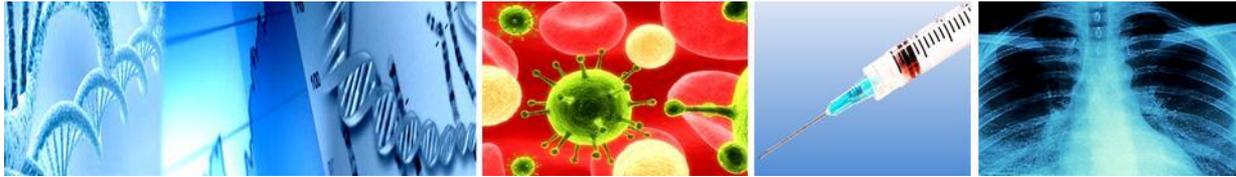
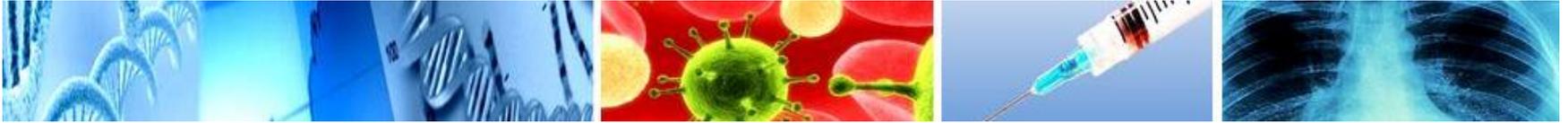


Communicable Disease Section: Investigation, Surveillance, & Prevention



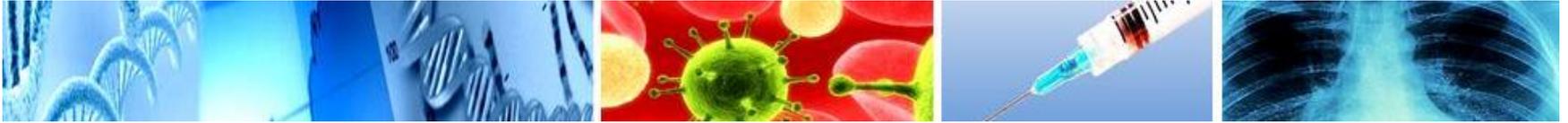
Communicable Disease Section
San Bernardino Department of Public Health
Stacey A. Davis, MPH
Epidemiologist

Objectives



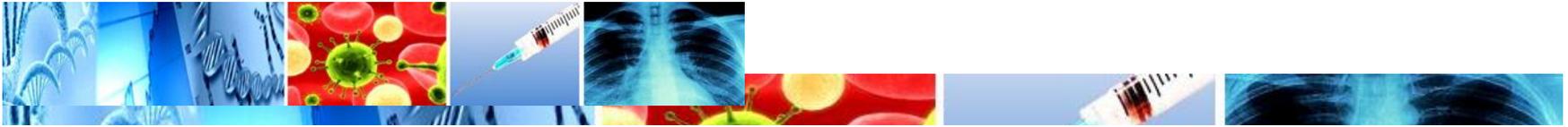
- Name 2 things to do if you encounter a suspect measles case
- Name 1 intervention to prevent pertussis in Riverside & San Bernardino counties
- Ebola**
- Describe the seasonality of West Nile virus (WNV) infections

Title 17, section 2500 California Code of Regulations (CCR)



- Requires physicians and laboratories to report:
 - >85 communicable diseases
 - Any occurrence of unusual disease
 - Any outbreak
- Non-communicable conditions
 - Animal bites (also for rabies exposure)
 - Disorders characterized by lapses of consciousness
 - Alzheimer's disease and other dementia
- Specifies reporting timelines
- Allows for the local Health Officer to add any conditions for local reporting

Confidential Morbidity Reports (CMRs)



State of California—Health and Human Services Agency

California Department of Public Health

TUBERCULOSIS (TB)

TB TREATMENT INFORMATION

DEPARTMENT OF MOTOR VEHICLES (DMV)

California Driver License or Identification Card Number (eight characters):

--	--	--	--	--	--	--	--

1. If this report is based upon episodic lapses of consciousness, when was the most recent episode?:
(mm/dd/yyyy)

2. If there have been multiple episodes of loss of consciousness or control within the past three years, please indicate the dates if they are known to you.

(a): (b): (c): (d): (e): (f):
(mm/dd/yyyy) (mm/dd/yyyy) (mm/dd/yyyy) (mm/dd/yyyy) (mm/dd/yyyy) (mm/dd/yyyy)

3. Within the past 12 months, has there been an episode of loss of consciousness or control while driving? Yes No Uncertain

4. Are additional lapses of consciousness likely to occur? Yes No Uncertain

5. If the patient has had episodes of nocturnal seizures, is there likelihood of lapses of consciousness occurring while he/she is awake? Yes No Uncertain

6. Has this patient been diagnosed with dementia or Alzheimer's disease? Yes No Uncertain

7. Would you currently advise this patient not to drive because of his/her medical condition? Yes No Uncertain

8. Does this patient's condition represent a permanent driving disability? Yes No Uncertain

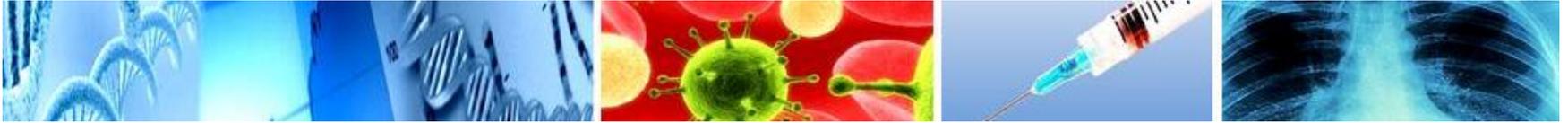
9. Would you recommend a driving evaluation by DMV? Yes No Uncertain

Not done

Other tests:

Remarks:

What happens when you report?



