



# HEPATITIS A OUTBREAK IN SAN DIEGO: OVERVIEW AND LESSONS LEARNED

MARCH 5, 2019

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***Health and Human Services Agency***  
***County of San Diego***



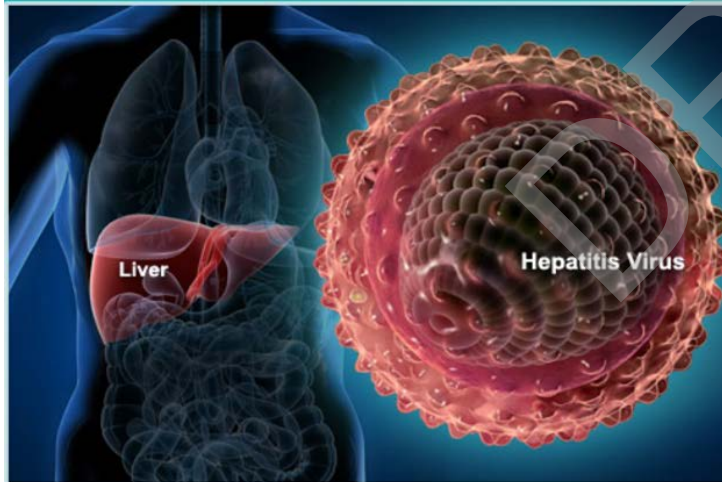
LIVE WELL  
SAN DIEGO



# HEPATITIS A VIRUS OVERVIEW



**Caused by a virus**



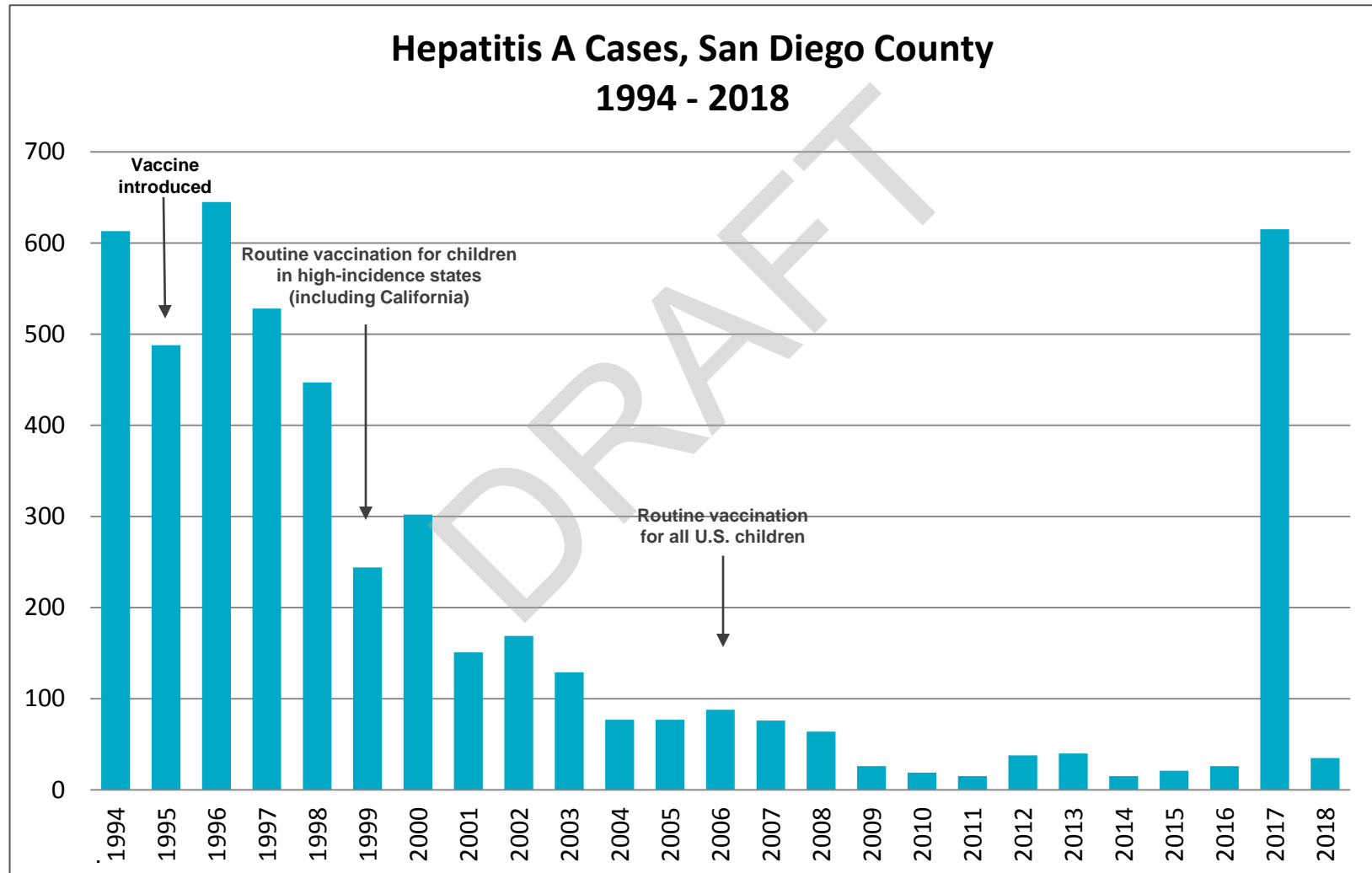
- Can easily spread from person to person
- Can cause liver disease lasting a few weeks to serious illness lasting several months. Can cause death in some cases
- Average incubation period: 28 days (range: 15-50 days)
- Can survive outside the body for months
- Killed by heat & chlorination of water

