of Health Services

Prophylaxis:

- Currently, there is no available post-exposure prophylaxis

PLAGUE

ALL SUSPECT CASES OF PLAGUE MUST BE REPORTED IMMEDIATELY TO THE PUBLIC HEALTH DEPARTMENT COMMUNICABLE DISEASE CONTROL

Epidemiology:

- Highly infectious after aerosolization
- Person-to-person and animal-to-human transmission can occur with pneumonic plague via respiratory droplet

Clinical:

- Incubation period is 1-3 days (ranges up to 7 days)
- Aerosolization would most likely result in pneumonic plague
- Pneumonic plague presents with acute onset of high fevers, chills, headache, malaise and a productive cough, that is initially watery before becoming bloody

Laboratory Diagnosis:

- Bacterial cultures (blood, sputum, or lymph node aspirate specimens) should be handled in a Biosafety Level 2 facility
- Wright, Giemsa, or Wayson stain shows gram negative coccobacilli with bipolar “safety-pin” appearance
- Organism grows slowly (48 hrs for observable growth) on standard blood and MacConkey agar
- Immunofluorescent staining for capsule (F1 antigen) is diagnostic

Patient Isolation:

- Strict respiratory isolation with droplet precautions (gown, gloves, and eye protection) until the patient has received at least 48 hours of antibiotic therapy and shows clinical improvement

Treatment:

- Streptomycin (1 g IM bid) or gentamicin (5 mg/kg IM or IV qd) are the preferred antibiotics
- Tetracyclines or fluoroquinolones are alternative choices
- Chloramphenicol should be used for plague meningitis

Prophylaxis:

- Antibiotic prophylaxis is recommended for all persons exposed to the aerosol or persons in close physical contact with a confirmed case
- Tetracyclines or fluoroquinolones are recommended for 7 days from last exposure to a case

SMALLPOX

ALL SUSPECT CASES OF SMALLPOX MUST BE REPORTED IMMEDIATELY TO THE PUBLIC HEALTH DEPARTMENT COMMUNICABLE DISEASE CONTROL

Epidemiology:

- Highly infectious after aerosolization
- Person-to-person transmission can occur via droplet nuclei or aerosols expelled from the oropharynx and by direct contact
- Contaminated clothing or bed linens can also spread the virus
- About 30% of susceptible contacts will become infected

Clinical:

- Incubation period is 12-14 days (ranges 7-17 days)
- Characteristic rash appears 2-3 days after nonspecific, flu-like prodrome (fever and headache)
- Maculopapular rash begins on mucosa of mouth and pharynx, face, hands, forearms and spreads to legs and centrally to trunk; lesions are more predominant on the face and extremities than on the trunk.
- Lesions progress synchronously on any given part of the body from macules to papules to vesicles to pustules to crusty scabs

Laboratory Diagnosis:

- Mask and gloves should be worn by person obtaining specimen, preferably a person who has been recently vaccinated
- Vesicular fluid is obtained by opening lesions with the blunt edge of a scalpel, harvesting fluid with a cotton swab; scabs can be removed by forceps. Swabs and scabs should be placed in a vacutainer, sealed with tape, and placed in a second, durable, watertight container
- Laboratory specimens must be handled in a Biosafety Level 4 facility (e.g. CDC) and will be evaluated with electron microscopy and cell culture

Patient Isolation:

- Strict isolation in negative pressure room (high efficiency particulate air filtration ideal) from onset of rash until all scabs separate
- Laundry and waste should be autoclaved before being laundered or incinerated

Treatment:

- Supportive care is the mainstay of therapy
- In-vitro antiviral activity against poxviruses has been shown with adefovir, cidofovir, dipivoxil, and ribavirin. (Animal studies suggest that cidofovir may be most effective).

