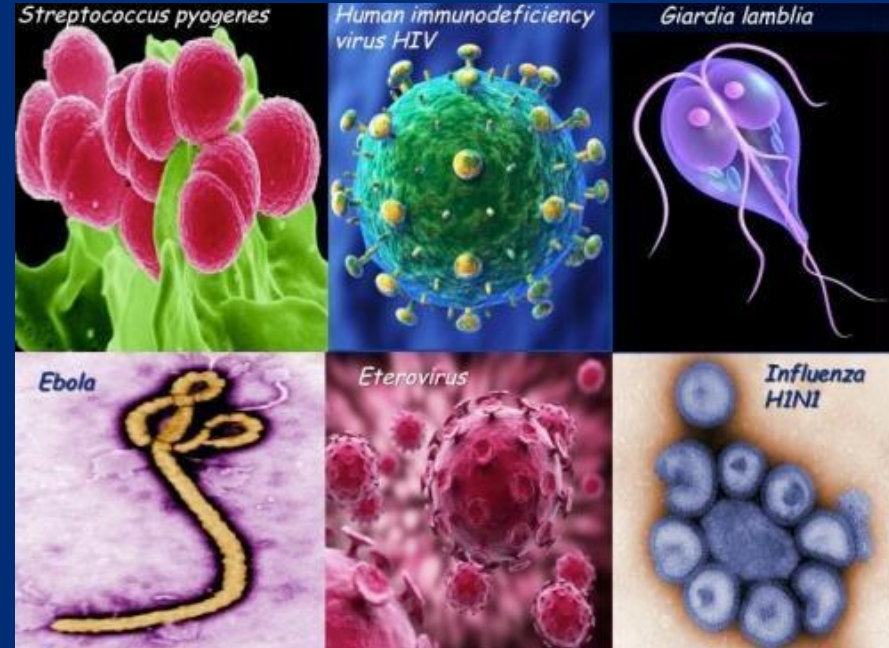




Department of Public Health
Communicable Disease Division

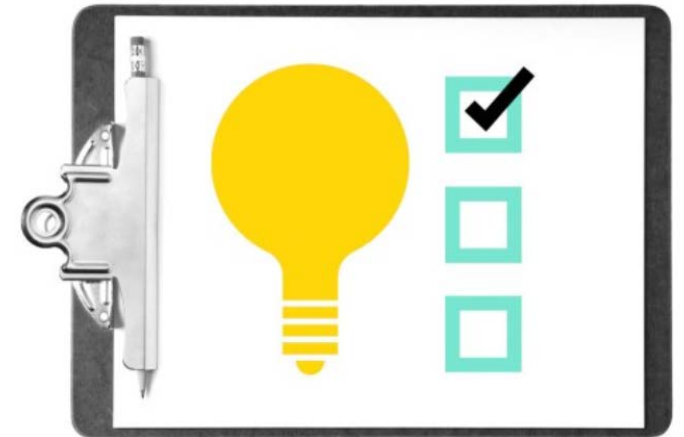
Communicable Disease Update

Ruchi Pancholy, MPH,
Epidemiologist
May 8, 2019



Learning Objectives

- Understand role of Communicable Disease Section & discuss reportable conditions in San Bernardino County
- Identify 2 conditions that must be reported immediately
- Understand process of conducting a communicable disease investigation
- Highlight current emerging diseases in San Bernardino County
- Discuss prevention & control measures for Hepatitis A, Mumps, & Measles

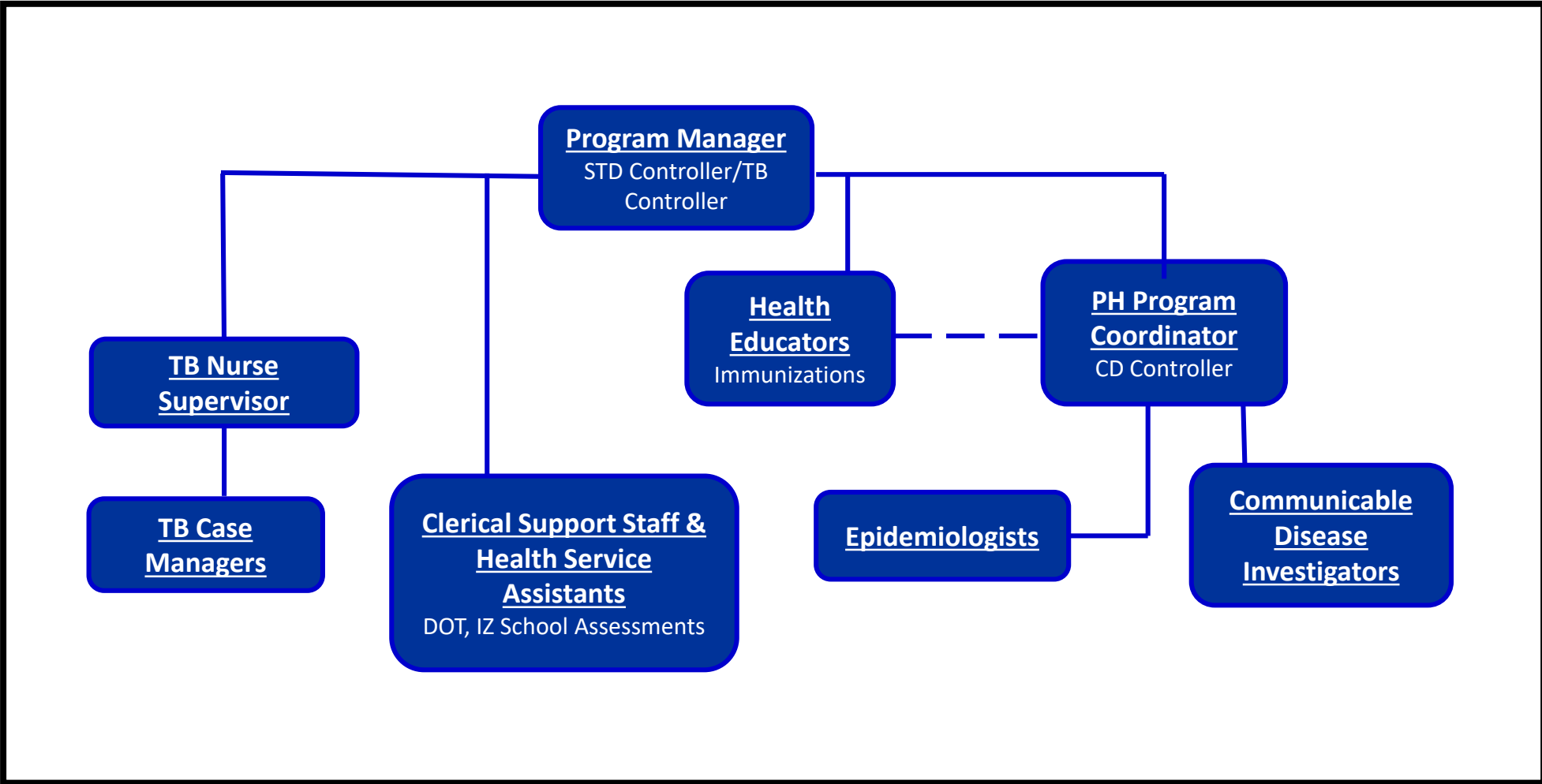


What is the Communicable Disease Section?