- Investigation: interview cases, clinicians
 - Risk factors, exposures
 - Cases, contacts in sensitive occupations/settings (e.g. food handlers, day care workers)
- Education
 - Information to case, contacts, public to control spread of disease in community
 - Health alerts, advisories to clinical community
- Disease control
 - Treatment, prophylaxis recommendations
 - Provide recommendations to infection control practitioners to help prevent spread of disease in healthcare & other settings
- Surveillance
 - Notify state, national public health officials, as necessary
 - Report morbidity to CDPH→CDC
 - Analyze & publish surveillance data

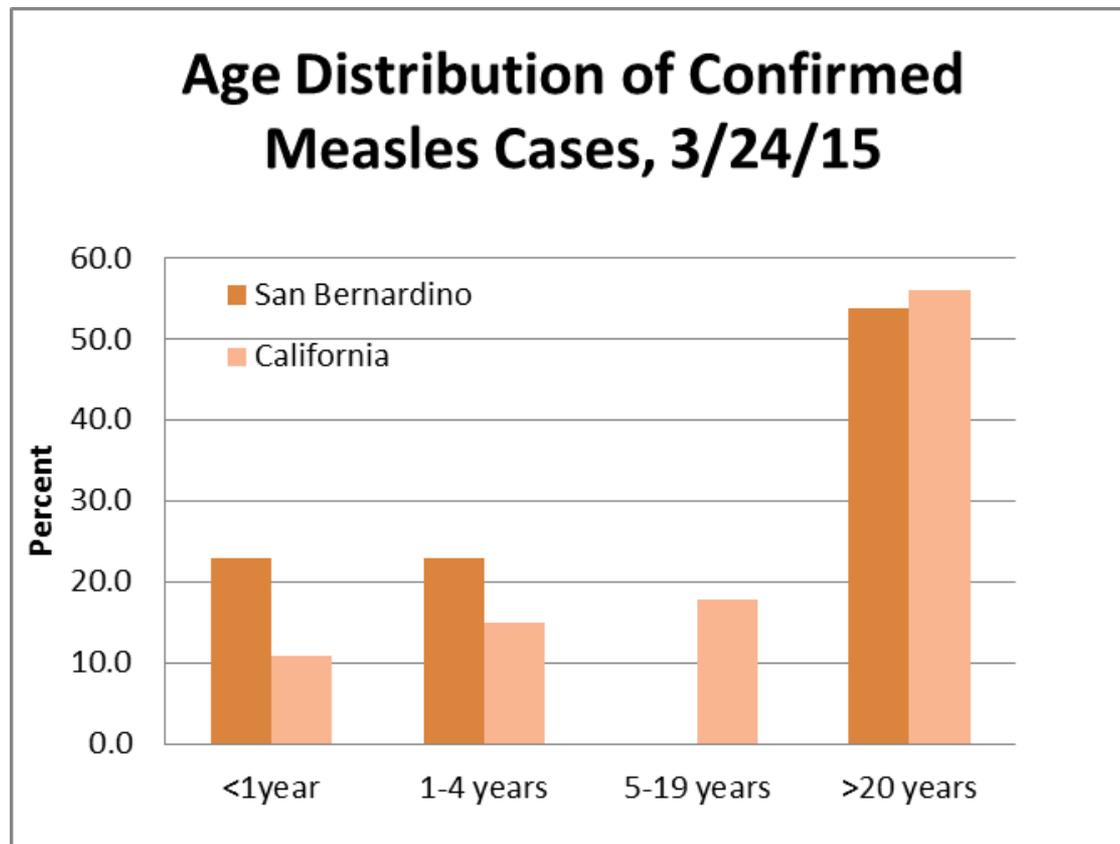
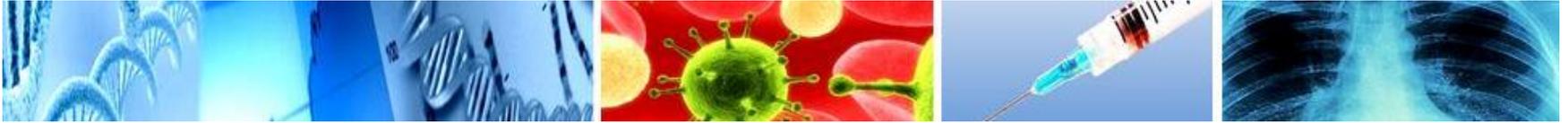
YOU Are Our *Eyes and Ears*

