

# Current Outbreaks/Health Alerts Affecting MSM in Los Angeles County



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# Agenda

- Hepatitis A
- Mumps
- Invasive Meningococcal Disease (IMD)
- Multi-drug resistant *Shigella*



# Hepatitis A Update



# Hepatitis A

- Acute, highly contagious liver infection
- Reservoir is humans
- Modes of transmission
  - Primary is fecal-oral
  - Bloodborne can occur although rare
- Avg. incubation period = 28 days (range: 15 – 50)
- Infectious period:
  - 2 weeks before onset
  - 1 week after jaundice (or symptom onset in the absence of jaundice)





# Epidemiology


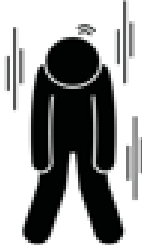




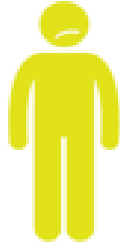

- **Estimated 2,500 infections in the U.S. annually<sup>1</sup>**
  - 1 in 5 hospitalized, 100 deaths each year<sup>2</sup>
- **Groups at increased risk of infection:**
  - Close contacts of someone with hepatitis A
  - Individuals consuming contaminated food/water
  - International travelers
  - Illicit drug users
  - Men who have sex with men (MSM)

<sup>1</sup>Centers for Disease Control and Prevention. Viral Hepatitis Surveillance - United States, 2014. January 25, 2017. <https://www.cdc.gov/hepatitis/statistics/2014surveillance/pdfs/2014hepsurveillancerept.pdf>

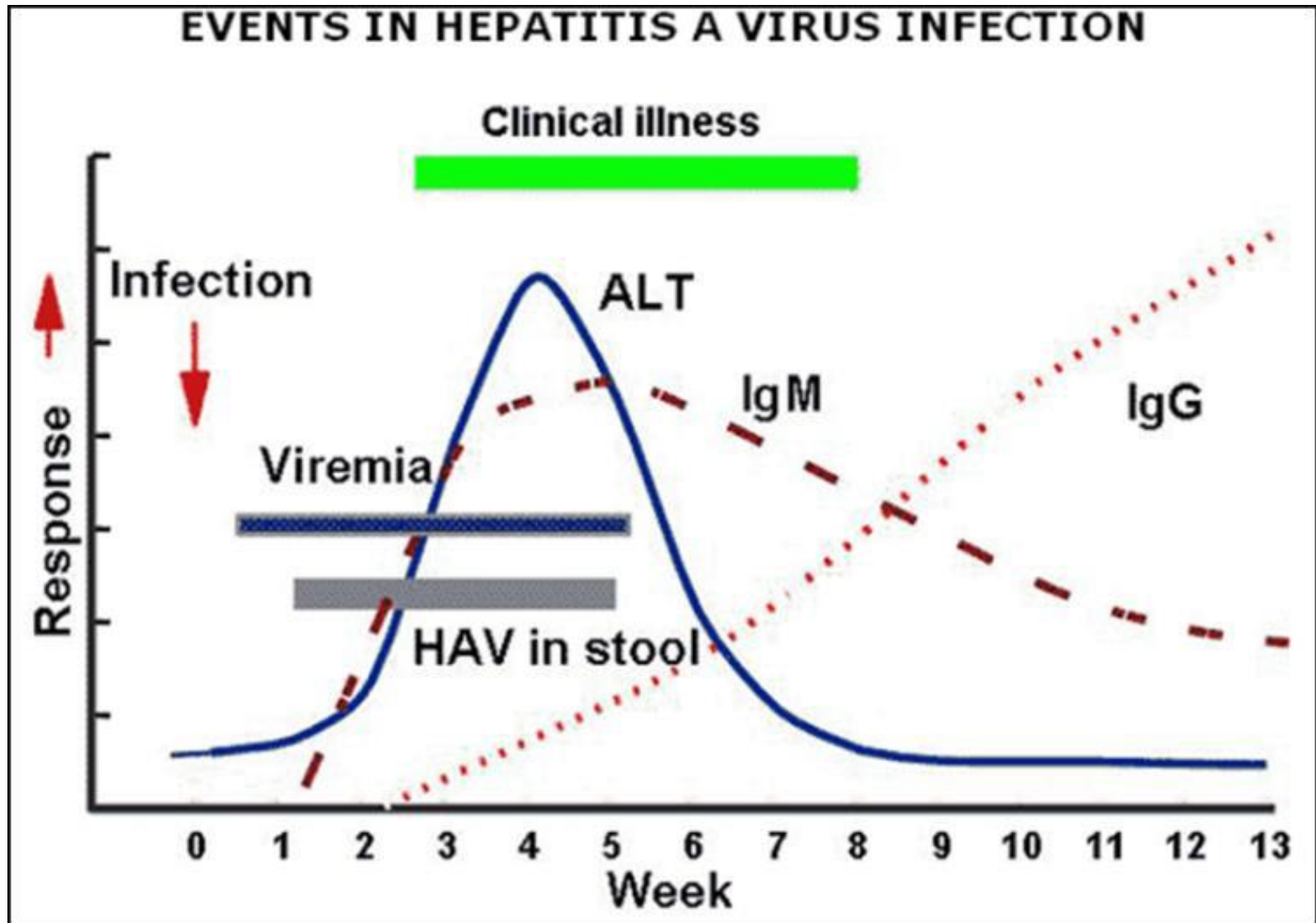
<sup>2</sup>Centers for Disease Control and Prevention. Diseases and Vaccines that Prevent Them – Hepatitis A. <https://www.cdc.gov/vaccines/parents/diseases/child/hepa-indepth-color.pdf>

# Symptoms of Hepatitis A

- ~70% of older children & adults symptomatic
- ~30% have no symptoms

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









# Hepatitis A IgM

- **Indicates acute disease**
- **Reportable**
- **Can last ~6 months after acute disease**
- **Can occur after vaccination**
- **Non-specific**
  - Many false + cases
- **Should NOT be used for routine screening order when**
  - Patient is symptomatic or
  - Has elevated LFTs



# Hepatitis A Total

- **Anti-HAV total reflects the presence of both IgM and IgG**
- **Useful to show prior disease or immunity**
- **Must order IgM to determine if patient has acute disease**
- **Not Reportable**



# Serologic Test Results for Hepatitis A Virus Infection

	<b>Early Acute 0-14 days</b>	<b>Acute 3-6 months</b>	<b>Recovery years</b>
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<b>IgM anti-HAV</b>	<b>Positive</b>	<b>Positive</b>	
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<b>Total anti-HAV</b>	<b>Positive</b>	<b>Positive</b>	<b>Positive</b>
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# Case Definition Acute Hepatitis A

## 1) Clinical criteria

An acute illness with discrete onset of symptoms

## 2) Evidence of liver injury

Jaundice OR elevated serum aminotransferase (ALT or AST) levels

## 3) AND either

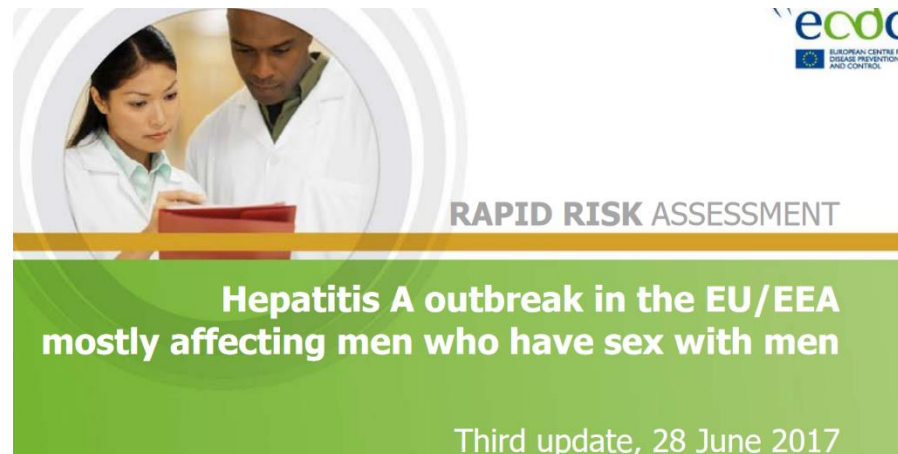
– Positive IgM antibody to hepatitis A (IgM anti-HAV)