# EMERGENCE OF HEPATITIS A OUTBREAK IN SAN DIEGO



- Large increase in monthly cases
- Identified at-risk groups for cases; few are travelers
  - Homeless and/or without stable housing
  - Substance use history
  - Close contacts to such groups and environments
- No common sources of infection identified

# HEPATITIS A, SAN DIEGO



# OUTBREAK STATISTICS



# 592

Outbreak  
related  
cases



# 70%

Hospitalized

34% - Homeless & Illicit Drug Use

15% - Homeless Only

13% - Illicit Drug Use Only

28% - Neither

9% - Unknown (no record or interview)

# 20

Deaths

*Data updated 02/19/19*

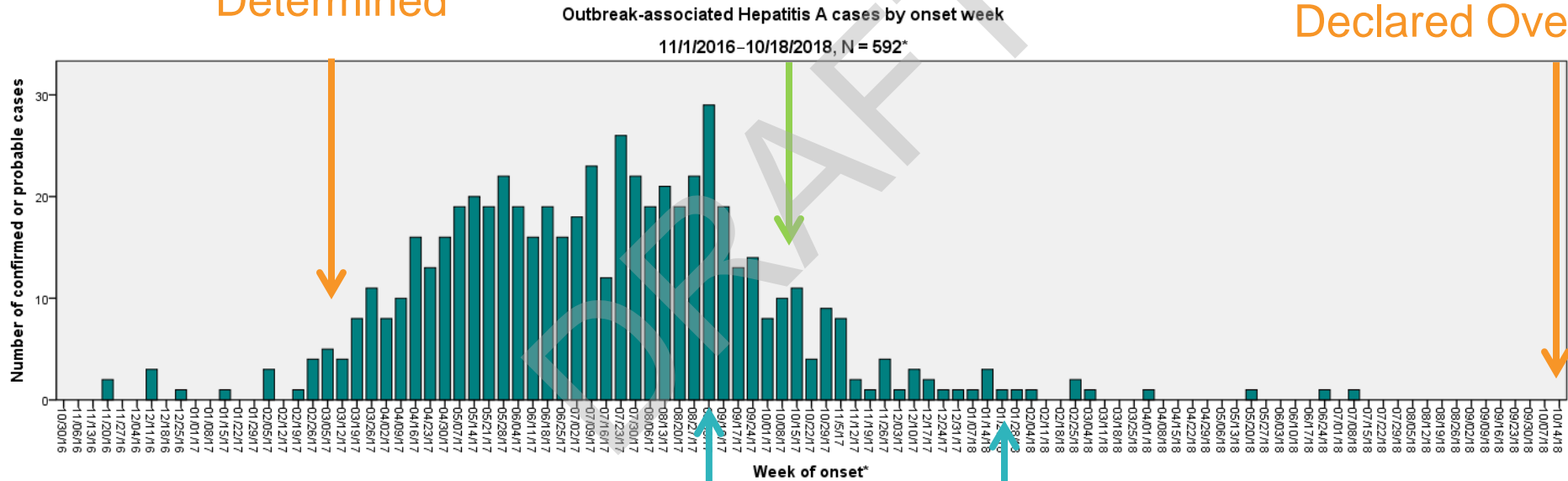
# HEPATITIS A EPI CURVE



3/8/17  