➤ An important part of surveillance is being alerted to any unusual diseases or occurrences in humans and animals:

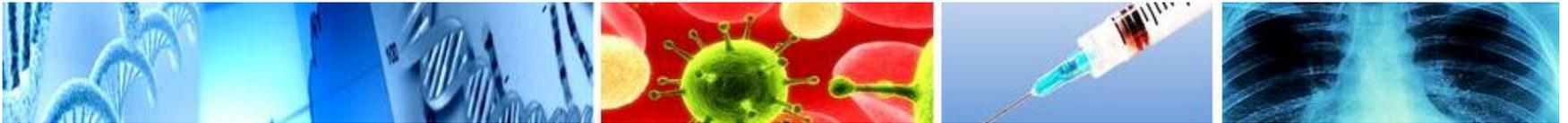
- Unusual disease
- Increased incidence
- Off-season illnesses
- Change in severity of illness



Measles Outbreak: San Bernardino County

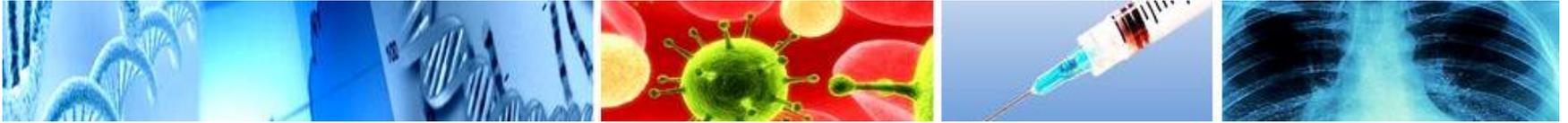


Measles Outbreak: San Bernardino County



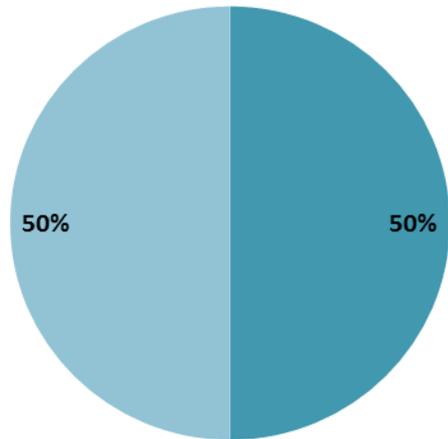
Updated 3/24/15	San Bernardino		California	
	#	%	#	%
Total cases	13	100	133	100
Disney link	3	23.1	40	30.1
HH/Close Contact to Confirmed Case	5	38.5	30	22.6
Community Setting Exposure to Conf Case	0	0.0	11	8.3
Unknown Exposure	4	30.8	49	36.8
Vaccination documentation	12	92.3	77	57.9
1 or more doses of MMR	6	50.0	20	26.0
Unvaccinated	6	50.0	57	74.0
Hospitalized	3	23.1	20	15.0

Measles Outbreak: San Bernardino County



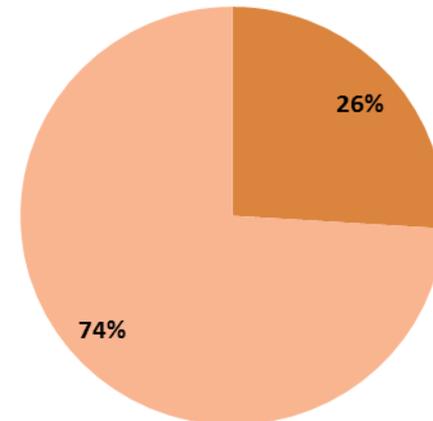
Documented Vaccination Status: San Bernardino (n=12)

■ 1 or more doses of MMR ■ Unvaccinated

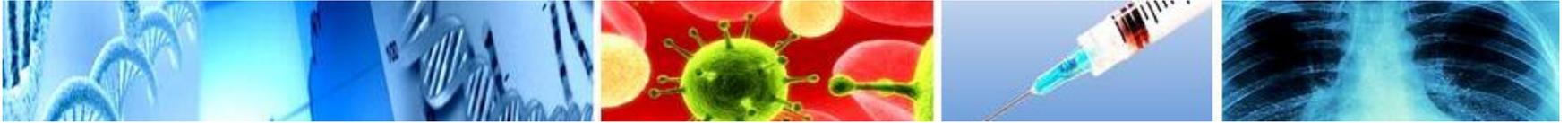


Documented Vaccination Status: California (n=77)

■ 1 or more doses of MMR ■ Unvaccinated

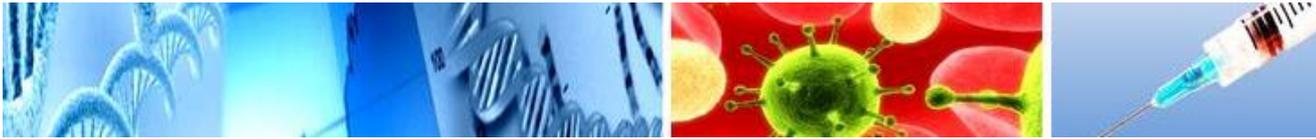


Measles: San Bernardino County



- Notification: Measles is notifiable immediately by phone (including suspect cases)
 - Communicable Disease Section (CDS): **1.800.722.4794**
 - If after hours, fax info to CDS at **909.387.6377** and call the next business day
 - For advice or guidance after hours, follow instructions to reach the Public Health Duty Officer