OR

– Epi link with person who has laboratory confirmed illness

# Hepatitis A and MSM

- Estimated 10% of adult cases in U.S.<sup>1</sup>
- Sexual behaviors put MSM at risk
- Cyclic outbreaks in urban areas in the U.S., Canada, Australia, South America, and Europe<sup>2</sup>



<sup>1</sup>Centers for Disease Control and Prevention. Viral Hepatitis and Men Who Have Sex with Men. June 9, 2015. <https://www.cdc.gov/hepatitis/populations/msm.htm>

<sup>2</sup>Centers for Disease Control and Prevention. Prevention of Hepatitis A through Active or Passive Immunization: Recommendations of the Advisory Committee on Immunization Practices. MMWR 2006; 55(RR07): 1-23.

# Ongoing Outbreak among European MSM

 Impacted countries

- Since June 2016, 15 countries in Europe have reported:
  - 1,500 confirmed cases
  - 2,660 probable/suspected cases
- Predominately among adult MSM



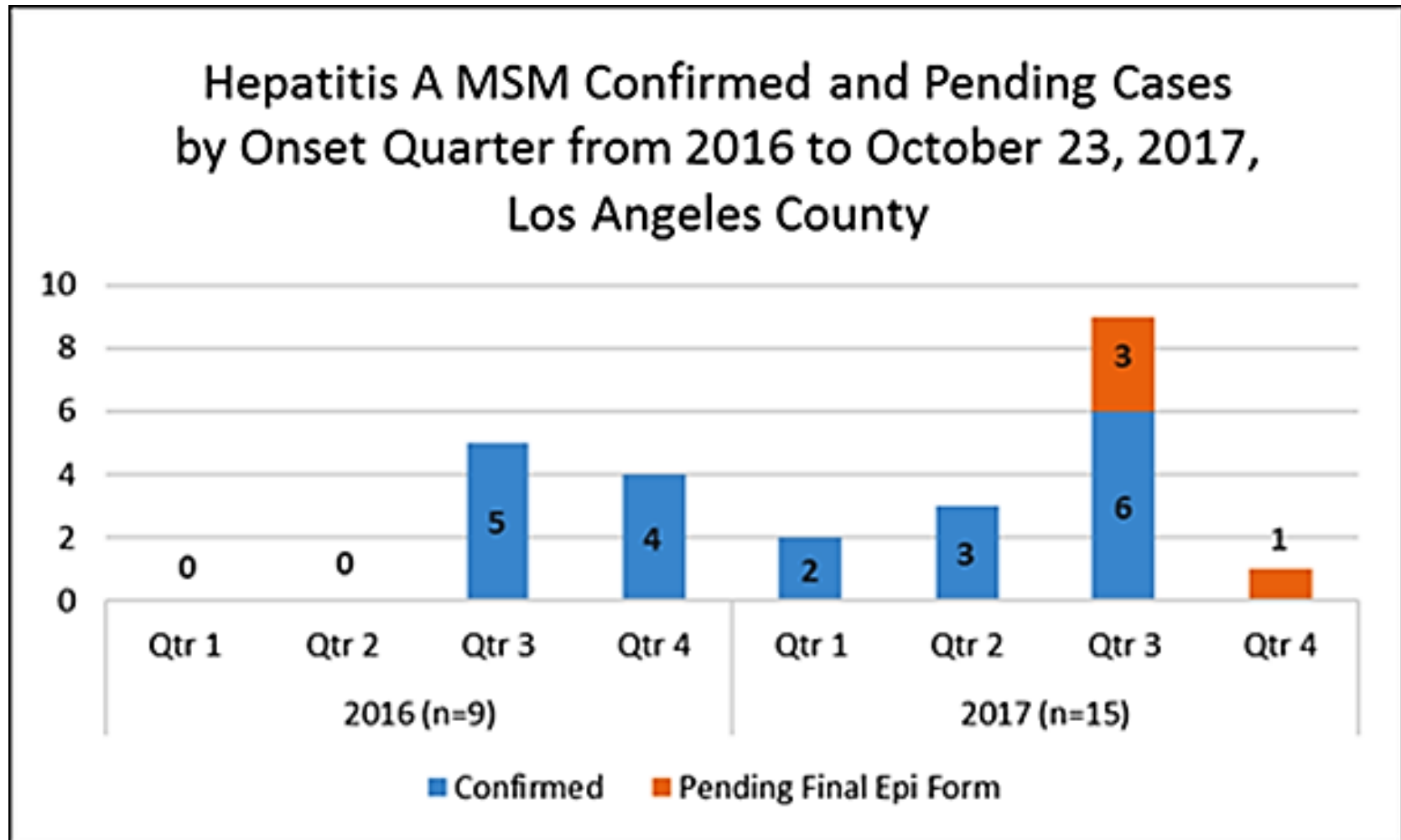


# **Additional Outbreaks among MSM**

- **Chile**
  - **December 2016- May 2017: 706 cases, ~ 400 are MSM**
- **Tel Aviv**
  - **December 2016- June 2017: 19 cases, 17 are MSM**
- **New York**
  - **January 1-August 31, 2017: 46 MSM cases**
- **Colorado**
  - **January 1-July 21, 2017: 49 cases, ~30 are MSM**



# Hepatitis A in MSM in LA County







# Prevention: **Pre-exposure prophylaxis**

- **Vaccine recommendation is 2 doses 6 months apart**
- **Even a single dose offers excellent protections**
- **Vaccinate persons who are homeless or use drugs**
  - **First dose highly immunogenic (98% for single Ag vaccine)**
  - **Free vaccine available from Public Health (see website for time/location of clinics); also covered by Medi-Cal and ADAP**
- **Consider vaccination for HCWs and persons who have ongoing close contact with the homeless and drug users**
  - **Especially those who prepare and serve food to the homeless**



# Prevention: Post-exposure prophylaxis

- **Post-exposure prophylaxis (PEP) for contacts of cases**
  - Provide PEP within 2 weeks of exposure
  - Vaccination recommended in all persons >1 year old
  - For persons at risk of severe infection add immune globulin
    - For older people and especially for those with serious immune compromise (HIV with low CD4, Chemotherapy, high dose steroids) can consider Gamma globulin
    - Also for person with serious underlying liver disease
    - Note: increased dose for IM IG to 0.1 mL/kg



# ACIP Vaccination Recommendations

- **Men who have sex with men (since 1996)**
- **Use of Injection and non-injection drugs**
- **Added to childhood immunization schedule in 2006 (although CA in 1999), but low coverage among adults<sup>1</sup>**
- **Persons traveling to countries with high or intermediate endemicity of Hepatitis A**
- **Persons with occupational risk factors such as working with HAV positive primates or work with the virus in a research laboratory workers**
- **Persons with clotting factor disorders**
- **Persons with chronic liver disease**
- **As recommended during outbreaks**

<sup>1</sup>Centers for Disease Control and Prevention. Surveillance of Vaccination Coverage Among Adult Populations—United States, 2015. MMWR 2016; 66(11):1-28.