Outbreak  
Determined

10/13/17  
CA State of  
Emergency  
Declared

10/18/18  
Outbreak  
Declared Over



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

9/1/17  
Local Health  
Emergency  
Declared

1/23/18  
Local Health  
Emergency  
Ended

# HEPATITIS A RESPONSE PLAN



## PRIORITY ACTIVITIES

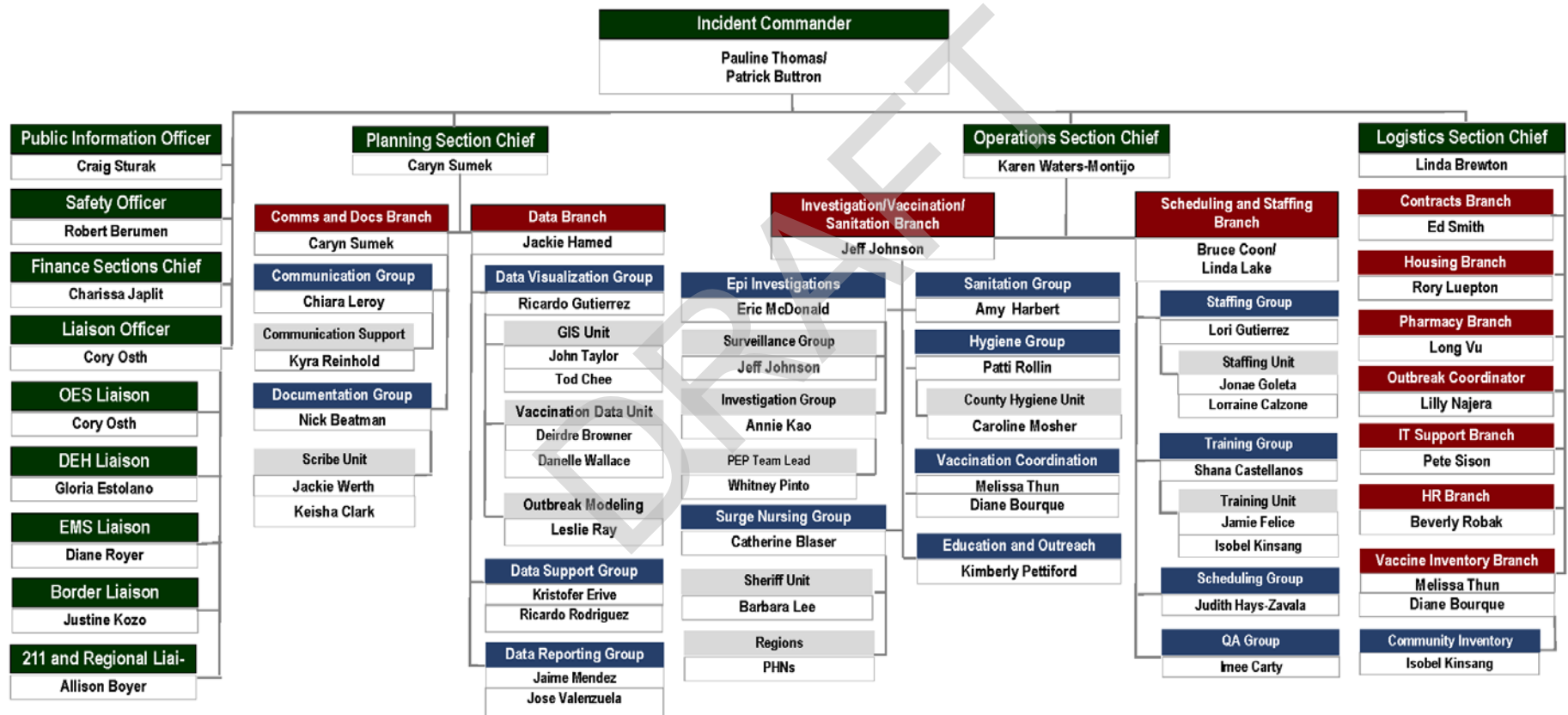
- RESPONSE MANAGEMENT (ICS)
- SURVEILLANCE, CASE INVESTIGATIONS & CONTACT TRACING
- STRATEGIC RESPONSE
  - Strategic Approaches
    - Vaccinate
    - Sanitize
    - Educate
  - Outreach
  - Surge Capacity
  - Leverage Resources
- STRATEGIC SUPPORT
  - Partnerships
  - Risk Communication
  - Data
  - Laboratory Capacity