- **The Communicable Disease Section (CDS):** Responsible for the identification, prevention, & control of **>85 infectious diseases** in San Bernardino County
- **Emphasis is on:** Epidemiology & Public Health Surveillance
- Outbreak Investigation & Response
- **Primary Goal:** Protect the Public!



Communicable Disease Section



Reportable Conditions in San Bernardino County

 Reportable IMMEDIATELY by calling (800) 722-4794 and CalREDIE		
Anthrax , human or animal Botulism , (infant, food borne, wound) Brucellosis , human Cholera Dengue Diphtheria Escherichia-coli 0157 STEC (including E-coli 0157) Flavivirus Infection of Undetermined Species Hemolytic Uremic Syndrome Influenza , novel strains (human)	HIV , acute infection Measles (Rubeola) Meningococcal Infections Novel Virus Infection with Pandemic Potential Plague , human or animal Rabies , human or animal Seafood Poisoning -Ciguatera -Domoic Acid -Paralytic Shellfish -Scombroid	Smallpox (Variola) Tularemia , human Viral Hemorrhagic Fevers , human or animal (e.g. Crimean-Congo, Ebola, Lassa, and Marburg) Yellow Fever Zika Virus Infection Occurrence of Any unusual disease Outbreaks of any disease (including diseases not listed in §2500) Specify if institutional and/or open community)

 Reportable within ONE DAY by phone, fax, or CalREDIE		
Amebiasis Babesiosis Campylobacteriosis Chickenpox (Varicella) outbreaks, hospitalizations and deaths Cryptosporidiosis Encephalitis, Specify Etiology: bacterial, fungal, parasitic, viral †Foodborne Disease Haemophilus Influenzae, (Invasive <5 yrs. of age) Hantavirus	Hepatitis A - acute Listeriosis Malaria Meningitis, Specify Etiology: bacterial, fungal, parasitic, viral Pertussis Poliovirus infection Psittacosis Q. Fever Relapsing Fever Salmonellosis Shigellosis	Staph Infections (ICU/death) Streptococcal Infections (outbreaks of any kind and individuals cases in food handlers/dairy workers) Syphilis Trichinosis Tuberculosis Typhoid Fever, Cases and Carriers Vibrio Infections West Nile Virus Yersiniosis

† Report immediately by telephone when two or more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness

Reportable Conditions in San Bernardino County

FAX   **Reportable within 7 CALENDAR DAYS by phone, fax, or CalREDIE**

Brucellosis, animal (except Brucella canis)	Gonococcal Infections	Leptospirosis
Chancroid	Hepatitis B, acute and chronic	Lyme disease
Chikungunya	Hepatitis C, acute and chronic	Mumps
Chlamydia (including LVG)	Hepatitis D (Delta), acute and chronic	Respiratory Syncytial Virus (RSV)
Coccidioidomycosis	Hepatitis E, acute infection	Rickettsial Diseases (includes typhus)
Creutzfeldt - Jakob disease (all TSE's)	HIV (reporting procedure below)	Rocky Mountain Spotted Fever
Cyclosporiasis	Influenza deaths, lab confirmed	Rubella (German measles)
Cysticercosis or taeniasis	Cases (age 0-64yrs)	Rubella Syndrome, Congenital
Ehrlichiosis/Anaplasmosis	Legionellosis	Tetanus
Giardiasis	Leprosy (Hansen's disease)	Tularemia, animal

Cases can be reported via the following methods:

▪ Electronically via CalREDIE	https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/CalREDIE-Provider-Portal.aspx
▪ Phone	(Business Hours), 1-800-722-4794/ (After Hours), 909-356-3805
▪ Fax	909-387-6377
▪ Mail	San Bernardino County Department of Public Health, ATTN: Communicable Disease Section, 351 N. Mountain View Ave, Rm. 104, San Bernardino, CA, 92415

Reporting 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 treated and no nits Yes, until lesions healed or covered or 24h after treatment
Head lice	Direct contact	Outbreak only	Yes, until recovered
Impetigo	Direct contact	Outbreak only	Yes, 4 days past onset of rash
Influenza	Droplet, Direct contact, Indirect contact	Hospitalized cases, Outbreaks	Yes, until released by MD
Measles/Rubeola	Droplet, Direct contact	Yes	Yes, until no longer acutely ill
Meningitis	Direct contact, Droplet	Yes	
Mononucleosis	Direct contact	Outbreak only	
	Airborne, Direct contact,		

Disease Surveillance: “You are our eyes and our ears!”

- An important part of surveillance is being alerted to any unusual diseases or occurrences in humans & animals
 - Unusual Disease
 - Increased Incidence
 - Off-season illnesses
 - Change in severity of illness



What Happens When Cases Are Reported?

- Initially, every case that is reported to us are considered **Suspect Cases** until deemed otherwise. (**Confirmed, Probable**)
- **Surveillance Case Definition:** A set of standard criteria used to define a disease for public health surveillance.
 - Every reportable disease or condition has a [Surveillance Case Definition](#)
 - **Purpose:** Enables public health officials to classify and count cases consistently across reporting jurisdictions

Suspect Case	Individual has some of the clinical features related to the disease (e.g., Hepatitis A- fever & jaundice)
Probable Case	Individual usually has characteristic clinical features of the disease, but lacks laboratory confirmation
Confirmed Case	A laboratory confirmed case

Steps to Solving Our Public Health Investigations

- **Investigate:** Interviewing Cases & Determining Risk Factors & Exposures
- **Control Disease:** Providing medications and immunizations (e.g., mass vaccination clinic)
- **Educate:** Informing and educating health care workers & the public, referring and connecting people to resources
- **Conduct Surveillance:** Notifying State and National public health officials as necessary, and reporting illnesses to the State & CDC