Prophylaxis:

- Smallpox vaccine would be required for all persons exposed at the time of the bioterrorist attack or anyone with close personal contact with a smallpox case
- Vaccine is most effective if given before or within 3 days of exposure
- Ideally, all exposed persons should be placed in strict quarantine for 17 days after last contact with a smallpox case

TULAREMIA

ALL SUSPECT CASES OF TULAREMIA MUST BE REPORTED IMMEDIATELY TO THE PUBLIC HEALTH DEPARTMENT COMMUNICABLE DISEASE CONTROL

Epidemiology:

- Highly infectious after aerosolization
- Infectious dose can be as low as 10-15 organisms
- Person-to-person transmission does not occur

Clinical:

- Incubation period is 3-6 days (ranges 1-21 days)
- Aerosolization would most likely result in typhoidal tularemia, with pneumonic involvement
- Typhoidal tularemia is a nonspecific illness, with fever, headache, malaise and non-productive cough (mortality rates can be as high as 30-60%)
- Diagnosis requires high index of suspicion given nonspecific presentation

Laboratory Diagnosis:

- Bacterial cultures should be handled in a Biosafety Level 3 facility; isolation of organism can otherwise put laboratory workers at risk
- Organism is difficult to culture and grows poorly on standard media; cysteine-enriched media is required
- Serology is most commonly used for diagnosis

Patient Isolation:

- Standard precautions. Respiratory isolation not required.

Treatment:

- Streptomycin (7.5 mg/kg IM q 12 hours x 10-14 days) or gentamicin (3-5 mg/kg/day IV or IM qd in 3 divided doses x 10-14 days) are the preferred antibiotics
- Tetracyclines are alternative choices, although they are bacteriostatic and associated with higher relapse rates and must be continued for at least 14 days

Prophylaxis:

- Antibiotic prophylaxis is most effective if begun within 24 hours after exposure to aerosol
- Tetracyclines are recommended for 14 days

VIRAL HEMMORHAGIC FEVERS

ALL SUSPECT CASES OF VHF_s MUST BE REPORTED IMMEDIATELY TO THE PUBLIC HEALTH DEPARTMENT COMMUNICABLE DISEASE CONTROL

Etiologic Agents: Arenaviradae (Lassa, Junin, Machupo, Guanarito, and Sabia), Filoviradae (Marburg and Ebola), Bunyaviradae (Congo-Crimean hemorrhagic fever virus and hantaviruses) and Flaviradae (yellow fever and Dengue) can all cause viral hemorrhagic fever (VHF)

Epidemiology:

- Highly infectious after aerosolization
- Infectious dose can be as low as 1-10 organisms
- Risk of person-to-person transmission depends on virus

Clinical:

- Incubation period is 4 – 21 days, depending on virus
- Clinical presentation would vary by viral agent; however, dominant clinical features of all are a consequence of microvascular damage and changes in vascular permeability. Fever, myalgia, and prostration may evolve to shock, generalized mucous membrane hemorrhage, and neurologic, hematopoietic, or pulmonary involvement.

Laboratory Diagnosis:

- Viral isolation should be handled in a Biosafety Level 3 or 4 facility and may take 3 – 10 days
- ELISA or reverse transcriptase PCR available for most VHF viruses

Patient Isolation:

- Isolation room with contact precautions.

Treatment:

- Ribavirin (30 mg/kg IV x 1, then 15 mg/kg IV q 6 h x 4 days, 7.5 mg/kg IV q 8 x 6 days) may be helpful for Congo-Crimean hemorrhagic fever or arenaviruses

Prophylaxis:

- Licensed vaccine available only for yellow fever

5. Vaccine reactions

Ironically, sometimes medicine is the source of illness. Vaccines, designed to protect health, may instead cause adverse reactions.

VAERS: Vaccine Adverse Event Reporting System

VAERS is a national surveillance program co-sponsored by the Centers for Disease Control and the Food and Drug Administration. VAERS collects and analyzes information from reports of adverse events following immunization.

By monitoring reactions, VAERS helps identify new safety concerns about immunizations, ensuring that the benefits of vaccines continue to be far greater than the risks.

Reporting by paper form

If you need to report a vaccine reaction, you can fill out the one-page paper form. Folding the form in thirds will turn it into a postage-paid mailer to send to VAERS headquarters in Rockville, Maryland.