Measles Disease

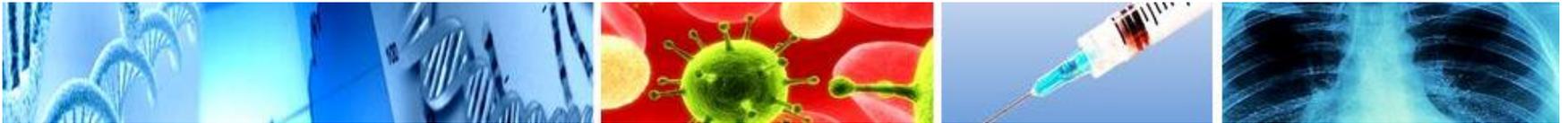


Clinically compatible cases of measles:

- Rash: maculopapular & descending, lasting ≥ 3 days
 - rash will always have some head/facial involvement*, and **DESCEND**, even in modified disease
 - if rash starts on trunk or there is no facial involvement, it is not likely measles
 - Measles rashes may be on palms and soles but not as prominent as on face and chest
 - Itchy rash? May be itchy from day 4-7, but not itchy immediately
- 3 “C’s”: Cough, coryza (runny nose), and/or conjunctivitis
- Fever, usually high $\geq 101F$
 - There must be some fever, even subjective fever
 - Appears prior to rash onset
- Koplik spots: not all patients have them

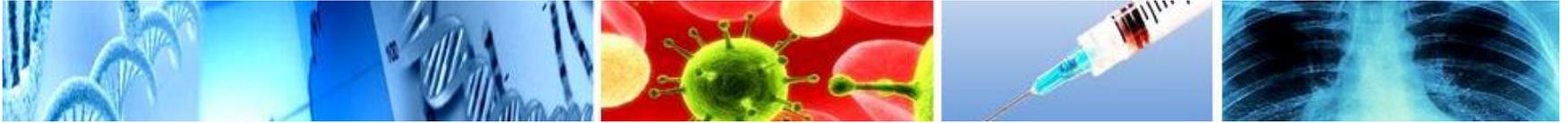
*The only people who have measles rashes that do not start on the head or neck are adults who received killed measles vaccine during 1963-1967 and develop what is called “atypical” measles

Measles: Atypical Clinical Presentation



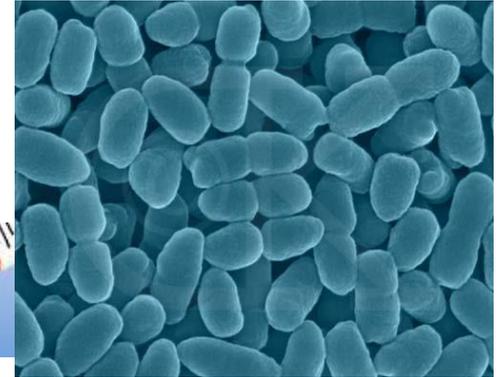
- Atypical disease
 - Usually describes recipients of killed virus vaccine (KMV) from 1963-1967
 - Now also describes 2-dose MMR confirmed measles cases:
 - Rash still **DESCENDS** and has head/facial involvement
 - May have altered rash duration
 - May not have all three “C’s”: cough/conjunctivitis/coryza
 - May not have a fever $\geq 101F$
 - Consider measles, regardless of age or vaccination status
 - Patients who have fever AND a rash
 - Ask about exposure history, including travel
 - Ask about recent MMR vaccination
 - ~5% of children exhibit vaccine reaction with rash & fever 6-12 days after vaccination

Measles Summary



- When is someone with measles considered infectious?
 - **4 days prior to 4 days after rash onset**
- What do you do if you have a suspect measles case?
 1. **Remember clinical diagnosis (fever & rash)**
 2. **Isolate (mask, room) & Notify DPH**
 3. **Get History**
 4. **Collect Specimens**
- What are the recommended specimens to collect for measles testing?
 - **Serum, red-top tube 7-10ml**
 - **Viral throat or NP swab**
 - **Urine, 50-100ml**

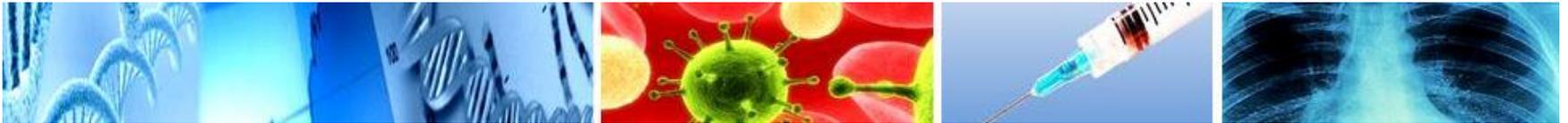
Pertussis (Whooping Cough)