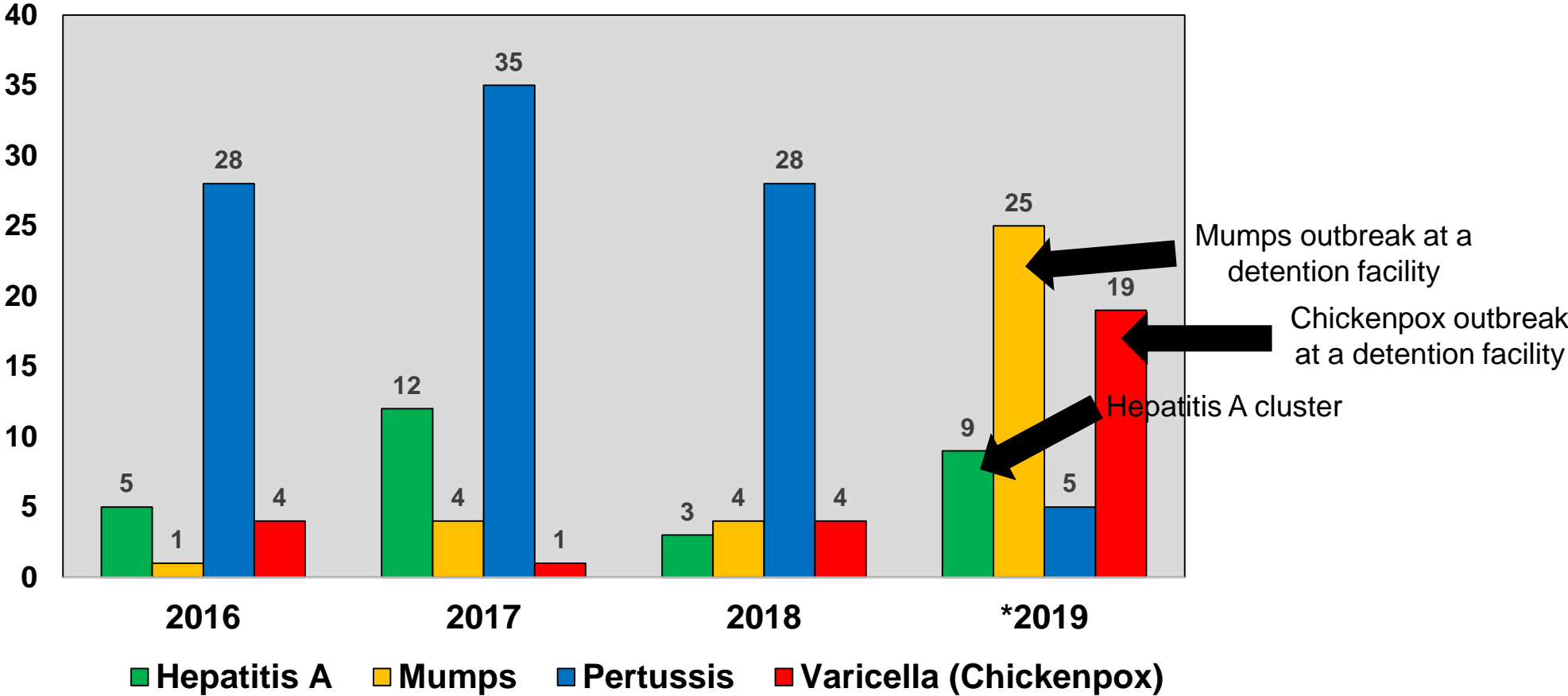


Diseases of Public Health Importance in San Bernardino County

Disease	2014	2015	2016	2017	2018	2019*
Hepatitis A	2	4	5	12	3	9
Hepatitis B, Acute	9	13	4	9	5	-----
Influenza	995	663	942	995	1,121	-----
Measles (Rubeola)	1	12	0	0	0	0
Meningococcal Disease (Invasive)	1	2	1	2	1	-----
Mumps	6	7	1	4	4	27
Pertussis	205	82	28	35	28	5
Varicella	3	3	4	1	4	19

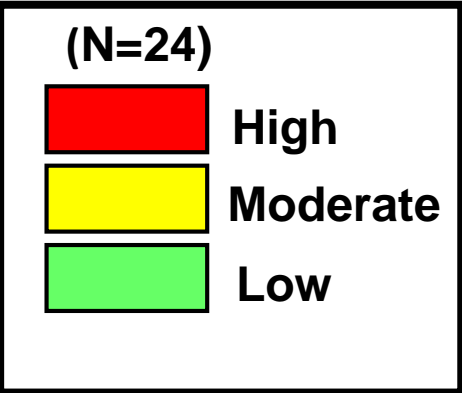
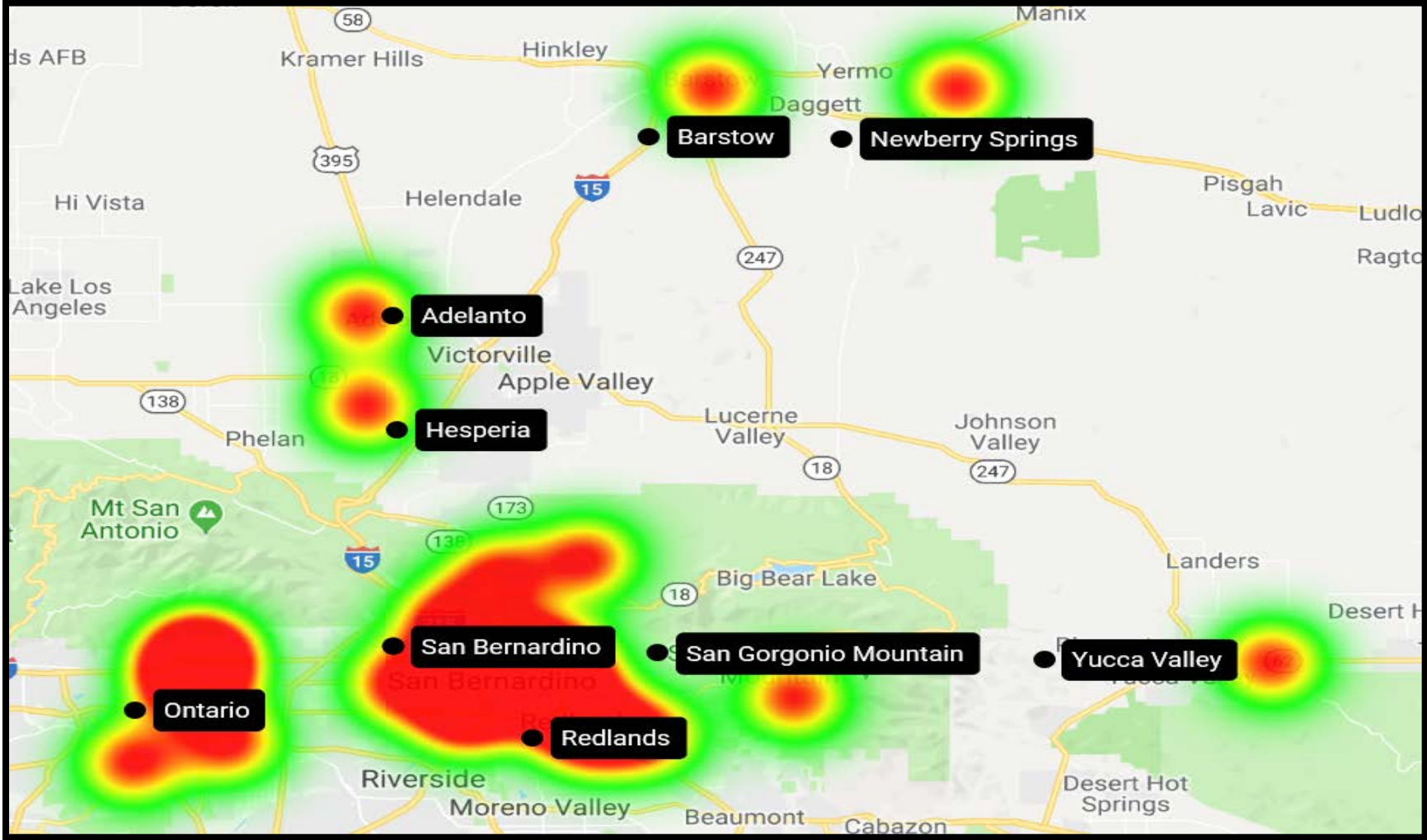
*2018 & 2019 data are provisional.