Reporting online at www.vaers.org

You can also report directly through the Internet. Click the "web reporting" link on the VAERS home page. To save time, record your entries on a scratch form before opening the online form.

Smallpox vaccination reactions

With growing concern about terrorist attack using bioweapons, the federal government is starting to immunize first responders against smallpox.

The CDC has prepared a Smallpox Fact Sheet that lists various adverse reactions to the vaccine. We have reprinted this factsheet later in this section.

The screenshot shows a web browser window displaying the VAERS online reporting form. The form is titled "VACCINE ADVERSE EVENT REPORTING SYSTEM" and includes a toll-free information line: 1-800-622-7967. It contains several sections for data entry:

- 1. State:** A dropdown menu.
- 2. County or Country where administered:** A text field.
- 3. Date of Birth (mm / dd / yyyy):** Three input fields.
- 4. Patient Age at Vaccination:** Input fields for years, months, and days.
- 5. Sex:** A dropdown menu.
- 6. Date form Completed (mm / dd / yyyy):** Three input fields.
- 7. Describe adverse event(s) (symptoms, signs, time course) and treatment, if any:** A large text area.
- 8. Check all appropriate:** A series of checkboxes including "Patient Died", "Life threatening illness", "Required emergency room/doctor visit", and "Required hospitalization".

When reporting to VAERS, you have a choice: you can go online (screenshot above) or mail-in the traditional form (thumbnail below, actual size next page).

The thumbnail shows the traditional paper form for VAERS. It is a one-page document with a header that includes the VAERS logo and contact information. The form is organized into several sections:

- 1. State:** A dropdown menu.
- 2. County or Country where administered:** A text field.
- 3. Date of Birth (mm / dd / yyyy):** Three input fields.
- 4. Patient Age at Vaccination:** Input fields for years, months, and days.
- 5. Sex:** A dropdown menu.
- 6. Date form Completed (mm / dd / yyyy):** Three input fields.
- 7. Describe adverse event(s) (symptoms, signs, time course) and treatment, if any:** A large text area.
- 8. Check all appropriate:** A series of checkboxes including "Patient Died", "Life threatening illness", "Required emergency room/doctor visit", and "Required hospitalization".



VACCINE ADVERSE EVENT REPORTING SYSTEM

24 Hour Toll-Free Information 1-800-822-7967
P.O. Box 1100, Rockville, MD 20849-1100

PATIENT IDENTITY KEPT CONFIDENTIAL

For CDC/FDA Use Only

VAERS Number _____

Date Received _____

Patient Name: _____ Last First M.I. Address _____ _____ _____ City State Zip Telephone no. (____) _____	Vaccine administered by (Name): _____ Responsible Physician _____ Facility Name/Address _____ _____ _____ City State Zip Telephone no. (____) _____	Form completed by (Name): _____ Relation <input type="checkbox"/> Vaccine Provider <input type="checkbox"/> Patient/Parent to Patient <input type="checkbox"/> Manufacturer <input type="checkbox"/> Other Address (if different from patient or provider) _____ _____ _____ City State Zip Telephone no. (____) _____
---	---	---

1. State	2. County where administered	3. Date of birth ____/____/____ mm dd yy	4. Patient age	5. Sex <input type="checkbox"/> M <input type="checkbox"/> F	6. Date form completed ____/____/____ mm dd yy
----------	------------------------------	--	----------------	---	--

7. Describe adverse events(s) (symptoms, signs, time course) and treatment, if any	8. Check all appropriate: <input type="checkbox"/> Patient died (date ____/____/____) <input type="checkbox"/> Life threatening illness <input type="checkbox"/> Required emergency room/doctor visit <input type="checkbox"/> Required hospitalization (____days) <input type="checkbox"/> Resulted in prolongation of hospitalization <input type="checkbox"/> Resulted in permanent disability <input type="checkbox"/> None of the above
--	---