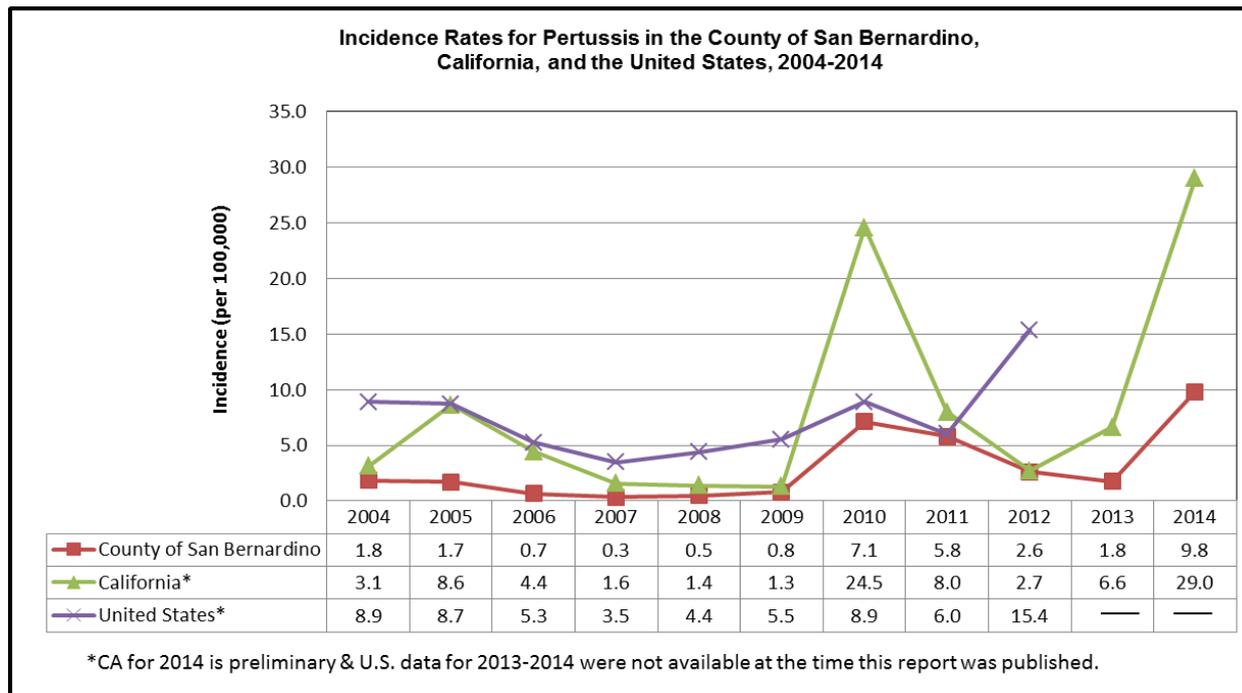
- Etiology: *Bordatella pertussis* (bacteria)
- Symptoms: cold-like symptoms, cough that progresses to become paroxysmal and last up to 2 mo, sometimes post-tussive vomiting
- Incubation period: 6-20 days (9-10 days avg)
- Infectious period: 21 days after sx onset, or 5 days after start of appropriate antibiotics
- Airborne transmission via respiratory droplets
- Public Health Significance:
 - Can be lethal in children <6mo
 - ~50% of infants <1yo are hospitalized
 - Pregnant women
 - Contacts to children <6mo



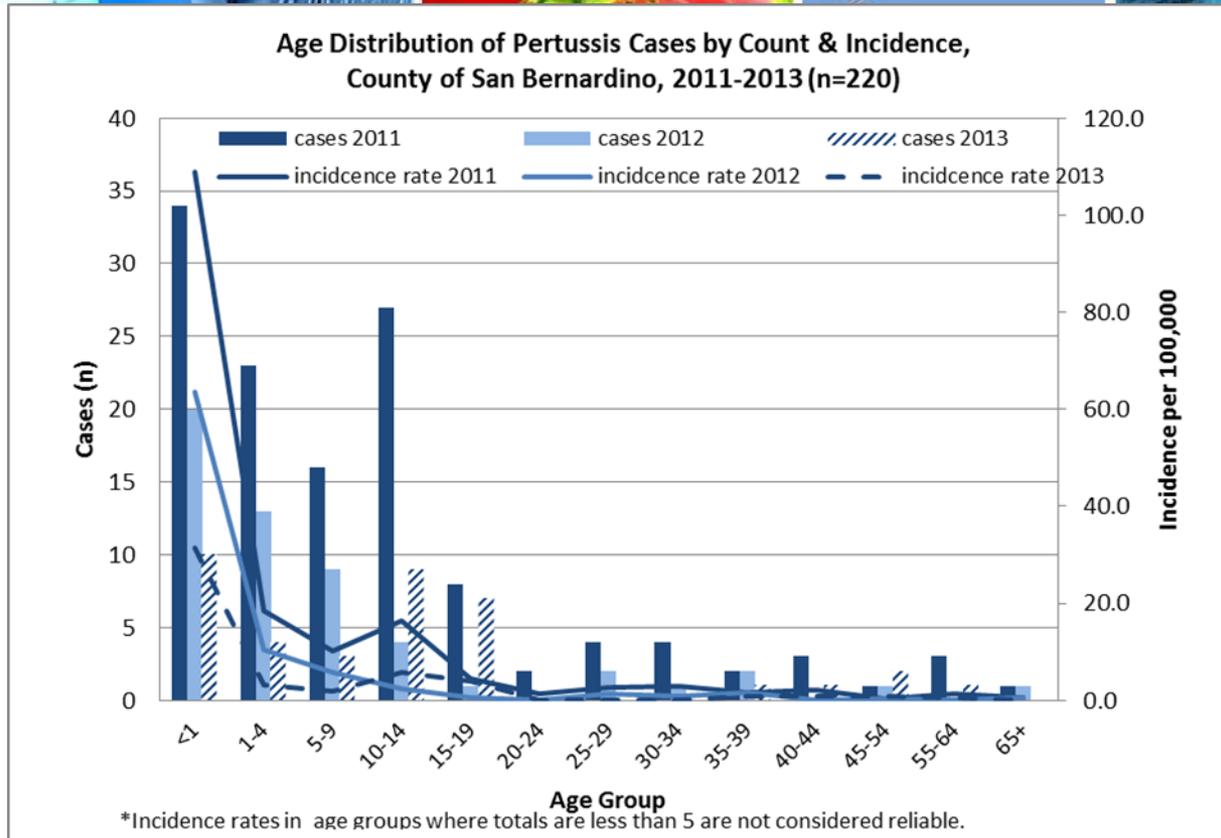
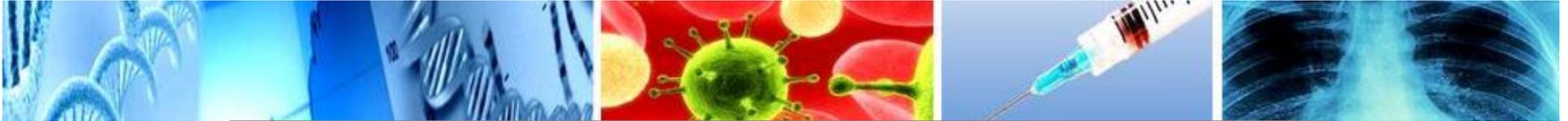
Pertussis in San Bernardino County