Selected Diseases by Year in San Bernardino County



*2019 Data is Preliminary. Data is from January 1, 2019 to April 19, 2019

Hepatitis A Hotspots in San Bernardino County, 2017-2019



Diseases of Public Health Importance in San Bernardino County

Disease	2015	2016	2017	2018*
Coccidioidomycosis	36	39	88	96
Legionellosis	24	49	29	33
Shigellosis	47	45	72	58
West Nile virus-Asymptomatic	6	0	11	1
West Nile virus-Neuroinvasive	47	8	45	8
West Nile virus- West Nile fever	7	0	12	1
Zika Virus Infection	0	18	7	0

*2018 data is provisional



Emerging Diseases in 2019 in San Bernardino County

Hepatitis A



From January 1-February 17, 2019, CDS identified 9 Hepatitis A confirmed cases. Five out of 9 reported drug use; among these, 3 were homeless.

Varicella



From January 13- April 1, 2019, 19 confirmed chickenpox cases were identified in detainees housed at an ICE facility.

Mumps



From February 6, 2019-April 25, 2019, we identified 25 mumps cases among detainees from the same ICE facility as the ongoing chickenpox outbreak.

Measles



In May 2019, we received several contact investigations to measles cases in Orange County and Los Angeles

January-February 2019
(Hepatitis A Cluster)