9. Patient recovered <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN	10. Date of vaccination ____/____/____ mm dd yy Time _____ AM PM	11. Adverse event onset ____/____/____ mm dd yy Time _____ AM PM
--	--	--

13. Enter all vaccines given on date listed in no. 10					
Vaccine (type)	Manufacturer	Lot number	Route/Site	No. Previous Doses	
a. _____	_____	_____	_____	_____	
b. _____	_____	_____	_____	_____	
c. _____	_____	_____	_____	_____	
d. _____	_____	_____	_____	_____	

14. Any other vaccinations within 4 weeks prior to the date listed in no. 10						
Vaccine (type)	Manufacturer	Lot number	Route/Site	No. Previous doses	Date given	
a. _____	_____	_____	_____	_____	_____	
b. _____	_____	_____	_____	_____	_____	

15. Vaccinated at: <input type="checkbox"/> Private doctor's office/hospital <input type="checkbox"/> Public health clinic/hospital <input type="checkbox"/> Military clinic/hospital <input type="checkbox"/> Other/unknown	16. Vaccine purchased with: <input type="checkbox"/> Private funds <input type="checkbox"/> Public funds <input type="checkbox"/> Military funds <input type="checkbox"/> Other/unknown	17. Other medications
--	---	-----------------------

18. Illness at time of vaccination (specify)	19. Pre-existing physician-diagnosed allergies, birth defects, medical conditions (specify)
--	---

20. Have you reported this adverse event previously? <input type="checkbox"/> No <input type="checkbox"/> To health department <input type="checkbox"/> To doctor <input type="checkbox"/> To manufacturer	Only for children 5 and under	
	22. Birth weight _____ lb. _____ oz.	23. No. of brothers and sisters

21. Adverse event following prior vaccination (check all applicable, specify)	Only for reports submitted by manufacturer/immunization project	
<input type="checkbox"/> In patient <input type="checkbox"/> In brother or sister	Adverse Event Onset Age Type Vaccine Dose no. in series _____ _____ _____ _____	24. Mfr./imm. proj. report no.
	26. 15 day report? <input type="checkbox"/> Yes <input type="checkbox"/> No	25. Date received by mfr./imm.proj.
		27. Report type <input type="checkbox"/> Initial <input type="checkbox"/> Follow-Up

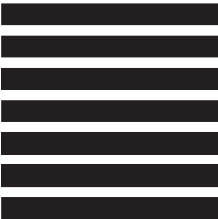
Health care providers and manufacturers are required by law (42 USC 300aa-25) to report reactions to vaccines listed in the Table of Reportable Events Following Immunization. Reports for reactions to other vaccines are voluntary except when required as a condition of immunization grant awards.



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES
OR APO/FPO

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 1895 ROCKVILLE, MD

POSTAGE WILL BE PAID BY ADDRESSEE



VAERS
P.O. Box 1100
Rockville MD 20849-1100



DIRECTIONS FOR COMPLETING FORM

(Additional pages may be attached if more space is needed.)

GENERAL

- Use a separate form for each patient. Complete the form to the best of your abilities. Items 3, 4, 7, 8, 10, 11, and 13 are considered essential and should be completed whenever possible. Parents/Guardians may need to consult the facility where the vaccine was administered for some of the information (such as manufacturer, lot number or laboratory data.)
- Refer to the Reportable Events Table (RET) for events mandated for reporting by law. Reporting for other serious events felt to be related but not on the RET is encouraged.
- Health care providers other than the vaccine administrator (VA) treating a patient for a suspected adverse event should notify the VA and provide the information about the adverse event to allow the VA to complete the form to meet the VA's legal responsibility.
- These data will be used to increase understanding of adverse events following vaccination and will become part of CDC Privacy Act System 09-20-0136, "Epidemiologic Studies and Surveillance of Disease Problems". Information identifying the person who received the vaccine or that person's legal representative will not be made available to the public, but may be available to the vaccinee or legal representative.
- Postage will be paid by addressee. Forms may be photocopied (must be front & back on same sheet).