# Vaccination Schedule

Doses of Twinrix Given	Doses of Single-Antigen Hepatitis A (adult formulation) Needed to Complete Series	Doses of Single-Antigen Hepatitis B Needed to Complete Series	Interval
1	2		5 month interval between the 2 single antigen doses of Hep A vaccine
2	1		5 months after 2 <sup>nd</sup> dose of Twinrix
3	1		5 months after the 3 <sup>rd</sup> dose of Twinrix
2		2	The 2 doses should be separated by at least 8 weeks



# Vaccination Schedule

Vaccine	Dose	Recommended Age	Standard Schedule	Accelerated Schedule
<b>Twinrix®</b> Adult Formulation ( <i>GlaxoSmithKline</i> )	1.0 mL IM	18 years and older	0, 1, and 6 months	<b>Dose 1:</b> 0 days <b>Dose 2:</b> 7 days <b>Dose 3:</b> 21-30 days <b>Booster:</b> 12 months after 1 <sup>st</sup> dose
			<b>Minimal Intervals</b>  Dose 1 to 2 (4 weeks) Dose 2 to 3 (5 months) Dose 1 to 3 (6 months)	



# Vaccine Supply

- **There is no shortage but the supply is constrained given global demand**
- **At-risk adults**
  - **homeless individuals**
  - **persons with direct contact with these individuals**
  - **those who meet other ACIP-identified risk factors**
    - **chronic liver disease**
    - **men who have sex with men**
    - **travel to an endemic country**



# San Diego Hepatitis A Outbreak

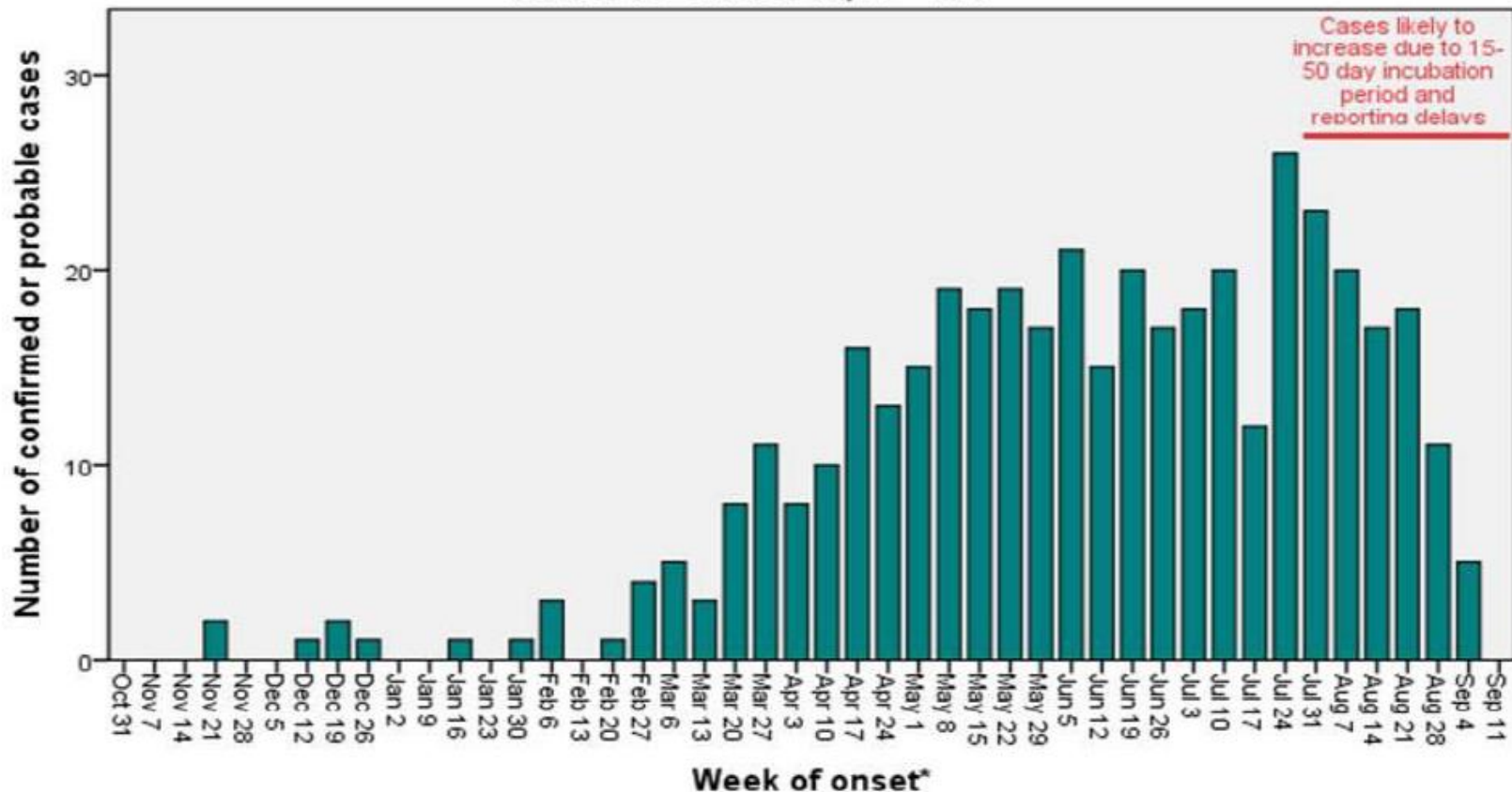
- Onset of first case: November 24, 2016
- Spread has been very rapid due to poor sanitary conditions
- As of October 19, 2017
  - 516 cases
  - 357 (69.2%) hospitalizations
  - 19 (3.7%) deaths
- 80% of outbreak patients are homeless and/or used illicit drugs
- High fatality rate most likely reflects prior illness in the affected population.



# Epi curve of Hepatitis A in San Diego

Outbreak-associated Hepatitis A cases by onset week

11/1/2016–9/11/2017, N = 421\*



\*Date of specimen collection or report used if onset date unknown; dates may change as information becomes available





# San Diego Hepatitis A Outbreak

- **Cases have taken place in people who used the same homeless service providers and resided in facilities with shared restrooms such as:**
  - **Jails**
  - **Residential drug treatment facilities**
  - **Single room occupancy hotels**
  - **Assisted living facilities**
- **Cases among volunteers at homeless shelters, sanitation workers, healthcare workers, and a parole officer**
- **Spread to Santa Cruz with 74 confirmed cases, mostly homeless and IDU**



# Current Outbreak in LA County

- **14 outbreak associated cases (as of 10/24/2017)**
  - 1 from SD to a board and care
  - 1 to a health facility, 3 secondary cases
  - 4 homeless persons came to LA from San Diego and Santa Cruz and lived on street prior to admissions
  - 5 cases among homeless or IDU or MSM that are LA County residents without clear links to San Diego or Santa Cruz
- **12 hospitalized (86%)**
- **0 deaths**
- **Proximity to San Diego and Santa Cruz make outbreak in LAC highly likely**



# **Vaccine Recommendations in Current Outbreak in LAC**

- **Homeless persons**
- **Illicit drug users (injecting and non-injecting)**
- **Food Handlers who serve homeless persons**
- **Those who work with homeless and have close physical contact with them**
- **Sanitation or janitorial workers who clean homeless encampments or bathrooms**
- **Standard precautions and hand hygiene should protect HCW**

# Prevention: Sanitation & Behavior Change

- **Emphasize handwashing with soap and water**
  - Depending on alcohol concentration & exposure times, hand sanitizer may be less effective
- **Environmental cleaning**
  - Disinfect bathrooms and surfaces with bleach (1:10 dilution), formulation of quaternary ammonium and HCl (toilet bowl cleaner), or 2% glutaraldehyde
- **Reduce risky behaviors**
  - Don't share drugs, sex toys, etc. with others
  - Don't have sex with someone who doesn't feel well, has symptoms/has hepatitis A



# Reporting

- Suspect cases of HAV should be reported **IMMEDIATELY**
  - by phone
  - while the patient is still at the clinical facility, in order to facilitate an on-site interview by a public health investigator and prophylaxis of contacts;
  - **Phone: 888-397-3993**
  - **After hours call: 213-974-1234**
  - Don't rely on labs to report!