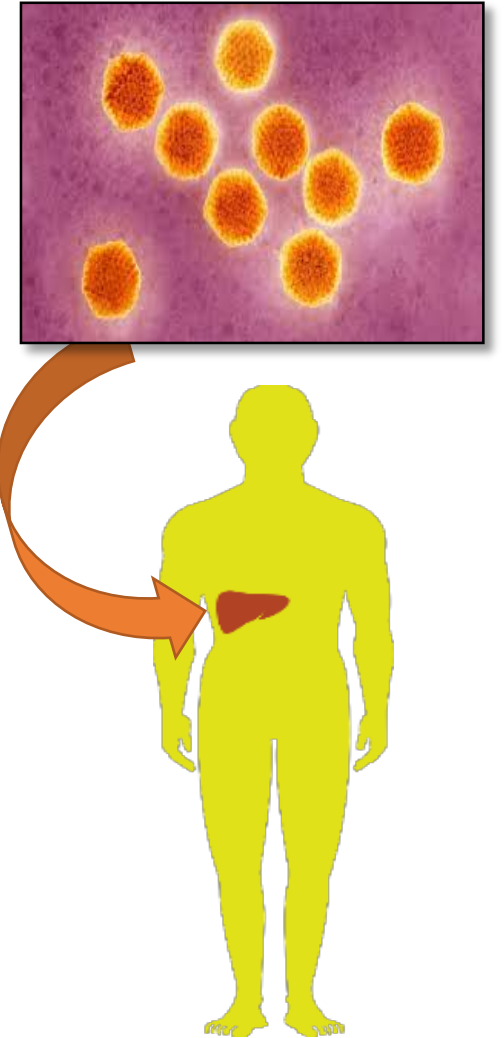
January- April 2019

March 2019-April 2019

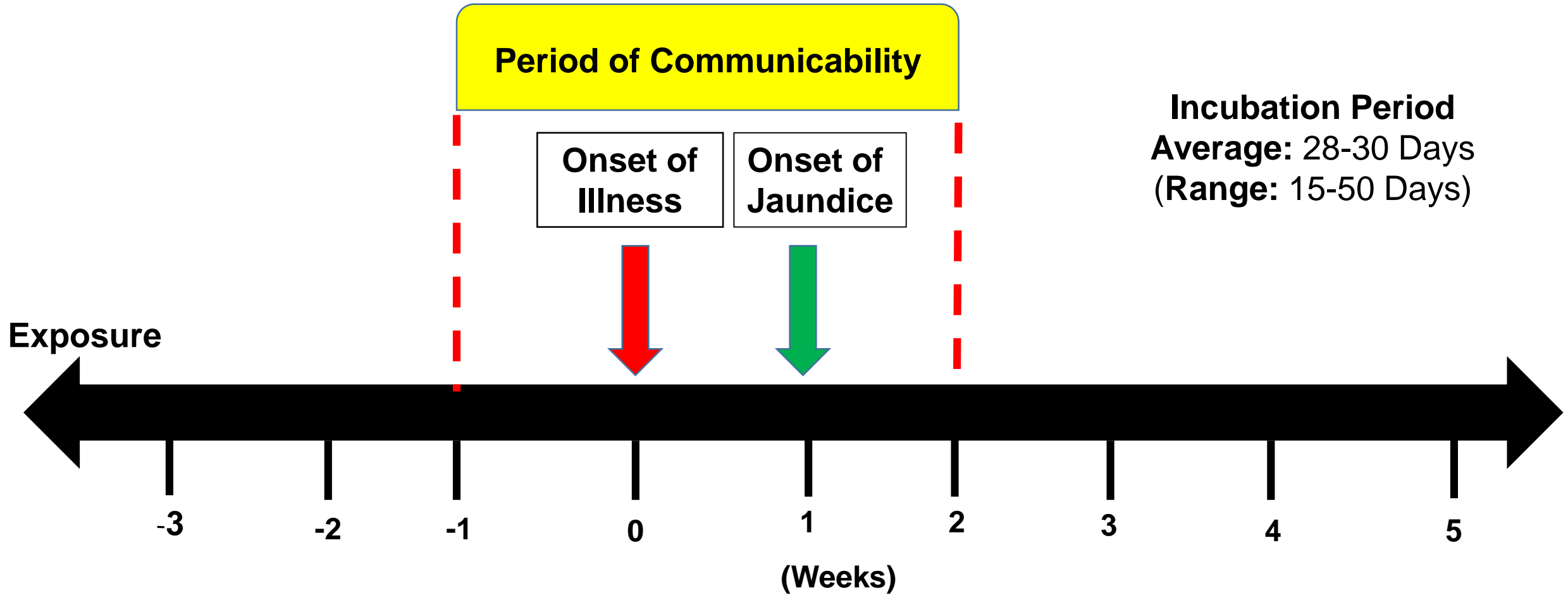
May 2019

Hepatitis A Background

- **What is hepatitis A?:** A viral infection of the liver that is spread when fecal matter enters the mouth
- **Transmission:** Ingestion of fecal matter, even in **microscopic amounts** from:
 - Touching objects or food that someone with Hepatitis A handled
 - Close person-to-person contact with an infected person
 - Use of recreational drugs, whether injected or not
 - Sexual contact with someone who has Hepatitis A infection
- **Incubation Period:** 15-50 Days after exposure (Average: 28 Days). Most infectious 2 weeks before symptom onset until 1 week after jaundice begins
- **Outbreak Strain:** 2 dominant outbreak strains of Genotype 1b



Hepatitis A Disease Progression



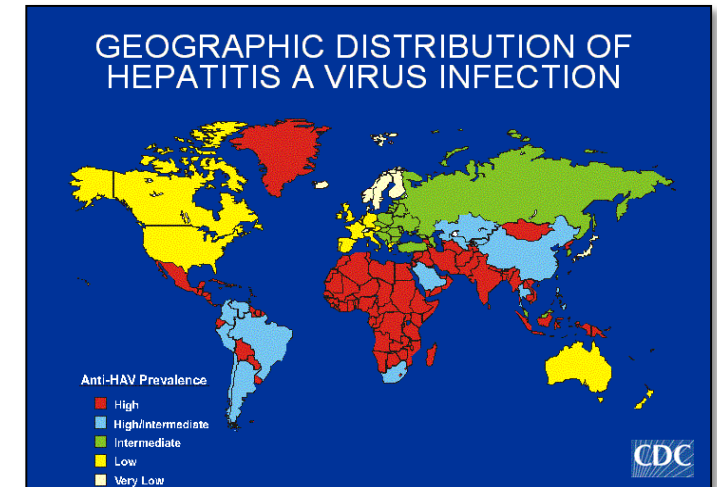
Hepatitis A Background (Continued)

▪ Risk Factors

- Travelling to countries where Hepatitis A infection is common or areas in US with recent outbreaks (e.g., AZ)
- Men Who Have Sex with Men
- Homeless Persons
- Intravenous and Non-intravenous Drug Users

▪ Prevention: Hepatitis A Vaccine

- **Post-Exposure Prophylaxis:** If a person is exposed to Hepatitis A, he or she can be treated with vaccine within 2 weeks of exposure



Hepatitis A Symptoms

- Fever
- Fatigue
- Nausea
- Loss of Appetite
- Jaundice
- Stomach Pain
- Vomiting Dark Urine
- Pale Stools
- Diarrhea



Fever



Fatigue



Nausea



Loss of Appetite



Jaundice



Stomach Pain



Vomiting



Dark Urine
Pale Stools
Diarrhea

Our Proactive Approach to Prevent Hepatitis A Outbreaks

- **Vaccination:** Provided 17 doses of Hepatitis A vaccine & distributed 13 hygiene kits to homeless individuals and drug users at a homeless facility in Victorville on 4/11/19.
- **Education/Outreach to High Risk Groups:** Posted educational material (e.g., posters, infographics) at different venues in the County including: homeless shelters, food banks, soup kitchens, etc.
- Notified Providers of Hepatitis A Outbreak and advised them to report suspected Hepatitis A cases before lab results become available
- Developed a supplemental Hepatitis A Questionnaire to gather additional exposure information from cases



Help Stop the Spread of Hepatitis A

Hepatitis A cases are increasing in San Bernardino County. Hepatitis A is a serious liver disease that can easily be passed from person to person. Anyone can get hepatitis A. It spreads when people do not wash their hands before making food and drinks. It also spreads through close contact with people who have hepatitis A. Washing your hands with soap and warm water after using the bathroom, changing a diaper, or before making food and drinks can help stop the spread of hepatitis A.

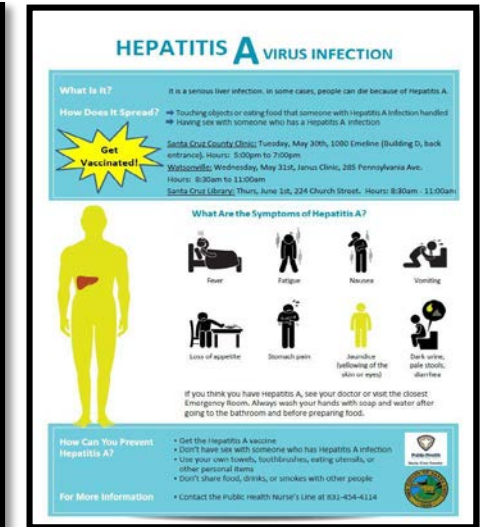
Wash Your Hands

1. **Wet** your hands with clean, running warm water and apply soap.
2. **Lather** your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
3. **Scrub** your hands for at least 20 seconds.
4. **Rinse** your hands well under clean, running warm water.
5. **Dry** your hands using a clean towel or air dry them.

*Alcohol based hand sanitizers are not effective against the hepatitis A virus.