SPECIFIC INSTRUCTIONS

Form Completed By: To be used by parents/guardians, vaccine manufacturers/distributors, vaccine administrators, and/or the person completing the form on behalf of the patient or the health professional who administered the vaccine.

- Item 7: Describe the suspected adverse event. Such things as temperature, local and general signs and symptoms, time course, duration of symptoms, diagnosis, treatment and recovery should be noted.
- Item 9: Check "YES" if the patient's health condition is the same as it was prior to the vaccine, "NO" if the patient has not returned to the pre-vaccination state of health, or "UNKNOWN" if the patient's condition is not known.
- Item 10: Give dates and times as specifically as you can remember. If you do not know the exact time, please
- and 11: indicate "AM" or "PM" when possible if this information is known. If more than one adverse event, give the onset date and time for the most serious event.
- Item 12: Include "negative" or "normal" results of any relevant tests performed as well as abnormal findings.
- Item 13: List ONLY those vaccines given on the day listed in Item 10.
- Item 14: List any other vaccines that the patient received within 4 weeks prior to the date listed in Item 10.
- Item 16: This section refers to how the person who gave the vaccine purchased it, not to the patient's insurance.
- Item 17: List any prescription or non-prescription medications the patient was taking when the vaccine(s) was given.
- Item 18: List any short term illnesses the patient had on the date the vaccine(s) was given (i.e., cold, flu, ear infection).
- Item 19: List any pre-existing physician-diagnosed allergies, birth defects, medical conditions (including developmental and/or neurologic disorders) for the patient.
- Item 21: List any suspected adverse events the patient, or the patient's brothers or sisters, may have had to previous vaccinations. If more than one brother or sister, or if the patient has reacted to more than one prior vaccine, use additional pages to explain completely. For the onset age of a patient, provide the age in months if less than two years old.
- Item 26: This space is for manufacturers' use only.

**SMALLPOX FACT SHEET – *Information for Clinicians*****Adverse Reactions Following Smallpox Vaccination**

Smallpox vaccination (vaccinia) is generally a safe and effective means of preventing smallpox. However, in a number of individuals, smallpox vaccination can result in untoward effects and adverse reactions. Most are totally benign, but may be alarming in appearance. Some are serious, but treatable. A few, which rarely occur, are serious, life threatening and can be fatal. Severe adverse reactions are more common in persons receiving primary vaccination compared to those being revaccinated.

Local Reactions

- Primary vaccination can produce swelling and tenderness of regional lymph nodes beginning 3 to 10 days after vaccination and in some cases persisting up to 2 to 4 weeks after the skin lesion has healed.
- Other normal local reactions can include
 - local satellite lesions (which appear similar to the primary lesion),
 - considerable local edema,
 - what may be confused with bacterial cellulitis, but is simply intense inflammation accompanying the vaccination (viral cellulitis).
- In a recent study of adult primary vaccinees, 36% were sufficiently ill to miss work, school, or recreational activities or to have trouble sleeping.

Systemic Reactions

- In a recent study, 17% of adult primary vaccinees experienced fever of at least 100°F within two weeks of vaccination; 7% had a fever of 101°F or more, and 1.4% experienced a fever of 102°F or more. Beyond two weeks, fever was recorded in 0.3% of vaccinees.
- Other expected systemic reactions include malaise, soreness at the vaccination site, myalgia, local lymphadenopathy, and intense erythema ringing the vaccination site.
- A variety of erythematous or urticarial rashes occur approximately 10 days after primary vaccination in one person per 3700 vaccinated.
 - Vaccinees who develop these rashes are usually afebrile and the rash resolves spontaneously within 2 to 4 days.
 - Rarely, a more serious rash, called bullous erythema multiforme (or Stevens-Johnson syndrome) occurs.
- In a recent study of adult primary vaccinees, 36% were sufficiently ill to miss work, school, or recreational activities or had trouble sleeping.

Inadvertent Inoculation

Successful vaccination produces a lesion at the vaccination site. Beginning about four days after vaccination, the florid site contains high titers of vaccinia virus. This surface is easily transferred to the hands and to fomites, especially since itching is a common part of the local reaction.