ACTION PLAN			
WHO	WHAT	WHEN	HOW

# INCIDENT COMMAND STRUCTURE



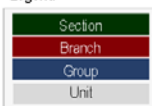
## COUNTY OF SAN DIEGO 2017 HEPATITIS A OUTBREAK INCIDENT COMMAND (ICS) CHART



### Acronym

DEH: Department of Environmental Health  
EMS: Emergency Medical Services  
MRC: Medical Reserve Corps  
OES: Office of Emergency Services  
PHN: Public Health Nurse

### Legend



Dec 7, 2017



# DATA TOOLS



SYSTEM	PURPOSE
WebCMR – Disease Registry	Receive, store, and manage cases that providers are legally mandated to report
SDIR – San Diego Immunization Registry	Tracks immunizations administered by healthcare providers
ORMS – Outbreak Response Management System	Multiuser system to track scheduling, staffing, and reporting for vaccination field events
Access Database – Vaccine Inventory	Keep track of doses received and distributed
GIS Mapping	Show distribution of cases and vaccination events
WebEOC	Coordinate reporting from municipalities

# CAMPAIGN TO VACCINATE



- Over 209,000 vaccinations via:
  - Public Health Centers
  - Medical institutions
- Jails during intake and to inmates
- Substance use disorder treatment programs
- Homeless service providers
- Emergency Departments
- Behavioral Health System
- Law Enforcement/Paramedics
- Internal partners



Enhanced  
Approach

New  
Approach

# SURGE CAPACITY: STAFFING AND TRAINING



- **Obtaining surge staff**

- Redirecting various County employees
- Intermittent workers
- Temporary agency nurses
- Medical Reserve Corps
- Healthcare system volunteers

- **Training**

- Vaccine management and administration
- Safety for nurses working in jails
- San Diego Immunization Registry (SDIR)
- Outbreak Response Management System (ORMS)