The best way to protect against hepatitis A is to get the hepatitis A vaccine. Talk to your healthcare provider about getting vaccinated. For more information regarding hepatitis A, contact the Communicable Disease Section at (800) 722-4794.

San Bernardino County Public Health Communicable Disease Section Adapted with permission from the Michigan Department of Health and Human Services.



HEPATITIS A VIRUS INFECTION

What is it? It is a serious liver infection. In some cases, people can die because of hepatitis A.

How Does it Spread? Touching objects or eating food that someone with hepatitis A infection handled. Having sex with someone who has a hepatitis A infection.

Get Vaccinated!

Sanita Cruz County Clinic: Tuesday, May 29th, 1000 Emelise (Building D, back entrance). Hours: 9:00am to 7:00pm.
Walsenburg: Wednesday, May 31st, Janus Clinic, 285 Pennsylvania Ave. Hours: 8:30am to 11:00am.
Sanita Cruz Library: Thurs, June 1st, 224 Church Street. Hours: 8:30am - 11:00am.

What Are the Symptoms of Hepatitis A?

Fever, Fatigue, Nausea, Vomiting, Loss of appetite, Stomach pain, Jaundice (yellowing of the skin or eyes), Dark urine, pale stools, diarrhea.

If you think you have hepatitis A, see your doctor or visit the closest Emergency room. Always wash your hands with soap and water after going to the bathroom and before preparing food.

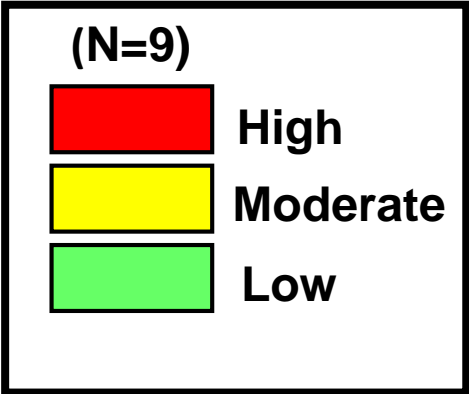
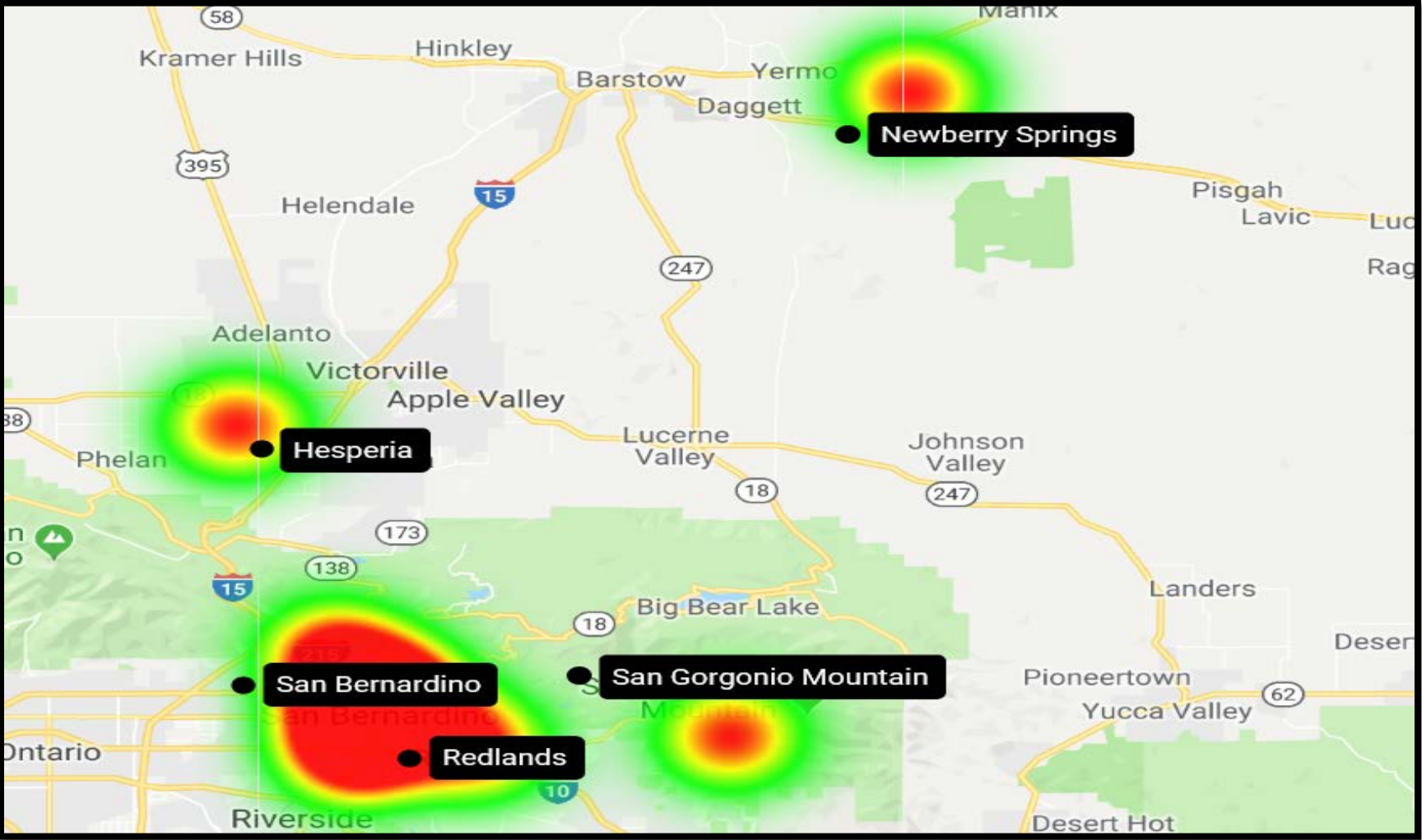
How Can You Prevent Hepatitis A?