- Accidental implantation occurs due to transfer of vaccinia virus from the primary site to other parts of the body, or to other individuals.
- This is the most frequent complication of smallpox vaccination (529 per million primary vaccinees), accounting for approximately half of all complications of primary vaccination and revaccination.*
- Lesions of inadvertent inoculation can occur anywhere on the body, but the most common sites are the face, eyelid, nose, mouth, genitalia, and rectum. Lesions in eczematous skin, in disrupted skin

and in the eye pose special hazards, as the infection can be extensive in skin lesions and a threat to eyesight in the eye.

- Most lesions heal without specific treatment.

Generalized Vaccinia

- Generalized vaccinia consists of vesicles or pustules appearing on normal skin distant from the vaccination site.
- In the past, it was estimated to occur in 242 per million primary vaccinees.*
- It is believed to result from a vaccinia viremia with skin manifestations.
- Most rashes labeled as generalized vaccinia produce only minor illness with little residual damage.
- The rash is generally self-limited and usually requires only supportive therapy. However, patients with underlying immunosuppressed illnesses may have a toxic course and require Vaccinia Immune Globulin (VIG).

Eczema Vaccinatum

- Eczema vaccinatum is a localized or systemic spread of vaccinia virus.
- In the past, it was estimated to occur in 10-39 per million primary vaccinees.*
- Transfer of vaccinia virus can occur from autoinoculation or from contact with a vaccinee whose lesion is in the florid stages.
- Individuals with eczema or atopic dermatitis are at increased risk. Eczema vaccinatum can occur regardless of whether the eczema/atopic dermatitis is active at the time of vaccination.
- Virus implanted in disrupted skin (may be at multiple sites) spreads from cell to cell producing extensive lesions dependent on extent of abnormal skin.
- Treatment should include hospitalization and urgent treatment with VIG. Mortality has been prevented in patients treated promptly and adequately.
- Severe cases and fatalities have been observed after contact of recently vaccinated persons with persons who have active eczema/atopic dermatitis or a history of eczema/atopic dermatitis.

Vaccinia Keratitis

- Vaccinia keratitis results in lesions of the cornea due to accidental implantation of vaccinia virus, and is potentially threatening to eyesight.
- Symptoms appear ten days after transfer of vaccinia virus.
- Left untreated, considerable corneal scarring may result as lesion heals resulting in significant impairment of vision.
- Topical antiviral agents are the treatment of choice; therapy should be determined in immediate consultation with an experienced ophthalmologist.

Progressive Vaccinia

- Progressive vaccinia, also known as vaccinia necrosum, is a severe, potentially fatal illness characterized by progressive necrosis in the area of vaccination, often with metastatic lesions (e.g., lesions at places other than the vaccination site).
- In the past, it was estimated that progressive vaccinia occurred in approximately 1 to 2 per million primary vaccinations, and was almost always fatal before the introduction of VIG and antiviral agents.*
- Rare in the past, it may be a greater threat today, given the larger proportion of susceptible persons in the population and the greater number with immunocompromise. Nearly all instances have been in people with defined cell-mediated immune defect (T-cell deficiency).
- Prompt hospitalization and aggressive use of VIG are required.
- Massive doses of VIG are necessary to control viremia. Up to 10 ml per kg of intramuscular VIG has been used.
- There is no proven antiviral therapy. Preliminary studies with cidofovir show some antiviral effect in vitro; studies in animals are pending.

- Immediate consultation with the CDC is recommended to determine if any experimental antiviral drugs are available.

Post-Vaccinial Encephalitis

- Encephalitis or meningoencephalitis following vaccination has been reported in about 3 to 12 per million primary vaccinees; how many such cases are coincidental in time and how many are related to the vaccination itself is impossible to know.*
- Because many different infectious agents and non-infectious processes can be responsible, it is often impossible to establish the etiology. Most cases are believed to result from autoimmune or allergic reactions rather than direct viral invasion of the nervous system.
- In general, this is a severe disease with high mortality and morbidity. Approximately 15-25% percent of affected vaccinees with this complication die, and 25% develop permanent neurological sequelae.
- There is no specific therapy. Supportive care, anticonvulsants and hospitalization in intensive care may be required in individual cases.
- VIG is **not** effective and is **not** recommended.