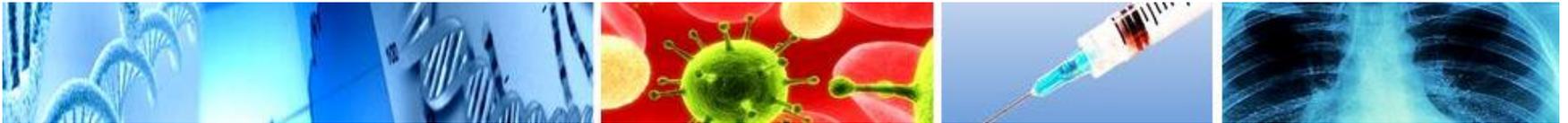
- We had a 550% increase in cases from 2013-2014, a result of the epidemic in CA



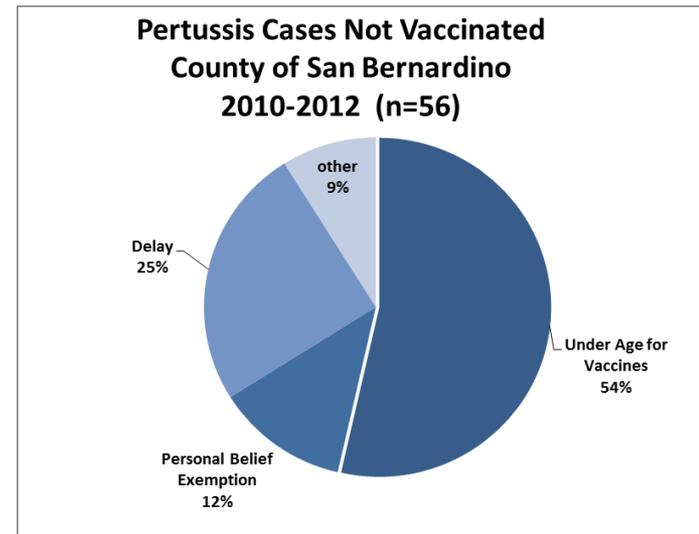
Pertussis by Age



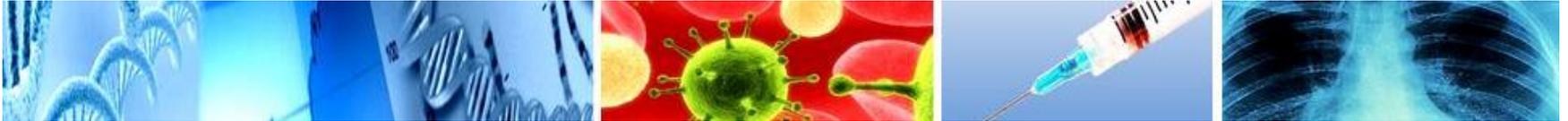
Pertussis: Vaccination Status



- Importance of vaccinating contacts of the newborn: siblings, parents, caregivers
 - ❑ How often is a pregnant mom supposed to be vaccinated for pertussis?
 - Every pregnancy**
 - ❑ When, ideally, during pregnancy?
 - Third trimester**
 - BONUS: why?**
 - Passive immunity from mother to infant helps protect infant until they are old enough to be vaccinated at 6-8 weeks of age**
- Missed opportunities? 25% of those not vaccinated because of delay in starting series or between doses



