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
• Describe the type of contact necessary to transmit invasive meningococcal disease (IMD)
• Describe the reservoir for rabies in CA
• 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)

- There are 4 different CMRs:
  - Tuberculosis
  - Lapses of consciousness, Alzheimer's disease
  - All other communicable diseases
  - Animal patients

- Available on our website
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 in CA

58 confirmed measles cases have been reported as of April 23, 2014
2013: 4 measles cases at this date

Exposures
- 13 patients traveled outside N & S America
  - Philippines (8)
  - India (2)
  - Vietnam (1)
  - W Europe (1)
- 34 had contact with known cases
- 3 contact with international travelers
- 8 under investigation

Vaccination Status (age range 5mo to 60y)
- 25 (43%) unvaccinated (19 intentionally, 3 too young, 3 unk reason)
- 11 received appropriate vaccination
- 4 had serologic immunity

BE READY!
Orange County: 22 cases
Riverside County: 5 cases
Los Angeles County: 10 cases
San Diego: 4 cases
Measles

VISITING ANOTHER COUNTRY? PROTECT YOUR FAMILY.

THINK MEASLES

ATTENTION: YOU COULD HAVE MEASLES.

If you have:

- a fever
- a rash
- traveled overseas in the last 3 weeks

Tell Staff and Get a Mask.
Protect Yourself and Others Now!

Measles is very contagious and is widespread in many parts of the world.

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 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

http://www.cdph.ca.gov/HealthInfo/discond/Pages/Measles.aspx
Pertussis: San Bernardino & Riverside Counties

Incidence Rates for Pertussis in the County of San Bernardino, California, and the United States, 2003-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>County of San Bernardino</th>
<th>California*</th>
<th>United States*</th>
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<tr>
<td>2003</td>
<td>0.9</td>
<td>2.8</td>
<td>4.0</td>
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<tr>
<td>2004</td>
<td>1.8</td>
<td>3.1</td>
<td>8.9</td>
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<tr>
<td>2005</td>
<td>1.7</td>
<td>8.6</td>
<td>8.7</td>
</tr>
<tr>
<td>2006</td>
<td>0.7</td>
<td>4.4</td>
<td>5.3</td>
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<tr>
<td>2007</td>
<td>0.3</td>
<td>1.6</td>
<td>3.5</td>
</tr>
<tr>
<td>2008</td>
<td>0.5</td>
<td>1.4</td>
<td>4.4</td>
</tr>
<tr>
<td>2009</td>
<td>0.8</td>
<td>1.3</td>
<td>5.5</td>
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<tr>
<td>2010</td>
<td>7.1</td>
<td>24.5</td>
<td>8.9</td>
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<td>2011</td>
<td>5.8</td>
<td>8.0</td>
<td>6.0</td>
</tr>
<tr>
<td>2012</td>
<td>2.6</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>1.8</td>
<td></td>
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</table>

*CA & U.S. data for 2012-2013 were not available at the time this report was published.

Figure 2.1: Pertussis Incidence Rates, Riverside County 1996-2012

* Provisional Data
Figure 2.2: Pertussis Incidence Rates by Age, Riverside County 2009-2012

*Incidence rates in some age groups where totals are less than 5 are not considered reliable.*
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
- Missed opportunities? 25% of those not vaccinated because of delay in starting series or between doses
Influenza 2013-2014

- Predominant strain: Influenza A, 2009 H1N1
  - Influenza illnesses detected slightly earlier this season than the last 2 seasons, ended earlier
  - ~1/3 of deaths occurred among 18-49yo
  - ~50% of reportable ICU admissions were among 18-49yo
Health Alert
Invasive Meningococcal Disease (IMD)

- LA County: 4 cases of IMD among men who have sex with men (MSM) since January 2014
  - 3 were HIV-infected
  - 3 died

➢ Vaccination for:
  o HIV-infected MSM
  o MSM, regardless of HIV status who have close or intimate contact with multiple partners

What is considered close/intimate contact for IMD?
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
West Nile Virus

County of San Bernardino, 2013
- 17 WNV infections in residents: 4 asymptomatic blood donors, 11 neuroinvasive disease [including 1 death], 2 non-neuroinvasive
- Most symptomatic cases were exposed in San Bernardino County
- Communicable Disease Section coordinates with DPH Vector Control: locations of exposure & surveillance
  *Two mosquito pools have tested positive in SB County*
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
# 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*

<table>
<thead>
<tr>
<th>Disease</th>
<th>Transmission</th>
<th>Report</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickenpox/Shingles/Varicella</td>
<td>Direct contact, Indirect contact, Airborne, Droplet</td>
<td>Yes--outbreaks &amp; hospitalizations</td>
<td>Yes, until vesicles dry</td>
</tr>
<tr>
<td>Conjunctivitis</td>
<td>Direct contact</td>
<td>Outbreak only</td>
<td>Yes, until 24h after treatment or released by MD</td>
</tr>
<tr>
<td>Diarrhea/Vomiting</td>
<td>Fecal-oral</td>
<td>Outbreak only</td>
<td>Yes, until recovered</td>
</tr>
<tr>
<td>Fifth Disease</td>
<td>Direct contact</td>
<td>Outbreak only</td>
<td>Yes, if fever present</td>
</tr>
<tr>
<td>Hand, Foot, and Mouth</td>
<td>Fecal-oral, Direct contact</td>
<td>Outbreak only</td>
<td>Yes, during acute illness</td>
</tr>
<tr>
<td>Head lice</td>
<td>Direct contact</td>
<td>Outbreak only</td>
<td>Yes, until treated and no nits</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes, until lesions healed or covered or 24h after treatment</td>
</tr>
<tr>
<td>Impetigo</td>
<td>Direct contact</td>
<td>Outbreak only</td>
<td></td>
</tr>
<tr>
<td>Influenza</td>
<td>Droplet, Direct contact, Indirect contact</td>
<td>Hospitalized cases, Outbreaks</td>
<td>Yes, until recovered</td>
</tr>
<tr>
<td>Measles/Rubeola</td>
<td>Droplet, Direct contact</td>
<td>Yes</td>
<td>Yes, 4 days past onset of rash</td>
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<tr>
<td>Meningitis</td>
<td>Direct contact, Droplet</td>
<td>Yes</td>
<td>Yes, until released by MD</td>
</tr>
<tr>
<td>Mononucleosis</td>
<td>Direct contact</td>
<td>Outbreak only</td>
<td>Yes, until no longer acutely ill</td>
</tr>
</tbody>
</table>
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.sbccounty.gov/pubhlth/
1.800.722.4794
Public Health Duty Officer available after hours
Questions?