



Meningococcal Disease Outbreak among Gay and Bisexual Men

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Acute Communicable Disease Control Program: Who We Are & What We Do

- ~70 doctors, nurses, epidemiologists, and health educators

- Key activities

- Surveillance for reportable infections & syndromes
- Outbreak and case investigations
- Collaborative prevention programs
- Emergency and BT preparedness
- Consultation to healthcare providers
- Public health research

(Revised 2021/6)

County of Los Angeles • Department of Public Health

Please Post

REPORTABLE DISEASES AND CONDITIONS

Title 17, California Code of Regulations (CCR), § 25100

It is the duty of every health care provider, knowing of or in attendance on a case or suspected case of any diseases or conditions listed below, to report to the local health officer for the jurisdiction where the patient resides. "Health care provider" encompasses physicians (surgeons, osteopaths, oriental medicine practitioners), veterinarians, podiatrists, physician assistants, registered nurses (nurse practitioners, nurse midwives, school nurses), infection control professionals, medical examiners/coroners, dentists, and chiropractors, as well as any other person with knowledge of a case or suspected case.

Urgency Reporting Requirements

☑ Report immediately by telephone ☑ Report within 1 working day of identification ☑ Report within 1 calendar day from time of identification

REPORTABLE DISEASES

<ul style="list-style-type: none"> ☑ Acquired Immune Deficiency Syndrome (AIDS) ■ ☑ Anisakiasis ☑ Anaplasmosis/Ehrlichiosis ☑ Anthrax, human or animal + ☑ Botulism, infant, foodborne, or wound ☑ Brucellosis, animal, except infection due to Brucella canis + ☑ Brucellosis, human + ☑ Campylobacteriosis ☑ Chancroid + ☑ Chikungunya virus ☑ Chlamydia (Neisseria), only hospitalized and fatal cases, do not report cases of herpes zoster or shingles ☑ Chlamydia trachomatis infection, including lymphogranuloma venereum (LGV) ■ ☑ Chlamy + ☑ Ciguatera Fish Poisoning ☑ Coccioidiomycosis ☑ Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSE) ☑ Cryptosporidiosis ☑ Cyclosporiasis ☑ Cysticercosis or Taeniasis ☑ Dengue ☑ Diphtheria + ☑ Domestic Acid (Annie's Shellfish) Poisoning ☑ Ehrlichiosis/Anaplasmosis ☑ Encephalitis, specify etiology: viral, bacterial, fungal or parasitic ☑ Escherichia coli, shiga toxin producing (STEC) including E. coli O157 + ☑ Foodborne Diseases ☑ Foodborne Outbreak, 2 or more suspected cases from separate households with same assumed source ☑ Glanders ☑ Gonococcal infection ■ ☑ Haemophilus influenzae, invasive disease only, less than 15 years of age ☑ Herpesvirus infection ☑ Herpesvirus, Lymphic Syndrome ☑ Hepatitis A, acute infection ☑ Hepatitis B, specify acute or chronic ☑ Hepatitis C, specify acute or chronic ☑ Hepatitis D (Delta), specify acute or chronic ☑ Hepatitis E, acute infection ☑ Human Immunodeficiency Virus (HIV) ■ (3041-2643) ☑ Influenza death, laboratory confirmed cases only, all ages + ☑ Influenza, novel strain, human ☑ Legionellosis ☑ Leprosy (Hansen's Disease) ☑ Leishmaniasis ☑ Lyme Disease ☑ Measles + ☑ Measles (Rubella) ☑ Meningitis, specify etiology: viral, bacterial, fungal, or parasitic ☑ Meningococcal infection ☑ Mumps ☑ Myxoma, Acute Flaccid + ☑ Parvovirus B19 Infection ☑ Parvovirus, Shingles Poisoning ☑ Pericarditis ☑ Pertussis (Whooping Cough) (PD) ■ ☑ Plague, human or animal + ☑ Poliovirus infection ☑ Psittacosis ☑ Q Fever ☑ Rabies, human or animal ☑ Respiratory Syncytial Virus, ICU or fatal cases, and <5 years only + ☑ Rocky Mountain Spotted Fever ☑ Rubella (German Measles) ☑ Rubella Syndrome, Congenital ☑ Salmonellosis, other than Typhoid Fever + ☑ SARS (Severe Acute Respiratory Syndrome) ☑ Scabies, atypical or crusted + ☑ Scorpionbite ☑ Shiga Toxin, detected in feces ☑ Shigellosis ☑ Smallpox (Variola) ☑ Staphylococcus aureus infection; death, only or admission to an intensive care unit of a person who has not had surgery or dialysis or been hospitalized, or resided in a long-term care facility in the past year, and did not have an indwelling catheter or percutaneous medical device at the time of culture ☑ Streptococcal infection, outbreak of any type ☑ Streptococcal infection, individual case in a food handler or dairy worker ☑ Streptococcal infection, Invasive Group A, including Streptococcal Toxic Shock Syndrome and Necrotizing Fasciitis, do not report individual cases of pharyngitis or scarlet fever + ☑ Streptococcus pneumoniae, Invasive + ☑ Syphilis ■ ☑ Tetanus ☑ Toxic Shock Syndrome ☑ Trichinosis ☑ Tuberculosis + ■ ☑ Tularemia, animal ☑ Tularemia, human + ☑ Typhoid Fever, cases and carriers + ☑ Ulcer infection + ☑ Viral Hemorrhagic Fever, human or animal (e.g., Crimean-Congo, Ebola, Lassa and Marburg viruses) ☑ West Nile Virus (WNV) infection ☑ Yellow Fever ☑ Yersiniosis ☑ Zika Virus Infection, Congenital 	<ul style="list-style-type: none"> ☑ Occurrence of ANY UNUSUAL DISEASE ☑ Outbreaks of ANY DISEASE, including diseases not listed above. Specify if occurring in an institution and/or the open community.
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Reportable Non-Communicable Diseases or Conditions