# Educational Materials

FAQs  
English/Spanish

**Hepatitis A**  
La infección de hepatitis A es causada por un virus (germen) que puede propagarse fácilmente de persona a persona. Puede causar enfermedad hepática (del hígado) que puede ser grave y durar meses.

**Hepatitis A**  
Hepatitis A infection is caused by a virus (germ) that can easily spread from person-to-person. It can cause liver disease that can be severe and last several months. In some cases, people can die because of hepatitis A.

**How does Hepatitis A spread?**

- Touching objects or eating food that has been in contact with the feces (poop) of an infected person.
- Having sex with someone who has hepatitis A.
- Sharing needles, pipes or other items to take drugs.

**How can you prevent Hepatitis A?**

- Get two shots of Hepatitis A vaccine.
- Don't have sex with someone who has hepatitis A.
- Use your own towels, toothbrush & utensils.
- Don't share food, drinks, or smokes with other people.
- Wash hands with soap and water after using the bathroom, and before preparing, serving or eating food.

**What are the symptoms of Hepatitis A?**

Fever, Fatigue, Nausea, Loss of appetite, Jaundice (yellowing of skin/eyes), Stomach pain, Vomiting, Dark urine, pale stools, and diarrhea, Orina oscura, heces blancas y diarrea, Pérdida de Apetito.

Formación o para más información: [www.publichealth.lacounty.gov](http://www.publichealth.lacounty.gov)

Call 2-1-1 for more information or to find medical and social services

Adapted from the County of San Diego Health and Human Services Agency 7/01/17

**Frequently Asked Questions (FAQ)**  
**Hepatitis A**

**1. What is hepatitis A?**  
Hepatitis A is a highly contagious (spreads person-to-person) liver disease caused by the hepatitis A virus (germ). Mild cases can last a few weeks while severe cases can last several months.

**2. How is hepatitis A spread?**  
Hepatitis A spreads by putting something in your mouth (object, food, or drink) that has been in contact with the feces (poop) of an infected person. Hepatitis A can be spread by:

- Forgoing to wash your hands after using the bathroom, changing diapers
- Having sexual contact with infected partner(s)
- Consuming food or drinks that are contaminated by

**3. Who is at risk for hepatitis A?**  
Anyone can get hepatitis A, but you are at higher risk if you:

- Travel or live in countries where hepatitis A is common
- Live with someone who has hepatitis A
- Use recreational drugs
- Are men who have sex with men
- Have sexual contact with someone who has hepatitis A

**4. What are the symptoms of hepatitis A?**  
Not everyone shows symptoms. If symptoms develop, they appear 2 to 6 weeks after infection. Symptoms can include:

- Fever
- Fatigue
- Loss of appetite
- Nausea
- Vomiting
- Stomach pain
- Dark urine (pee)
- Grey stools
- Joint pain
- Yellowing of skin and eyes

**5. How is hepatitis A treated?**  
Treatment includes rest, good nutrition, fluids, and medical monitoring. Some people may need to be hospitalized. No damage. It's important to see a doctor if you have hepatitis A.

**6. How can hepatitis A be prevented?**  
The best way to prevent hepatitis A is by getting vaccinated. A vaccine is given as 2 shots, 6 months apart. The local clinic or doctor. You can also prevent the spread of hepatitis A by:

- Washing hands with soap and warm water.
- Before eating or preparing food.
- After using the bathroom or changing diapers.

Los Angeles County Department of Public Health  
[www.publichealth.lacounty.gov](http://www.publichealth.lacounty.gov)

**Preguntas frecuentes (FAQ)**  
**Hepatitis A**

**1. ¿Qué es la hepatitis A?**  
La hepatitis A es una enfermedad del hígado muy contagiosa (se transmite de persona a persona) causada por el virus (germen) de la hepatitis A. Los casos leves pueden durar unas cuantas semanas, mientras que los casos más serios pueden durar varios meses.

**2. ¿Cómo se propaga la hepatitis A?**  
La hepatitis A se propaga cuando una persona pone algo en su boca (objeto, comida o bebida) que ha estado en contacto con las heces (caca) de una persona infectada. La hepatitis A se puede propagar al:

- olvidar lavarse las manos después de ir al baño o de cambiar pañales
- tener contacto sexual con una pareja infectada
- consumir comida o bebidas que están contaminadas con el virus

**3. ¿Quiénes están en riesgo de contraer hepatitis A?**  
Cualquier persona puede contraer hepatitis A, aunque su riesgo es mayor si:

- vaga o vive en países donde la hepatitis A es frecuente
- tiene una enfermedad por transmisión de sangre
- utiliza drogas recreativas
- es un hombre que tiene relaciones sexuales con hombres
- tiene contacto sexual con alguien que tiene hepatitis A

**4. ¿Cuáles son los síntomas de la hepatitis A?**  
No todos los casos presentan síntomas. En caso de que se presenten síntomas, normalmente aparecen entre 2 y 6 semanas después de la infección. Algunos síntomas pueden ser:

- fiebre
- fatiga
- náusea
- vómito
- dolor estomacal
- orina (pipí) oscura
- heces de color gris
- dolor en las articulaciones
- piel y ojos amarillos

**5. ¿Cómo se trata la hepatitis A?**  
El tratamiento incluye reposo, buena alimentación, líquidos y supervisión médica. Algunas personas pueden requerir hospitalización. La mayoría de las personas que contraen hepatitis A se recuperan completamente y no presentan daño permanente en el hígado. Es importante acudir a un médico si presenta síntomas de la hepatitis A.

**6. ¿Cómo se puede prevenir la hepatitis A?**  
La mejor manera de prevenir la hepatitis A es vacunándose. La vacuna contra la hepatitis A consiste en 2 aplicaciones con 6 meses de separación. La vacuna es segura y efectiva. Visite al consultorio de su médico o llame al 2-1-1 para localizar un médico o clínica local. También puede prevenir la transmisión de la hepatitis A lavándose las manos con jabón y agua caliente:

- antes de comer o preparar alimentos
- Después de ir al baño o cambiar pañales

Departamento de Salud Pública del Condado de Los Angeles  
[www.publichealth.lacounty.gov](http://www.publichealth.lacounty.gov)

**¿Quién debe vacunarse?**

- todas las niñas de 1 año de edad
- personas que viajan a países donde la hepatitis A es frecuente
- familias o cuidadores de niños indígenas de países donde la hepatitis A es frecuente
- hombres que tienen relaciones sexuales con hombres
- personas que utilizan drogas recreativas
- personas con infecciones hepáticas crónicas o con hepatitis B o C
- personas con problemas en las heces de coagulación

**Para obtener más información:**

Departamento de Salud Pública del Condado de Los Angeles  
<http://www.publichealth.lacounty.gov>  
[acdd@publichealth.lacounty.gov](mailto:acdd@publichealth.lacounty.gov)

Departamento de Salud Pública de California  
<http://www.cdph.ca.gov/Programs/OPA/Pages/NR17-027.aspx>

Centros para el Control y la Prevención de Enfermedades (CDC, por sus siglas en inglés)  
<http://www.cdc.gov/hepatitis/a/hav.htm>

CCDF-ACDD-2017-02 4/20/17, 1/17

Informational Third-Sheets  
English/Spanish



# Challenges- MSM

- Collecting MSM status
- Raising awareness/national coordination
- Vaccine coverage
- Vaccine supply- although looks like may not be an issue now

Vaccine	Shortage	Temporary Change From Routine Recommendation
Diphtheria, Tetanus, & Pertussis (DTaP and Tdap)	No	
<i>Haemophilus influenzae</i> type B (Hib)	No	
Hepatitis A	See <a href="#">note</a> <sup>3</sup>	



# Next Steps- MSM

- Highlight need for vaccination during provider meetings
- Palm Springs Pride (November 2017)
- Health communications
- Social media campaign
- Thoughts?