Fetal Vaccinia

- Fetal vaccinia is a rare complication of smallpox vaccination.
- Fewer than 50 cases of fetal vaccinia infection have been reported, usually after primary vaccination of the mother in early pregnancy.
- Fetal vaccinia usually results in stillbirth or death of the infant soon after delivery. Smallpox vaccine is not known to cause congenital malformations.

Death

- Death resulting from smallpox vaccination is rare, in the past approximately 1 to 2 primary vaccinees died per million vaccinated.*
- Death is most often the result of postvaccinial encephalitis or progressive vaccinia.

Possible Causal Association Between Smallpox Vaccination and Myopericarditis

- Data from recent smallpox vaccinations have been found to be consistent with a causal association between vaccination and myopericarditis, although this is not proven. Persons receiving smallpox vaccine should be informed that myopericarditis is a potential complication of smallpox vaccination and that they should seek medical attention if they develop chest pain, shortness of breath, or other symptoms of cardiac disease after vaccination.

** Adverse event rates presented here are primarily from data collected in the 1960s. Rates in the United States today may be higher because there may be more persons at risk from 1) immune suppression from cancer, cancer therapy, organ transplantation, and other illnesses, such as HIV/AIDS, and 2) eczema or atopic dermatitis. Rates may be lower for persons previously vaccinated.*

This fact sheet is a brief overview of reactions following smallpox vaccination. Additional details for clinicians regarding diagnosis and management of patients with adverse reactions are available at the CDC smallpox website. Visual images of expected and adverse reactions can be viewed at www.bt.cdc.gov/training/smallpoxvaccine/reactions.

For more information, visit www.cdc.gov/smallpox, or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)

March 28, 2003

6. Public health reporting & privacy

Reporting obligations for communicable diseases have not changed under the new Health Insurance Portability & Accountability Act (HIPAA).

Health care providers continue to have a legal obligation to provide information for public health investigations and interventions.

The only material change is that you'll now need to document such disclosures in your patients' files.

So when the health department calls for more information on a CMR, please cooperate!

The law allows sharing of clinical, laboratory, and other information to assist public health investigations. It also provides penalties for refusal to report vital public health information.

Public Health disclosures allowed

HIPAA's Privacy Rule explicitly permits disclosures to public health authorities for public health purposes:

"A covered entity may disclose protected health information ... for the purpose of preventing or controlling disease, injury or disability, vital events such as birth or death, and the conduct of public health surveillance, public health investigations, and public health interventions"
45 CFR §164.512(b)(1)

Documenting disclosures under HIPAA

Health care providers do have one new patient privacy responsibility described in 45 CFR §164.528. You must now account for the disclosures of protected health information provided to local and state public health departments.

Compliance is relatively easy: Place either an accounting of disclosures form in the patient's chart, or maintain an accounting of disclosures log, documenting the following:

- date of disclosure
- name and address of person or entity to which disclosed
- brief description of health information disclosed
- brief description of purpose of the disclosure.


We promise to maintain your patients' privacy also

Santa Cruz County Health Services Agency will treat patient information that you report to us as confidential. We may use it to make patient contact, enforce quarantines, enroll patients in programs, plot location of diseases, compile statistics, or comply with legal process.

Only HSA personnel with a need to know will have access to identifiable patient information. When statistics are compiled, identifiable patient data will be removed. When we no longer need files, we will destroy them.

Questions?

If you have questions about patient privacy in the context of public health, contact Santa Cruz HSA at 454-4114, or California Department of Health Services at (916) 552-9820.

 The CDC has developed a guidance paper about privacy and public health: www.cdc.gov/privacyrule/Guidance/Content.htm