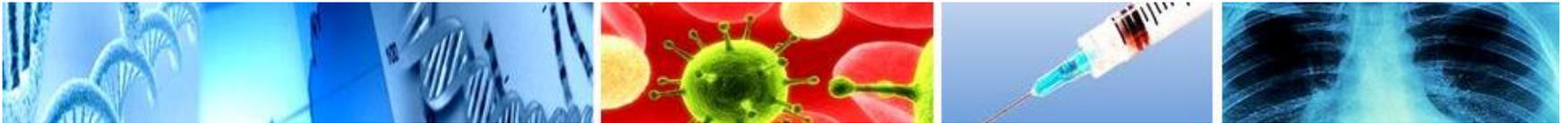
Pertussis Strategies Moving Forward



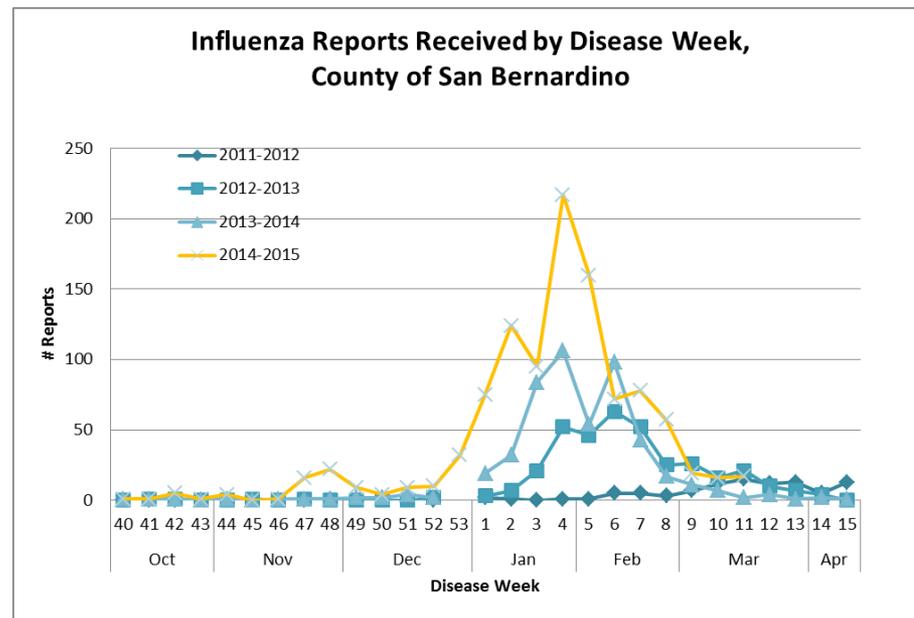
1. Vaccinate **pregnant women**, every pregnancy during the third trimester
2. Immunize **infants** promptly
 - can be as early as 6 weeks, especially if mother did not receive Tdap during pregnancy
3. Vaccinate **household contacts & caregivers** of infants
4. Vaccinate **healthcare workers**, especially those who work with infants or pregnant women
5. Consider pertussis **diagnosis**
 - Regardless of age
 - In recently vaccinated people
 - Young infants
6. **Test** for pertussis (no serology)
 - NP swab or aspirate
 - PCR or culture
7. **Treat** with antibiotics before obtaining test results
8. Consider providing **antibiotic prophylaxis** to people with direct contact with respiratory secretions from the case

CDPH Pertussis web page: <http://www.cdph.ca.gov/HealthInfo/discond/Pages/Pertussis.aspx>

Influenza 2014-2015



- Predominant strain: Influenza A, H3
 - 3 deaths in people aged 0-64, 11 ICU admissions
 - Influenza illnesses detected slightly earlier this season than the last 2 seasons



Overview of Rabies in the San Bernardino County



History

- Rabies detected in CA since 1836, mainly in skunks & dogs
- 1909: outbreak in LA dogs that spread statewide
- 1926-1949: **375** rabid animals, County of San Bernardino
- 1947: First ordinance requiring canine rabies vaccination in County of San Bernardino
 - 1948—last rabid dog identified
- 1961: First positive bat in County of San Bernardino
- 2009: 5
- 2010: 7
- 2011: 12
- 2012: 10
- 2013: 14
- 1993: last rabid cat reported
- 2001: last rabid fox reported
- 2013: ***first*** documented rabid skunk
- No human rabies ever reported in County of SB





Rabies Exposure Evaluation

Factors for consideration:

➤ Circumstances of bite/exposure

- Provoked or non-provoked?
- Type of animal
- Vaccination status

➤ Non-bite transmission

- Transplants
- Spelunkers
- Lab workers

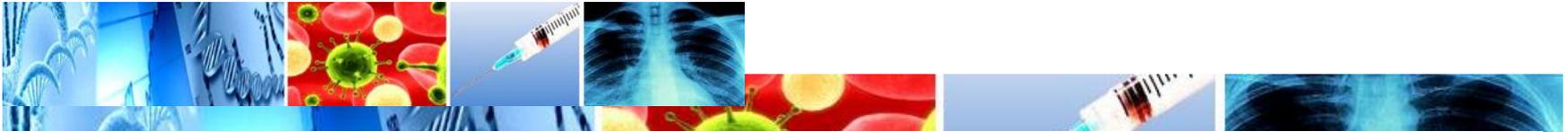
Electronic Reporting via CalREDIE: Provider Portal

- Allow providers to report directly to SBDPH via CalREDIE
- Brief training
- Meaningful Use requirements
- If interested, contact Communicable Disease Section, 1.800.722.4794

The screenshot shows the 'Supplemental' tab of the CalREDIE Provider Portal. The form is titled '* Disease Being Reported' and contains various fields for patient information, including name, SSN, DOB, address, and contact details. It also includes sections for ethnicity and race, and a 'Reported Race' field. The form is designed for data entry and includes a 'Next' button at the bottom right.