# Mumps Update

Franklin D Pratt, MD, MPHTM, FACEP

Immunization Program

Los Angeles County Department of Public Health

[fpratt@ph.lacounty.gov](mailto:fpratt@ph.lacounty.gov)





# MSM-related Mumps Reports

- **From 01/10/17 - 08/11/17**
- **54** mumps cases
  - 49 LAC mumps cases (43 MSM; 6 non-MSM)
  - 4 Orange County mumps cases (2 MSM, 2 non-MSM)
  - 1 Long Beach mumps case (1 non-MSM)
- **13** false case reports
- **3** lost to follow up



# Epidemiology

- Incubation period from 12-25 days
  - symptoms develop ~16 - 18 days after exposure to mumps
- Most cases among MSM population: both HIV –/+
- Some are women and heterosexual men with social connections to MSM cases.
- Most transmissions associated with large venues such as athletic clubs, bars, theaters and nightclubs.
- The majority of cases with no documentation of complete vaccination; however, some cases were fully vaccinated.



# Diagnosis

- Diagnosis can be difficult. Many cases initially misdiagnosed, most commonly as salivary duct stones and lymphadenopathy
- Some misdiagnoses occurred because of reliance on false negative IgM results
- Waning immunity leads to atypical presentations that are harder to recognize



# Clinical Presentation

- Pt. usually presents with acute orchitis, parotitis, or other salivary gland swelling
- Mumps typically begins with a few days of fever, headache, myalgia, fatigue, anorexia, maybe non-specific respiratory symptoms followed by development of salivary gland swelling, pain, and tenderness.
- Inquire about possible exposure to mumps



# Laboratory Testing

- Buccal swab for PCR ideally within three days but no greater than nine days after symptom onset
- Blood for serology (IgM and IgG) 4 or more days after symptom onset
- Of note: In vaccinated individuals the IgM may remain negative



# Management

- No specific treatment
- Evaluate for need to have additional MMR vaccine
- Contact DPH before any test results back – ideally while patient in your presence to coordinate lab testing
- Advise suspect mumps patients:
  - Remain home and avoid public spaces
  - No school/work for 5 days after parotitis onset or, in its absence, until the resolution of constitutional symptoms



# Prevention

- Outreach to community and governmental organizations affiliated with target population
- Encourage overall immunization awareness for adults
- Educate – droplet precautions, adult presentation





# Contact Information

- *Los Angeles County DPH:*
  - Weekdays: 888-397-3993
  - After 5 pm or on weekends: 213-974-1234.
- *Long Beach Health and Human Services:*
  - Weekdays: 8:00 am to 5:00 pm: 562-570-4302.
  - After hours: 562-435-6711, ask for the Communicable Disease Officer.
- *Pasadena Health Department:*
  - Weekdays: 8:00 am to 5:00 pm: 626-744-6089.
  - After hours: 626-744-6043.



# Additional Information

- Technical or clinical assistance-contact LAC DPH Immunization Program's Surveillance Unit:
  - Weekdays 8am-5pm call: 213-351-7800
  - After hours call: 213-974-1234
- Mumps for Community Members (LAC DPH):  
<http://publichealth.lacounty.gov/ip/DiseaseSpecific/Mumps.htm>
- Mumps for Healthcare Providers (CDC):  
<https://www.cdc.gov/mumps/hcp.html>
- Mumps Outbreak Updates (CDC):  
<https://www.cdc.gov/mumps/outbreaks.html>
- Mumps Factsheet (CDPH):  
<https://www.cdph.ca.gov/HealthInfo/discond/Pages/Mumps.aspx>



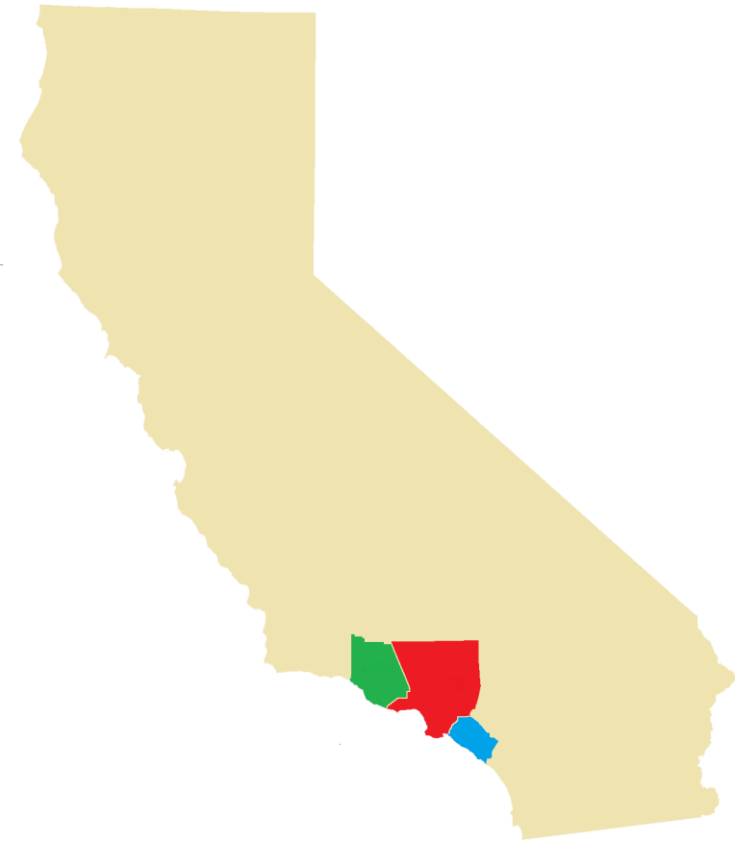
# Invasive Meningococcal Disease (IMD) Update





# 2016-17 SoCal Outbreak

- Largest known IMD outbreak among MSM in US
- 31 outbreak-associated cases
- Multiple local health jurisdictions
  - City of Long Beach
  - Los Angeles County
  - Orange County
  - Ventura County