<ul style="list-style-type: none"> ☑ Alzheimer's Disease and Related Conditions (CCR § 2602, § 2606, § 2610) ☑ Dementia (CCR § 2602, § 2606, § 2610) ☑ Diseases Characterized by Losses of Consciousness (CCR § 2606, § 2610) ☑ Pediatric-Related Injuries (Health and Safety Code §150200) 	<ul style="list-style-type: none"> ☑ Reportable to the Los Angeles County Department of Public Health: ☑ Bacterial sepsis and meningitis must be reported to Los Angeles County Public Health Laboratory for confirmation. Health care providers must still report all such cases separately. Public Health Laboratory (PHL) 465-1000 ☑ For questions regarding the reporting of HIV/AIDS, STD or TB, contact the respective program: Division of HIV and STD Programs HIV reporting (213) 351-6106 STD reporting (213) 744-3106 www.publichealth.lacounty.gov/hiv/ReportCase.htm ☑ TB Control Program (213) 745-0636 www.publichealth.lacounty.gov/tb/health.htm
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To report a case or outbreak of any disease, contact the Communicable Disease Reporting System
Tel: (888) 397-3993 • Fax: (888) 397-3778



Meningococcal Disease Background

- Type of infections – meningitis, sepsis, pneumonia
- Decreasing incidence – currently ~15 cases/yr in LAC
- Institutional outbreaks – e.g., colleges
- Outbreaks among men who have sex with men (MSM)
 - Prior outbreaks in LAC (2013-14), NYC, Chicago, Paris, Berlin
 - Increased risk with HIV
 - Associated with multiple partners, smoking, crowding
 - Caused by serogroup C, clonal complex cc11



LAC Meningococcal Disease Outbreak: 2012-14

- Based on knowledge of NYC outbreak and 2 cases among MSM in LAC, data on MSM status routinely collected since October 2012
- From Oct 2012 to Sept 2014, 34 cases reported in LAC
 - 13 (38%) among MSM; 5 (38%) died
 - 10 (77%) of MSM cases serogroup C
 - 4 (31%) with HIV infection
- Vaccination recommendation (4/14) for all persons with HIV and MSM with multiple partners or who identify partners using apps, particularly those who smoke or use drugs



Risk Factors for IMD: MSM & non-MSM males ≥18 yrs old (10/12 – 3/14)*

	MSM (N=11)	Non-MSM (N=12)	P- value**
Drug Use***	5 (45)	1 (8)	0.06
Smoke cigarettes	4 (36)	4 (33)	0.61
Smoke marijuana	5 (45)	2 (17)	0.15
Shared beverages	4 (36)	5 (42)	0.75
Attended large social gatherings	7 (64)	5 (42)	0.26
Met partners online, at bar, streets	5 (45)	--	--
None	1 (9)	3 (25)	0.94