# VACCINATION STRATEGIES



Photo by Catherine Blaser, CoSD



Photo by Catherine Blaser, CoSD



Photo by San Diego Union-Tribune



Photo by Catherine Blaser, CoSD

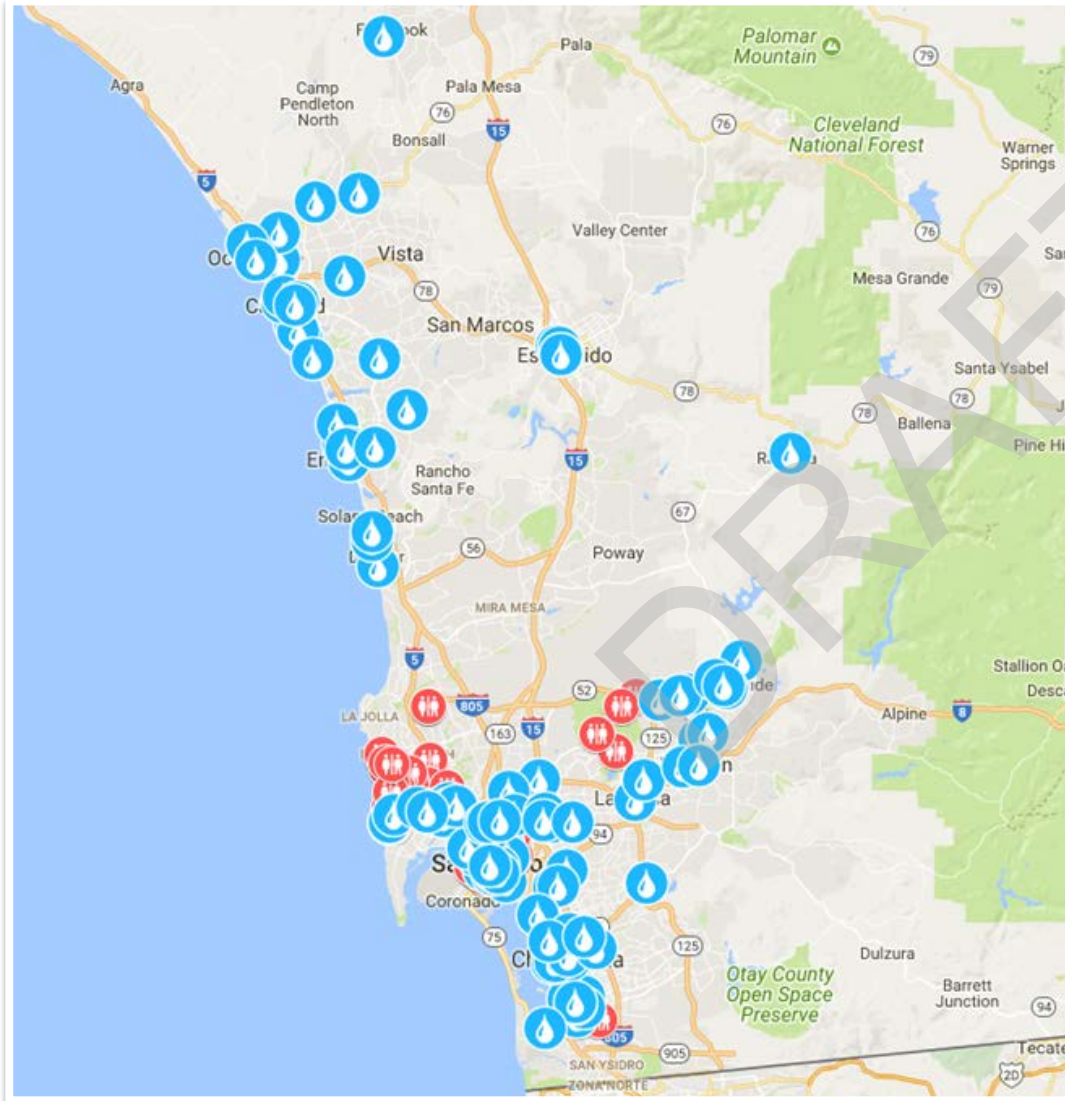
- 3,973 Field Events as of 10/31/2018
  - PODS: 1,602 events & 23,436 vaccines
  - Mobile Van: 95 events & 848 vaccines
  - Foot Teams: 2,276 events & 5,819 vaccines
  - Jails: 7 jails & 9,768 vaccines
  - Tents: 3 tents, 569 vaccines
  - PEP: 1,015



As of 1/31/2019, **209,815 Total Vaccinations** have been provided by the County, hospital partners and community providers



# ACCESS TO HYGIENE



211 San Diego



Photo by Catherine Blaser, CoSD



# SANITATION



County of San Diego Department of Environmental Health 5500 Overland Ave. #170 San Diego, CA 92123 858-505-6814

For more information on Hepatitis A or to report individuals with vomiting, diarrhea or fever associated with food consumption, contact:  
Email: [epidemiology.fhd@sdcounty.ca.gov](mailto:epidemiology.fhd@sdcounty.ca.gov)  
Phone: (858) 505-6814  
Website: [www.sdcdph.org](http://www.sdcdph.org)



## HEPATITIS A DISINFECTION GUIDELINES

Hepatitis A is a liver infection caused by the Hepatitis A virus. Highly contagious, the Hepatitis A virus is usually transmitted by the fecal-oral route, either through person-to-person contact or consumption of contaminated food or water. Contamination can occur when infected persons do not wash their hands properly after going to the bathroom and then touch other objects or food items. Surfaces that are frequently touched should be cleaned and sanitized often.