- Get the hepatitis A vaccine
- Don't have sex with someone who has hepatitis A infection
- Use your own towels, toothbrushes, eating utensils, or other personal items
- Don't share food, drinks, or smokes with other people

For More Information • contact the Public Health Nurse's Line at 832-424-4124

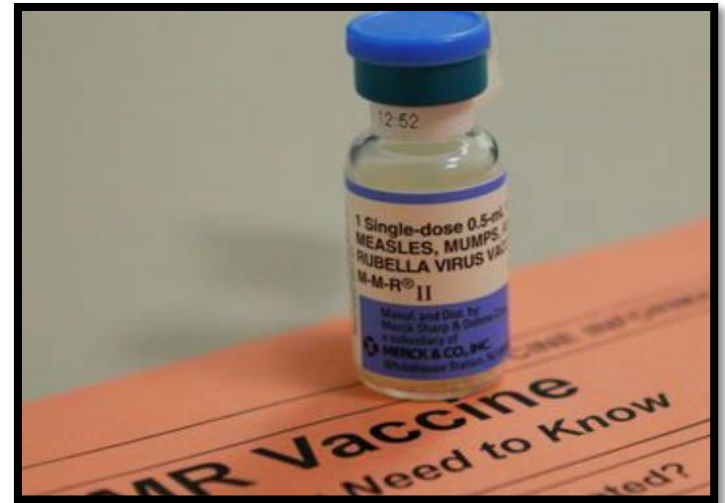
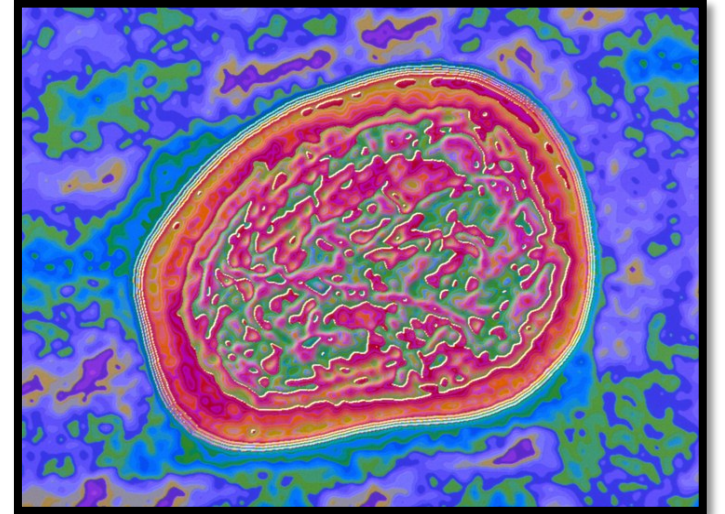


Hepatitis A Hotspots in San Bernardino County, 2019



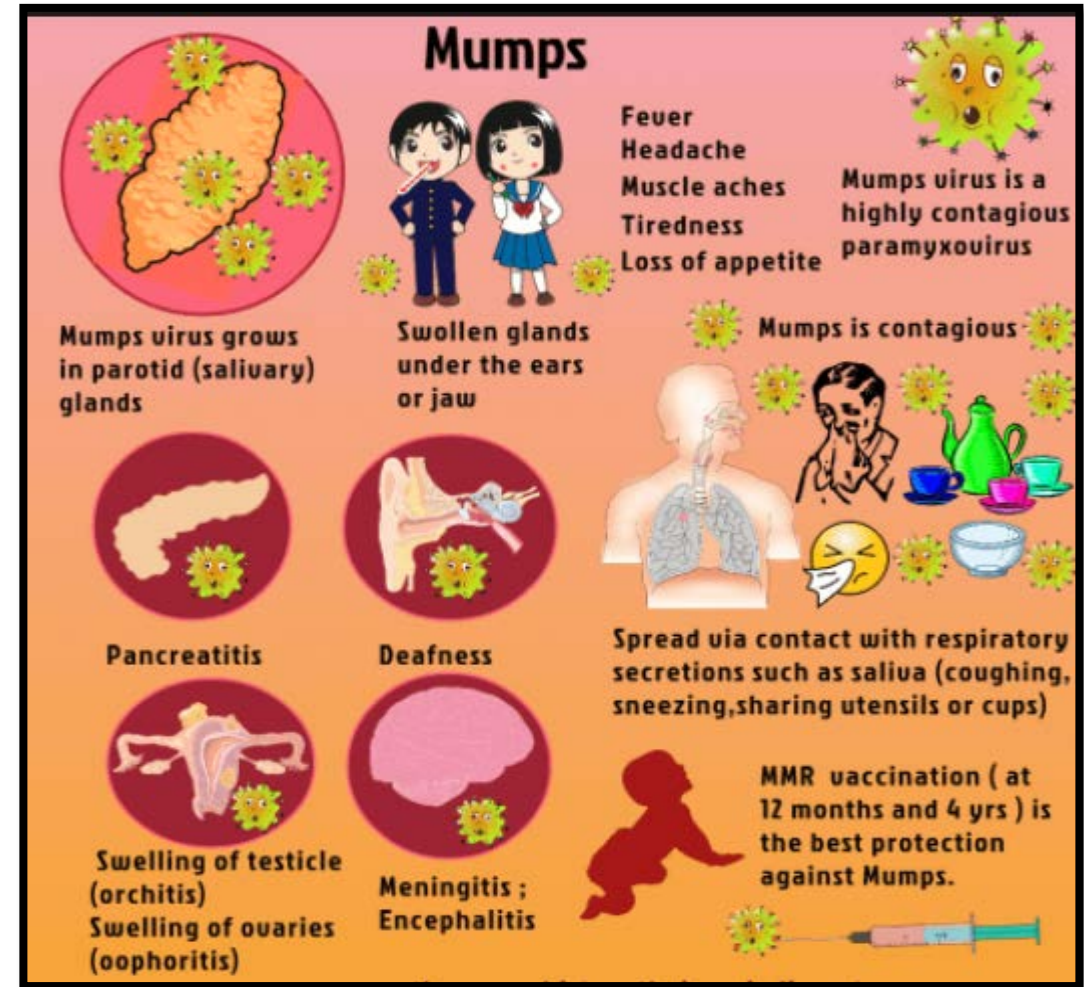
Mumps Background

- **What is Mumps?:** Contagious viral disease caused by a paromyxovirus that is preventable by MMR vaccine
- **Transmission:** Direct contact with respiratory droplets or saliva from infected person
 - Spreads rapidly among persons in close settings (e.g., detention centers, jails)
- **Incubation Period:** 12-25 Days after exposure (**Average:** 16-18 Days). Most infectious 2 days before onset of parotitis to 5 days after onset