Patient		Supplemental	
* Disease Being Reported			
* Last Name	* First Name	Middle Name	Name Suffix
SSN	DOB (MM/DD/YYYY)	Age	Months Days
Address Number & Street		Apartment/Unit Number	
City	State	Zip	
Census Tract	County of Residence	Country of Residence	
Country of Birth	Date of Arrival (MM/DD/YYYY)	Home Telephone	
E-mail Address		Cellular Phone / Pager	Work/School Telephone
Work/School Location		Work/School Contact	
* Gender	Pregnant?	Estimated Delivery Date	
Marital Status	Medical Record Number	Occupation Setting	
Occupation	Describe/Specify	Occupation Location	
Request New Report Source	* Submitter Name	* Reporting Source	

Resource for School Staff



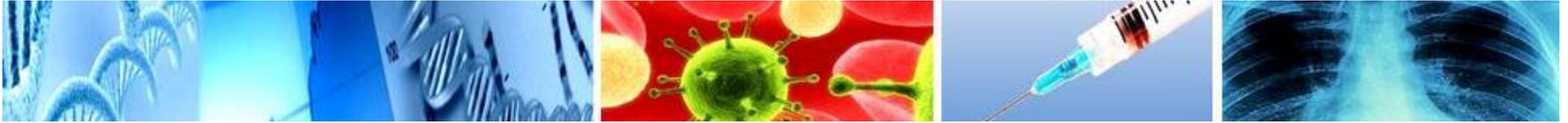
Quick Reference for Exclusion of Students & Staff

Please report ALL cases of **Unusual disease** and **Outbreaks** to San Bernardino Department of Public Health:
1.800.722.4794 or <http://www.sbcounty.gov/pubhlth/>

Developed by SBCSS Health Services in cooperation with San Bernardino County Department of Public Health Communicable Disease Section

Disease	Transmission	Report	Exclusion
Chickenpox/Shingles/Varicella	Direct contact, Indirect contact, Airborne, Droplet	Yes--outbreaks & hospitalizations	Yes, until vesicles dry Yes, until 24h after treatment or released by MD
Conjunctivitis	Direct contact	Outbreak only	Yes, until recovered
Diarrhea/Vomiting	Fecal-oral	Outbreak only	Yes, if fever present
Fifth Disease	Direct contact	Outbreak only	Yes, during acute illness
Hand, Foot, and Mouth	Fecal-oral, Direct contact	Outbreak only	Yes, until rtreated and no nits
Head lice	Direct contact	Outbreak only	Yes, until lesions healed or covered or 24h after treatment
Impetigo	Direct contact	Outbreak only	Yes, until recovered
Influenza	Droplet, Direct contact, Indirect contact	Hospitalized cases, Outbreaks	Yes, 4 days past onset of rash
Measles/Rubeola	Droplet, Direct contact	Yes	Yes, until released by MD
Meningitis	Direct contact, Droplet	Yes	Yes, until no longer acutely ill
Mononucleosis	Direct contact Airborne, Direct contact,	Outbreak only	

I think I have a case of... Should I report...?



MERS-CoV

Ebola

Measles

Mumps

Pertussis

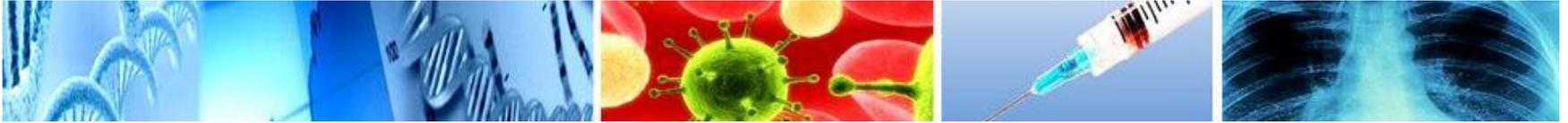
- What specimens do we collect? Where do we send them?
- Do we worry about office/school exposures?
- How long is the person infectious? Off-work/school orders?

We are your resource!

**Call us: SBDPH Communicable Disease Section
1.800.722.4794**

Summary:

SBDPH Communicable Disease Section



- Investigation: individual cases & outbreaks
- Surveillance:
 - Passive for all diseases except TB contacts
 - Active for identifying TB contacts (potential cases), outbreak investigation
- Prevention:
 - case-patient education re: disease transmission & vaccination,
 - TB screening for contacts to active TB case

<http://www.sbcounty.gov/pubhlth/>

1.800.722.4794

Public Health Duty Officer available after hours

Questions?