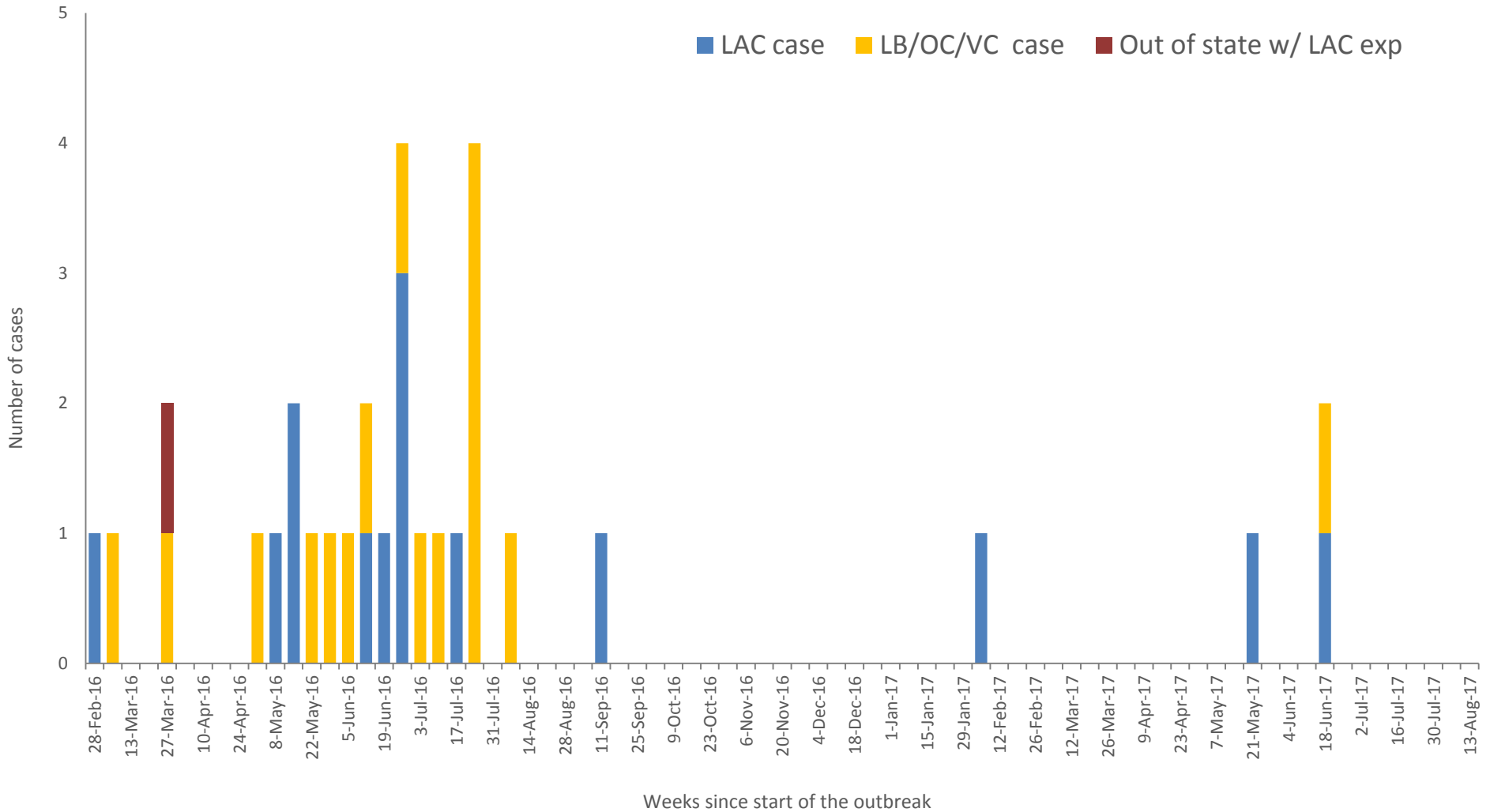


# IMD Case Description (n=31)

Characteristic	Number (%)
Male	28 (90%)
MSM (% of males)	23 (82%)
Median age (range)	32 (17-76)
Hospitalized	30 (97%)
Known HIV infection	5/29 (17%)
Deaths	4 (13%)



# Epidemic Curve





# Symptoms and Hospital Stay of LAC cases (n= 14)

	2016-17 n (%)
Nausea or vomiting	10 (71)
Triad (fever, stiff neck, altered sensorium)	7 (50)
Length of hospital stay (days)	8 (6 – 95)



# Clinical Presentation of Outbreak Cases

	Cases (n=27)
Meningococccemia	63%
Meningitis	37%





# LAC Vaccine Recommendations

- **All HIV-infected persons** should receive:
  - 2 doses of the conjugate meningococcal (MenACWY) vaccine at least 8 weeks apart and a booster 5 years later\* and every 5 years thereafter throughout life.
- **All MSM who are not HIV-infected** should receive:
  - single MenACWY vaccine dose (Menveo<sup>®</sup> or Menactra<sup>®</sup>) or a booster if the most recent dose was given  $\geq 5$  years ago.

\*If the most recent dose was received before age 7 years, the first booster dose should be administered 3 years after the initial dose and then every 5 years thereafter throughout life.

*Note: MenACWY vaccine is included on the AIDS Drug Assistance Program (ADAP) formulary.*



# Provider Guidance

- Implement evidence-based practices to ensure completion of the 2-dose vaccination schedule for all HIV-infected persons.
  - Examples include reminder-recall or co-scheduling
  - Track completion rates
- Ensure MSM clinic staff are completely vaccinated
- Refer MSM for free MenACWY vaccine if vaccination is not feasible at their primary care provider



# Vaccination Information

- UPDATED Meningococcal Vaccine Dosing and Schedule- CDPH chart describing timing of doses for high-risk populations  
<http://eziz.org/assets/docs/IMM-1218.pdf>

**Meningococcal Vaccines—High-risk Populations** Different vaccines protect against different serogroups.

Risk groups: **Exp.** Increased Exposure to meningococcal serogroups covered by vaccines (due to outbreaks<sup>1</sup>, travel to affected areas [e.g. the Hajj], lab exposure)  
**CD.** Persistent Complement component Deficiencies (including persons taking eculizumab [Soliris]<sup>2</sup>)  
**Asp.** Functional or Anatomic Asplenia (including sickle cell disease)  
**HIV.** HIV Infection

Age at first dose	Exp	CD	Asp	HIV	1) MenACWY vaccines <sup>2</sup>	Boosters for those who remain at increased risk
2-6 months	✓	✓	✓	✓	2 months: ACWY-CRM Menveo® 4 months: ACWY-CRM Menveo® 6 months: ACWY-CRM Menveo® 12-15 months: ACWY-CRM <sup>3</sup> Menveo®	
7-23 months	✓	✓	✓	✓	ACWY-CRM Menveo® → 3 months → ACWY-CRM <sup>3</sup> Menveo®	If primary dose(s) given when younger than 7 years: 3 years → ACWY-CRM or -D <sup>4</sup> Menveo® or Menactra® → Every 5 years → ACWY-CRM or -D <sup>4</sup> Menveo® or Menactra®
9-23 months	✓	✓			ACWY-D <sup>4,4,4</sup> Menactra® → 3 months → ACWY-D <sup>4,4</sup> Menactra®	
2 years and older	✓	✓	✓ <sup>3</sup>	✓ <sup>3</sup>	ACWY-CRM or -D <sup>4</sup> Menveo® or Menactra® → 2 months → ACWY-CRM or -D <sup>4</sup> Menveo® or Menactra®  ACWY-CRM or -D <sup>4,4</sup> Menveo® or Menactra®	If primary dose(s) given at age 7 years or older: Every 5 years → ACWY-CRM or -D <sup>4</sup> Menveo® or Menactra®
<b>2) Also give MenB vaccine—may be given at same time as MenACWY vaccine. Use the same brand for each dose in the series.</b>						
10 years and older	✓	✓	✓		1st dose: MenB-4C Bexsero® → 1 month → 2nd dose: MenB-4C Bexsero® OR 1st dose: MenB-FHbp Trumenba® → 1-2 months → 2nd dose: MenB-FHbp Trumenba® → 6 months between 1st and 3rd dose → 3rd dose: MenB-FHbp Trumenba®	

- Free Meningococcal Vaccine for all under or uninsured MSM in LAC:  
<http://www.publichealth.lacounty.gov/ip/Docs/meningitisclinics.pdf>



# Eculizumab CDC Health Advisory

- Eculizumab (Soliris®) commonly prescribed for treatment of
  - atypical hemolytic uremic syndrome (aHUS)
  - paroxysmal nocturnal hemoglobinuria (PNH)
- Patients receiving Eculizumab have 1,000-2,000 fold greater risk of IMD compared to general population
- ACIP recommends meningococcal vaccination for all patients receiving eculizumab
- Meningococcal conjugate (MenACWY) vaccine targets serogroups A, C, W, and Y, but provides no protection against nongroupable *N. meningitidis*
- Consider antimicrobial prophylaxis for duration of eculizumab therapy



# Reporting

- Report **suspect cases** (positive Gram stain, don't wait until culture is positive) **immediately** to ACDC by phone:  
(213) 240-7941 8am-5pm  
(213) 974-1234 after hours

- Forms to complete and fax after the call found here:

<http://publichealth.lacounty.gov/acd/Diseases/EpiForms/MeningococcalDisRep.pdf>

State of California—Health and Human Services Agency Mail to: California Department of Public Health  
Communicable Disease  
800 Marina del Rey  
Santa Monica, CA 90404-6903  
Or Fax to: (310) 635-7000

### MENINGOCOCCAL DISEASE CASE REPORT

Patient name—Last \_\_\_\_\_ first \_\_\_\_\_ middle initial \_\_\_\_\_ Date of birth \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_