*Data range reflects documented IMD cases at time of vaccine recommendation

**Fisher's Exact Test right-sided p-value.

**Includes cocaine, crystal meth, crack, and "IV drug use".

***Excludes fatal case with unknown history and another who declined to comment how he met his partners.



2016 Meningococcal Disease Outbreak

- Outbreak recognized after several LAC and Long Beach cases in mid- to late-May
- Investigation begun collaboratively with Long Beach, Orange County, and California Department of Public Health
- CDC invited to participate in the investigation in early July

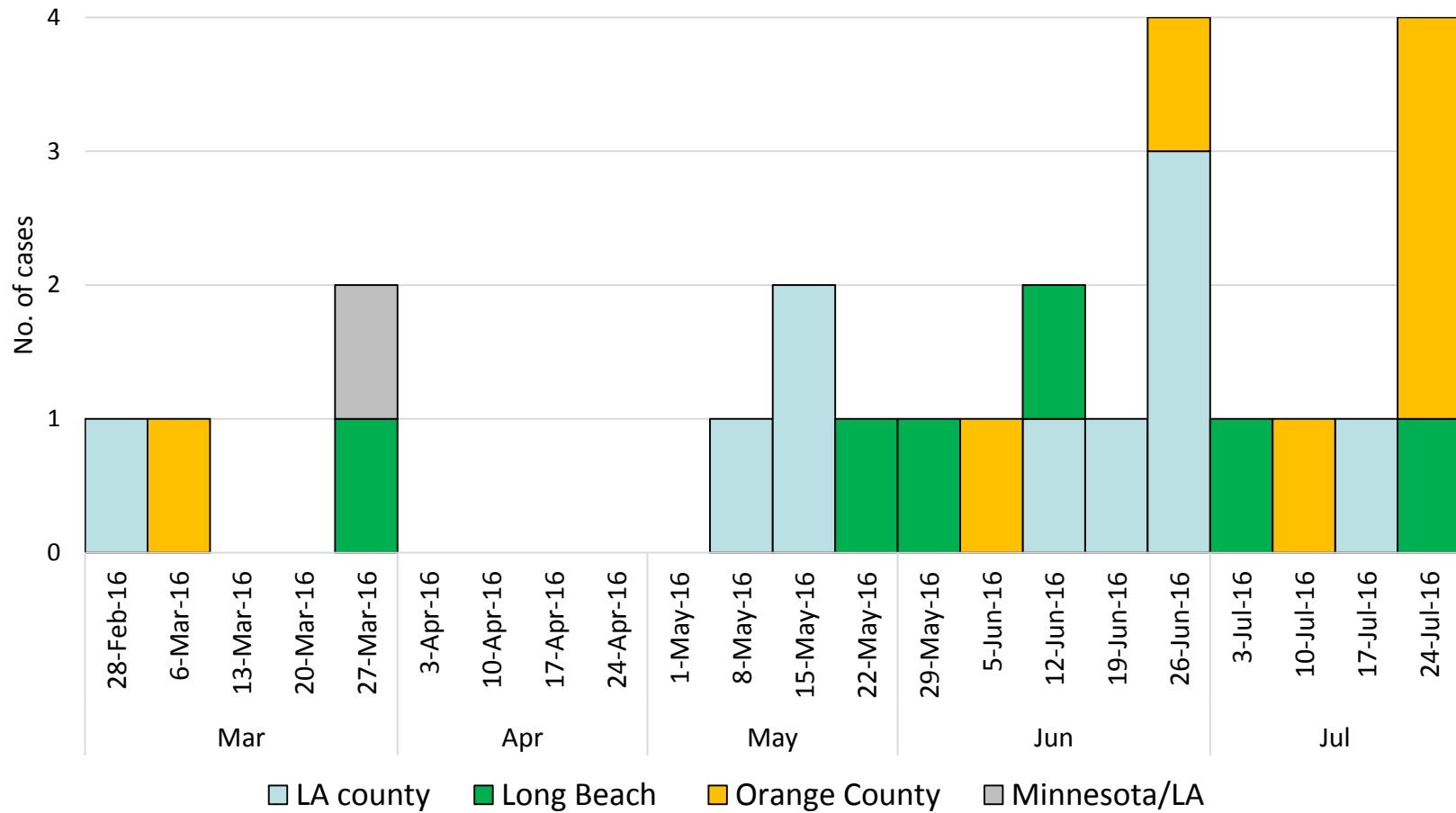


Outbreak Case Definition, 2016

- **Confirmed**
 - Invasive meningococcal disease
 - Onset since March 1, 2016
 - Epidemiological link to LAC, Orange County, or Long Beach
 - Caused by *Neisseria meningitidis*, serogroup C; if sequenced cc11
- **Possible**
 - Same as confirmed, but pending or unknown serogroup