- Toilet Room Surfaces
- Kitchen Surfaces
- Doorknobs
- Recreation Equipment
- Light Switch Plates
- Phones
- Computer Keyboards
- Railings
- High Chairs
- Tables and Chairs
- Wheelchairs and Walkers
- Remote Controls

### Effective Disinfectants

**Chlorine Bleach:** Mix and use the chlorine solution promptly. Allow 1 minute of contact time and then rinse with water.

- 5000 ppm: 1 and 2/3 cups bleach in 1 gallon water.

### Steps to Clean Spills of Vomit or Feces

- Put on personal protective equipment, including two sets of gloves, masks and gowns.
- Block-off area immediately.



Photo: San Diego Union Tribune



Photo courtesy of CoSD LUEG

## SANITATION PROCEDURES FOR PUBLIC RIGHT-OF-WAYS

UPDATED OCTOBER 6, 2017



### OBJECTIVE

The purpose of this document is to provide operating procedures and recommendations for the sanitation of public right-of-ways (e.g., sidewalks, streets, and gutters) in times of elevated risk to public health, (example: Declared Public Health Emergency for Hepatitis A outbreak).

### PUBLIC NOTIFICATION

Public notification must adhere to the respective jurisdiction regulations and/or constitutional protections prior to the cleanup, removal, and storage of personal property found on public right-of-ways. Each jurisdiction should consult with its legal counsel concerning these or related requirements.



DRAFT



To: CAHAN San Diego Participants  
Date: October 31, 2017  
From: Public Health Services, Epidemiology and Immunizations Services Branch

Update #7: Hepatitis A Virus Outbreak in San Diego County

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HEALTH

### Events Scheduled for Second Dose of Hepatitis A Vaccine





# LESSONS LEARNED

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# SUMMARY OF CHALLENGES



- Disease-specific
  - Long incubation period & infectious period & relapse
  - Hand sanitizer not effective
- Population-specific
  - May be difficult to reach and interview
  - Might not interface with or be able to access vaccination sites
  - May have limited sanitation access
- Other
  - Low vaccination rates amongst adults with CDC indications
  - Isolation of discharged medically stable yet infectious homeless individuals
  - Potential of cross-over into other populations or general public
  - Risk communication to those at risk vs “worried well”
  - Ordering, prioritizing & handling vaccine



# PLANNING FOR VACCINATION



## ENGAGE MULTIPLE AGENCIES



Photo by County News Center





## MULTIPLE STRATEGIES TO REACH AT-RISK PERSONS

DRAFT

# DATA COLLECTION



## PLAN DATA COLLECTION ELEMENTS IN ADVANCE





# SANITATION



## IMPROVE ABILITY FOR HOMELESS TO MAINTAIN HYGIENE



*Photo credit: San Diego Union Tribune*



*Photo credit: San Diego Union Tribune*

# EDUCATION AND COMMUNICATION



**LIVE WELL  
SAN DIEGO**

## EDUCATE THROUGH MULTIPLE CHANNELS

**IT'S HERE.  
IT'S REAL.  
IT'S AN OUTBREAK.**



**PROTECT YOURSELF  
GET VACCINATED**

**PREVENT  
HEPA**

For more information visit  
[211sandiego.org/lgbtq](http://211sandiego.org/lgbtq)



SanDiegoCounty.gov Home

**Health & Human Services Agency**

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### Hepatitis A

#### San Diego Hepatitis A Outbreak

On January 23, 2018, the County ended the local health emergency, declared on September 1, 2017, in response to the local hepatitis A outbreak. This action does not mean the outbreak is over, and the County will continue efforts it has taken to control the spread of the disease.

Anyone who received their first hepatitis vaccination before mid-September, 2017, should get a second dose now to complete the series and assure long-term protection. Although the first dose of the vaccine is considered to be around 90 percent effective, that protection will eventually begin to decrease and a second shot boosts immunity for between 20 and 40 years, according to the Center for Disease Control and Prevention.

The outbreak is being spread person-to-person and through contact with fecally contaminated environments. The majority of people who have contracted hepatitis A during this outbreak have been homeless and/or illicit drug users.

Efforts of the County and its community partners to halt the hepatitis A outbreak focus on three key areas: vaccination, sanitation and education.