Address—number, street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ County \_\_\_\_\_ ZIP code \_\_\_\_\_

Telephone number \_\_\_\_\_ Occupation \_\_\_\_\_

Home ( ) \_\_\_\_\_ Work ( ) \_\_\_\_\_

RACE (check one)  Asian-American/Alack  White  Native American  Asian/Pacific Islander  Other \_\_\_\_\_ ETHNICITY (check one)  
 Hispanic/Latino  Non-Hispanic/Non-Latino

If Asian/Pacific Islander, please check one:  Asian Indian  Korean  Cambodian  Chinese  Filipino  Guamanian  Hawaiian  Vietnamese  Other \_\_\_\_\_

**PRESENT ILLNESS**

Onset date \_\_\_\_\_ Attending physician \_\_\_\_\_ Telephone number \_\_\_\_\_

Hospital:  Yes  No Admit date \_\_\_\_\_ Discharge date \_\_\_\_\_ Hospital name \_\_\_\_\_ Medical record number \_\_\_\_\_ Telephone number \_\_\_\_\_

**SYMPTOMS/SIGNS**

	Yes	No	Unk	Yes	No	Unk
Date history obtained:						
Fever $\geq 38^{\circ}\text{C}/100.4^{\circ}\text{F}$ (highest recorded: _____)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Headache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stiff neck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respiratory symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nausea/vomiting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other relevant symptoms (list): _____				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SYNDROME**

	Yes	No	Unk	HOSPITAL COURSE	Yes	No	Unk
Pneumonia/ARDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ICU admission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encephalitis/meningitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intubated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Septic arthritis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Were antibiotics taken prior to collection of blood for microbial testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sepsis/shock-organ failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Were antibiotics taken prior to collection of CSF for microbial testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disseminated intravascular coagulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Date antibiotics started: _____			
Prior medical history: _____				Antibiotics prescribed: _____			

**LABORATORY TESTING FOR *N. meningitidis***  Pos  Neg  Not Done

Blood culture (date collected): \_\_\_\_\_ vs \_\_\_\_\_  
 CSF gram stain (for gram \_\_\_\_\_): \_\_\_\_\_  
 CSF antigen (\_\_\_\_\_): \_\_\_\_\_  
 CSF \_\_\_\_\_: \_\_\_\_\_

**Meningococcal Case Supplemental Form**

To be filled out in conjunction with the Meningococcal Disease Case Report and Contact Roster

In the past month, there has been an increase in severe meningitis cases. The public health department is investigating this increase in these severe infections. To assist Public Health Department in controlling the spread of these infections, I need to ask some questions about your health activities, and recent places that you and your close friends and family have been.

Patient Name (Last, First) \_\_\_\_\_ Date of birth \_\_\_\_\_ YCMR ID \_\_\_\_\_

Will the information be collected by proxy?  Yes  No  If Yes, Name and relationship to case \_\_\_\_\_

**POSSIBLE EPIDEMIOLOGIC RISK FACTORS**

**SOURCE CONTACT**

1) In the past month, have you been in contact with friends, relatives or any other groups of people that had similar symptoms as yours (i.e. headaches, fever, problem in nursing, skin rash, nausea, vomiting)?  Yes  No

If Yes, Name of contact or group \_\_\_\_\_

Location of contact: \_\_\_\_\_ Cell: ( ) \_\_\_\_\_ Work: ( ) \_\_\_\_\_

Address \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Contact telephone: Home: ( ) \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

**RESIDENCE**

2) In the past 3 months, where have you slept at night? (Check all that apply.)

Residence Specify address: \_\_\_\_\_ How long at this location? \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Shelter Specify name of shelter: \_\_\_\_\_ Shelter address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Streets Specify name of streets/cross streets: \_\_\_\_\_ Time period of stay: \_\_\_\_\_

Jail Specify name of jail: \_\_\_\_\_ Describe location: \_\_\_\_\_ Telephone number: ( ) \_\_\_\_\_

Other \_\_\_\_\_

3) In the past 3 months, do you have any friends or relatives that have:

Been homeless Specify shelter name: \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Stayed in a shelter Specify name of streets/cross streets: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Stayed on the streets Specify name of streets/cross streets: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

**FOOD AND BEVERAGE**

4) In the past 3 months, where have you eaten your meals? (List all locations)

Residence Specify address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Shelter Specify name of shelter: \_\_\_\_\_ Shelter address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Soup Kitchen Specify address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Other \_\_\_\_\_



# Multi-drug Resistant *Shigella* Update



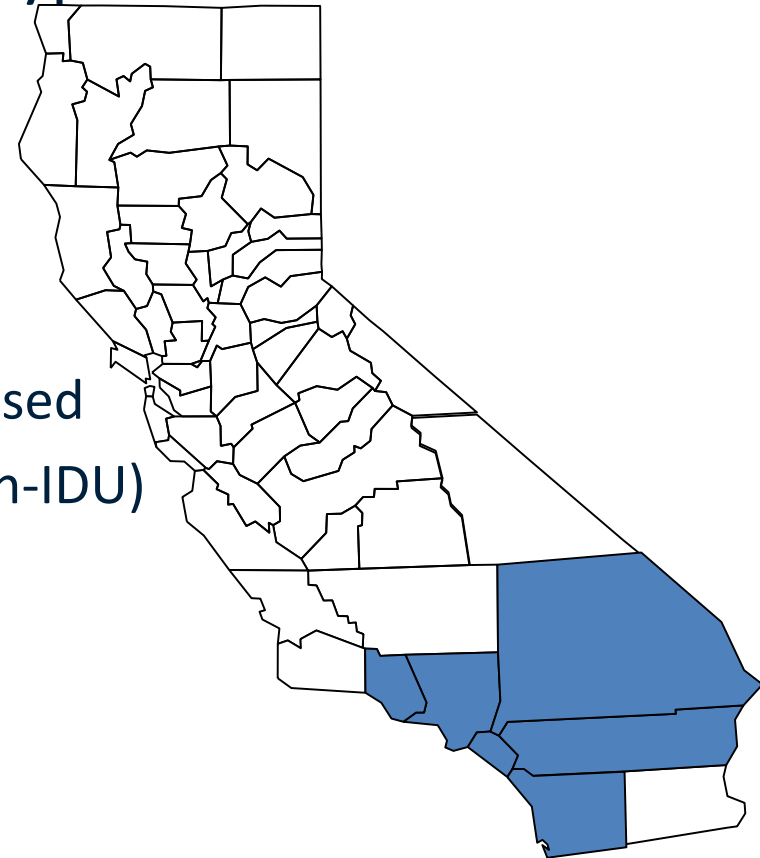


# ***Shigella flexneri***

- Fecal-oral transmission
- Highly infectious ( $\geq 10$  organisms)
- Sheds days to weeks after illness
- HIV+ persons may have extended carriage & shedding