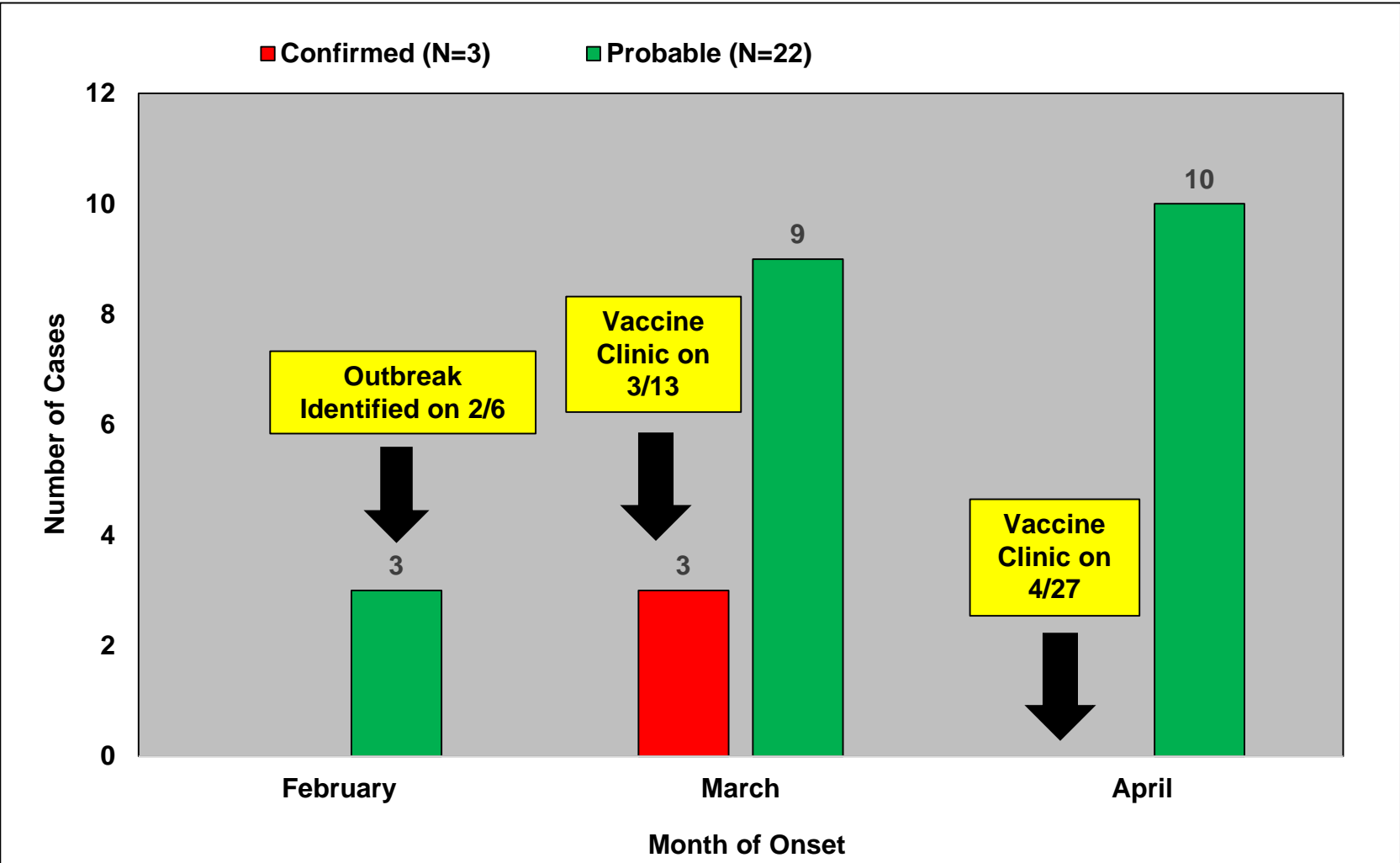


Mumps Clinical Features

- **Parotitis**
 - Swelling & tenderness of 1 or more salivary glands > 2 days
 - Unilateral or bilateral
- **Prodrome Symptoms**
 - Myalgia
 - Malaise
 - Lack of appetite
 - Headache
 - Low Grade Fever
- **Up to 20% of infections are asymptomatic**
- **Complications:** Orchitis, Oophoritis, Aseptic meningitis, encephalitis, pancreatitis, hearing loss, & mastitis



Mumps Outbreak Cases at ICE Facility in San Bernardino County, February 6, 2019-April 25, 2019, (N=25)



Public Health Response to Mumps Outbreak at ICE Detention Center


- Reviewed medical records
- Requested line-list of cases, clinical information, onset dates, etc.
- Requested testing on cases and lab confirmation
- **Identified who was exposed**
 - Located exposed contacts
 - Quarantined exposed contacts (inmates)
 - Vaccinated contacts of exposed contacts
 - Provided educational material to cases, contacts, & staff
- Continuing to monitor for mumps in the facility



Measles Background


- **What is Measles?:** Viral respiratory disease that is preventable by MMR vaccine.
 - One of the **most contagious diseases!** Approximately 90% of susceptible household contacts contract the disease.
- **History of Measles:** Was declared eliminated in 2000, until the most recent nationwide measles outbreak affecting >700 people.
- **Transmission:** Direct contact with respiratory droplets
- **Incubation Period:** 7-14 Days after exposure (Average: 14 Days)



MEASLES 

is **highly contagious** and spreads through the air when an infected person **coughs or sneezes**.

It is so contagious that if one person has it, **9 out of 10 people** of all ages around him or her will also become infected if they are not protected.



Measles Clinical Features

Measles typically begins with:

- **High Fever**
- **Cough**
- **Runny Nose (Coryza)**
- **Red, Watery Eyes (Conjunctivitis)**
- **Tiny, white spots in the mouth (Koplik Spots)**
 - 2-3 days after symptoms begin
- **Rash from Head to Toe**
 - 3-5 days after exposure, a rash breaks out
 - Duration of Rash: 4-7 Days



Measles Can be Serious!

- **Common Complications**
 - Ear Infections
 - Diarrhea (8% of patients)
- **Severe Complications**
 - Pneumonia (6% of patients)
 - Encephalitis (0.1% of patients)
- **Long-term Complications**
 - Subacutesclerosing Panencephalitis
- **Can cause death (0.2% of patients)**

MEASLES CAN BE DANGEROUS
Especially for babies and young children

Measles can lead to...

- PNEUMONIA**
(A SERIOUS LUNG INFECTION)
- BRAIN DAMAGE**
- DEAFNESS**
- DEATH**

ABOUT 1 OUT OF 4
people who get measles
will be hospitalized.

IMMUNIZATION. POWER TO PROTECT.
Learn more at www.cdc.gov/vaccines/parents

The infographic features a central illustration of a hospital building with a cross on its roof. Inside the building, there are icons of three people and a hospital bed. The background is a light yellow with a pattern of small grey dots on the right side. The text is in a clean, sans-serif font, with key terms in bold. The bottom section has a purple background with white text and the CDC logo.



We are your resource!
Communicable Disease Section

Phone: 1.800.722.4794

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