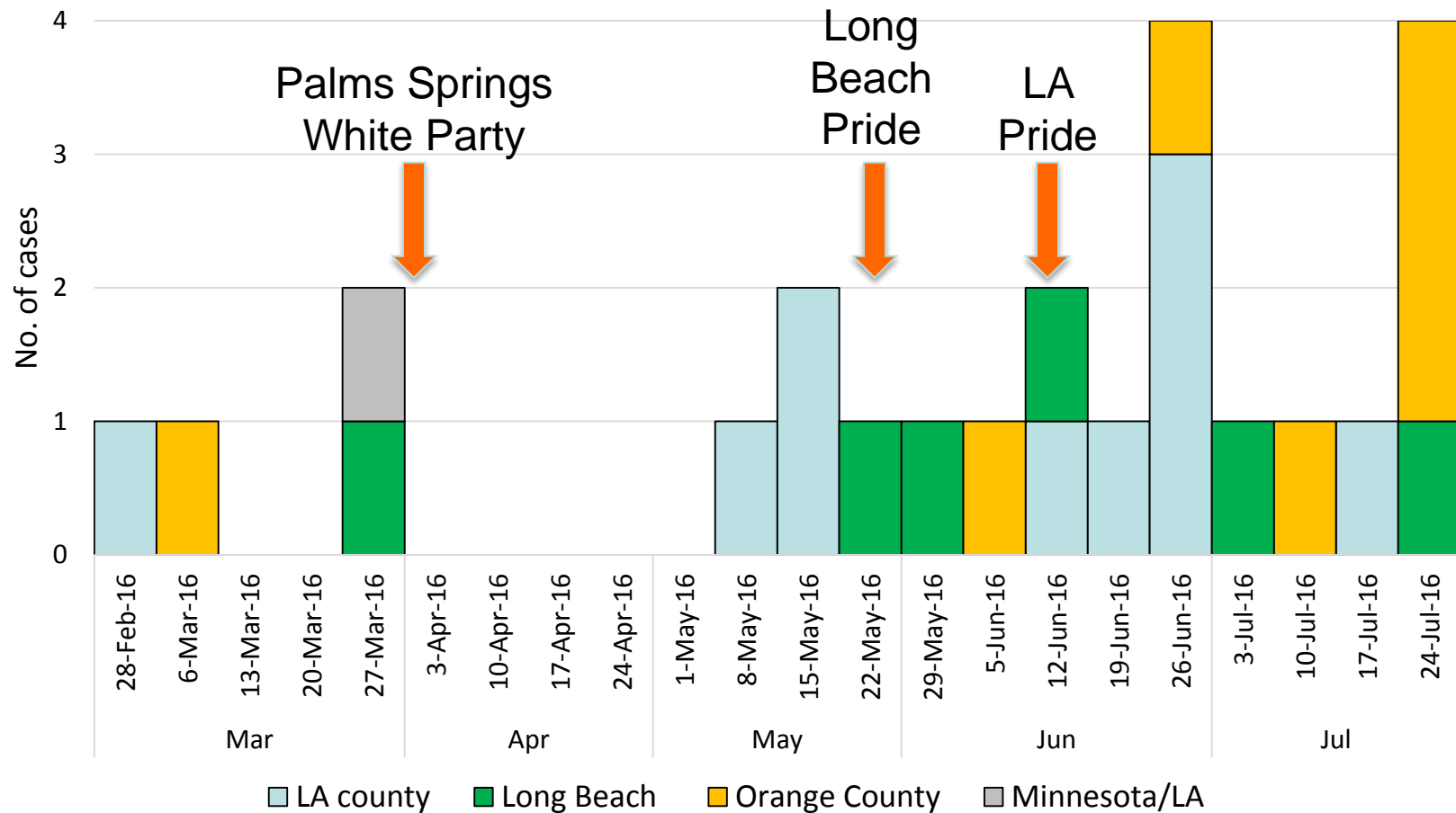


Epidemic Curve





Epidemic Curve with Local Events





Patient Characteristics

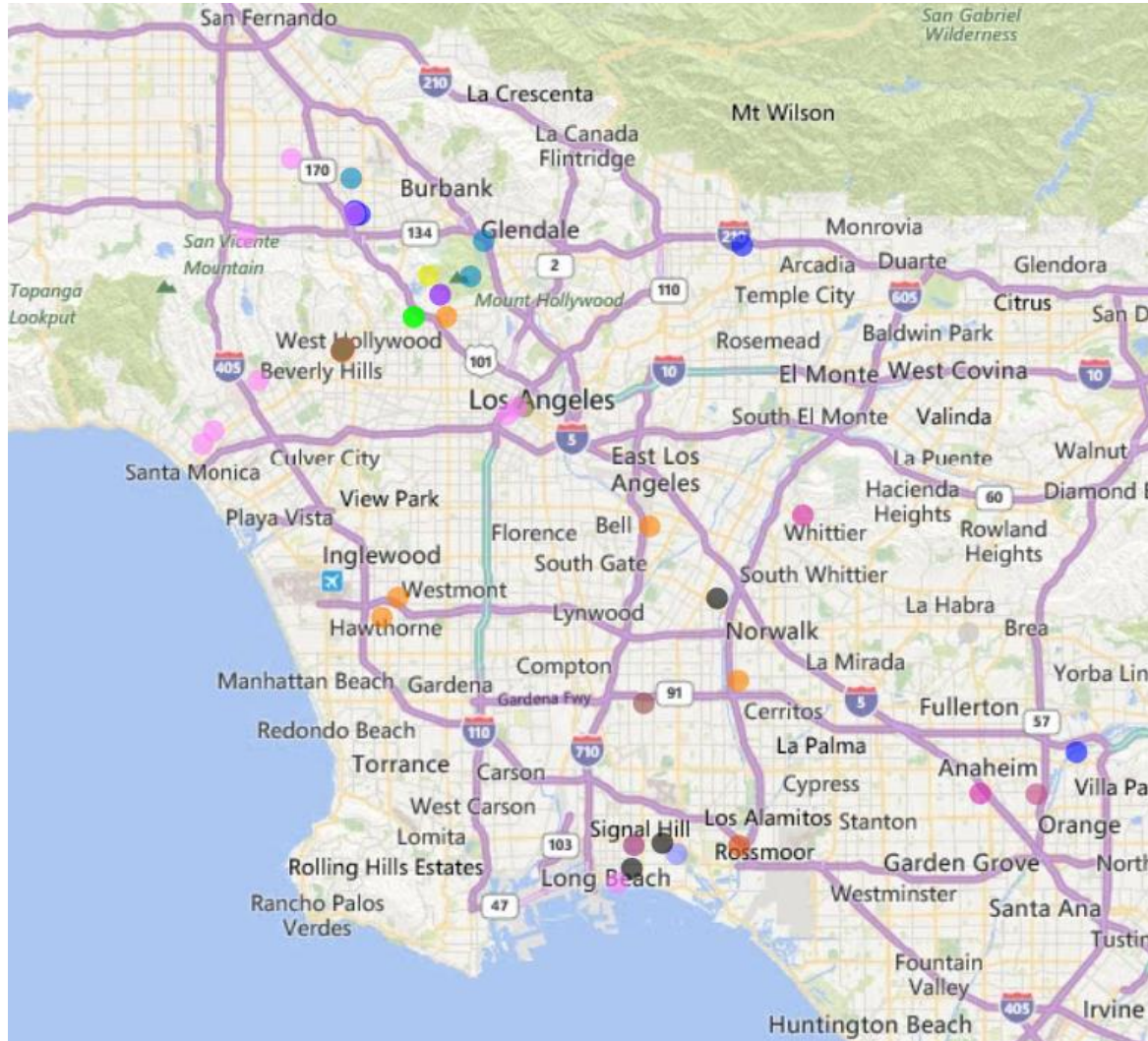
- Total cases – 24
- Fatal outcome – 2 (8%)
- Gender – male 22 (92%)
- MSM – 19 (79%); HIV positive – 2 (8%)
- Age 20-39 years – 20 (83%)
- Race/ethnicity – White (29%), Latino (46%), Black (13%), Asian/Other (13%)



Findings from Case Interviews

- No common geographic location
- No common venues attended
- No common exposures
- No common risk factors

Case Locations – Residence & Activities





Prevention

- Vaccination recommended for
 - All MSM in the affected jurisdictions (and SD)
 - All persons with HIV (national recommendation by ACIP)
- Free vaccine available regardless of health insurance status
- Outreach
 - Information and education via media, LGBT orgs, apps
 - Vaccination through healthcare providers, LGBT orgs, public health clinics, venues



Ongoing Investigations

- Surveillance and investigation of new cases
- Laboratory testing at CDC to identify type cc11
- Outreach to social contacts of cases to identify potential common exposures
- Assessment of meningococcal carriage among gay and bisexual men