# Southern California Outbreak, March–December 2016

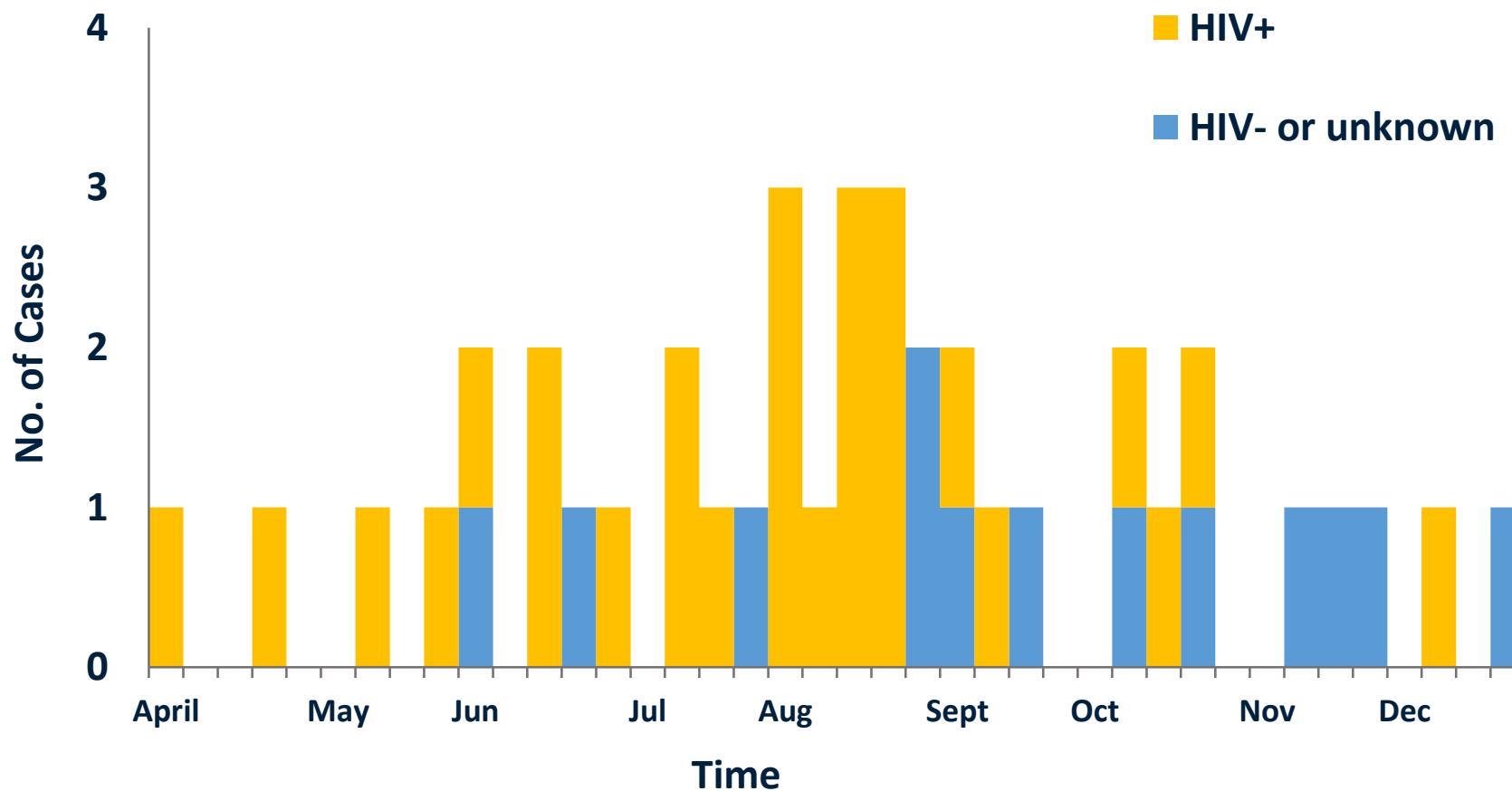
- 40 cases of *Shigella flexneri* serotype 7
  - All male
  - 88% MSM
  - Age range 22–69 (median 36 years)
  - 81% (26/32) HIV positive
  - 38% (8/21) homeless or transiently housed
  - 83% (20/24) drug-using (IDU and/or non-IDU)
  - 1 death







## *Shigella flexneri* serotype 7 cases by HIV status – Southern California, 2016





# Clinical Presentation

	<b>N (%)</b>
<b>Diarrhea</b>	<b>40 (100)</b>
<b>Fever</b>	<b>36 (90)</b>
<b>Bloody diarrhea</b>	<b>21 (53)</b>
<b>Abdominal cramps</b>	<b>31 (78)</b>
<b>Hospitalized</b>	<b>14 (41)</b>
<b>Days hospitalized (median)</b>	<b>3.5 (1-19)</b>



# Antimicrobial Susceptibility Testing (AST)

- **19 clinical AST results**
  - All resistant to ampicillin and trimethoprim/sulfamethoxazole
  - All susceptible to ciprofloxacin
  - No routine testing for azithromycin
- **Additional CDC testing**
  - 6/6 resistant to azithromycin
  - 5/6 resistant to amoxicillin/clavulanic acid



# Fluoroquinolone Interpretive Criteria

- Current criteria for *Shigella*
  - Ciprofloxacin: S  $\leq$ 1, I: 2, R:  $\geq$ 4 ( $\mu\text{g}/\text{mL}$ )
  - Levofloxacin: S  $\leq$ 2, I: 4, R:  $\geq$ 8 ( $\mu\text{g}/\text{mL}$ )
- CDC working with CSLI to consider revision of FQ breakpoints based on clinical outcomes
- FQ MIC range of concern for *Shigella*
  - Ciprofloxacin: 0.12–1  $\mu\text{g}/\text{mL}$



# April 2017: CDC Health Advisory

- FQ treatment of Shigella infection with a strain harboring quinolone resistance gene may:
  - be less effective and increase risk of a more severe clinical course
    - increased duration or severity of symptoms, increased need for hospitalization or admission to an intensive care unit, increased length of hospitalization, or increased risk of death
  - increase the risk of secondary cases if the treatment prolongs the duration or increases the quantity of organisms shed in the stool



# Clinician Guidance

- Obtain a stool culture from MSM who present with fever and diarrhea, particularly if bloody, there is a suspected recent treatment failure, or if the patient is immunocompromised
- Order AST when ordering stool culture and request ciprofloxacin AST that includes dilutions of 0.12, 0.25 and 0.5  $\mu\text{g}/\text{mL}$
- Consider waiting for AST results before treating and check AST results
- If PCR is used, please remember that **PCR does not replace culture** as an isolate is needed for serotyping and AST **and is required per the 2016 updates to the CA Title 17 Reportable Disease Guidance**. Any positive PCR needs a reflex culture and should be shipped to the PHL
- Avoid prescribing FQs if the ciprofloxacin MIC is 0.12  $\mu\text{g}/\text{mL}$  or higher even if the laboratory report identifies the isolate as susceptible
- Obtain follow-up stool cultures and AST in patients who have continued or worsening symptoms despite antibiotic therapy.



# January- mid June 2017

- 60 cases throughout CA (additional counties in NorCal)
- LAC: 33 cases (including Long Beach)
  - 97% male (32/33)
  - 38% known MSM (12/32)
  - 61% HIV + (17/28 with known HIV status)
    - 29% out of care (5/17)
  - 29% (8/28) Hospitalized
  - 67% (10/15) cases known to be unemployed/transiently housed or homeless

# Prevention

- Tailor risk reduction and prevention messaging to risk-profile of patient.
- See MSM materials in Spanish and English on the LAC DPH shigellosis website.

<http://publichealth.lacounty.gov/acd/Diseases/Shigellosis.htm>

## PLAY SAFE

*Shigella* can spread among men who have sex with men.

- *Shigella* spreads easily from any contact with feces (poop)
- High risk of getting it during oral or anal sex play (rimming, fisting, and using anal toys)
- *Shigella* causes bloody diarrhea, stomach cramps, and fever
- It can be a serious illness, especially if you have HIV

If you think you have *Shigella*, talk to your healthcare provider. If you don't have a provider, call 2-1-1 to find out how to get care.







# Reporting

- For Clinically Suspect Cases:
  - Complete the Los Angeles County Department of Public Health Confidential Morbidity Report (CMR) <http://publichealth.lacounty.gov/acd/reports/cmr-h-794.pdf> and fax to the DPH Morbidity Unit at 888-397-3778 **OR**
  - Report cases by telephone during normal business hours from 8am-5pm by calling 888-397- 3993.



# Do you receive the LAC Health Alerts?

- If you do NOT, please subscribe online:  
<http://publichealth.lacounty.gov/lahan/>
- All previous HANs also posted with level of importance noted



# Questions?