**San Diego County Hepatitis A Outbreak Cases and Deaths:**  
Data reported through April 4, 2018 and posted on April 10, 2018\*  
\*Table will be updated each Tuesday

Cases	Hospitalizations	Deaths
567	402 (69%)	20 (3.4%)

Note: Table does not include all reported hepatitis A cases in the county; only local-outbreak-related. Data are provisional and subject to change.

[Current Outbreak](#)  
[Vaccinate](#)

[Guidelines and Resources](#)  
[Health Care Providers](#)



**LIVE WELL  
SAN DIEGO**

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#### Popular Services

- Aging & Independence Services
- Behavioral Health Services
- Children's Services
- Housing & Community Development Services
- Public Administrator, Guardian, and Conservator
- Public Health Services
- Self-Sufficiency Programs
- Support Divisions
- Find an office near you
- More Services

#### COUNTYNEWSCENTER

- Raise Awareness about Mental Illness at NAMI Walk/Run
- Local Film Activity Just Won't Quit



# REPORTS AND RECOMMENDATIONS

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- **Hepatitis A Outbreak After Action Report**
  - Released May 10, 2018
  - 29 recommendations, 25 completed
- **2017/2018 San Diego County Grand Jury Report**
  - Released May 17, 2018
  - 4 recommendations, 3 completed, 1 will not be implemented
- **California State Auditor's Report**
  - Released December 20, 2018
  - 3 recommendations, 2 completed

# AFTER ACTION REPORT RECOMMENDATIONS



#	Action Item	Deadline	Status
1	Protocol for Convening Policy Group	11/30/18	<b>Completed</b> 11/30/18
2	Incident Command System Training	6/30/19	In progress - 85% complete
3	Protocol for Notifying Municipalities	11/30/18	<b>Completed</b> 11/30/18
4A	Share Best Practices and Information with Other Jurisdictions and at Conferences	Ongoing	<b>Completed</b>
4B	Track Distribution of Information Shared	8/31/18	<b>Completed</b> 7/26/18
5A	Share HAV Vaccination Recommendation with Medical Community	Ongoing	<b>Completed</b>
5B	Request Medical Providers Routinely Review and Administer HAV Vaccinations to At-Risk Populations	8/31/18	<b>Completed</b> 8/31/18

# AFTER ACTION REPORT RECOMMENDATIONS



#	Action Item	Deadline	Status
6A	Expand Pilot of Bi-Directional Interface with Medical Systems Using the Health Information Exchange	12/31/18	<b>Completed</b> 11/30/18
6B	Promote San Diego Immunization Registry (SDIR) to Non-Participating Providers and Systems	7/31/18	<b>Completed</b> 7/30/18
7	Encourage CDC's Advisory Committee on Immunization Practices (ACIP) to Recommend HAV Vaccination for Homeless Individuals	10/31/18	<b>Completed</b> 10/25/18
8A	Continue to Recommend HAV Vaccination for At-Risk Professionals	Ongoing	<b>Completed</b>
8B	Send Written HAV Vaccination Reminder to At-Risk Providers on Annual Basis	9/30/18	<b>Completed</b> 9/28/18
9A	Promote Second Dose of HAV Vaccine	Ongoing	<b>Completed</b>

# AFTER ACTION REPORT RECOMMENDATIONS



#	Action Item	Deadline	Status
9B	Schedule and Track Second Dose Events via Outbreak Response Management System (ORMS)	12/31/18	<b>Completed</b> 12/31/18
10	Educate all County Jail Inmates on HAV Risks and Encourage Vaccination	9/15/18	<b>Completed</b> 9/15/18
11	Train County PHNs on Foot Team Model and Engaging At-Risk Populations	5/31/19	<b>Completed</b> 2/21/19
12	Use Cleaning Products Effective Against HAV and Other Viruses in Public Areas/Facilities	Ongoing	<b>Completed</b>
13	Use a Multi-disciplinary Approach to Monitor Public Rights-of-way and Address Sanitation Needs	Ongoing	<b>Completed</b>
14	Support California Department Of Pesticide Regulation (CDPR) Regulatory Changes to Streamline Public Health Disinfection Activities	Anticipated Spring 2020	In progress

# AFTER ACTION REPORT RECOMMENDATIONS



#	Action Item	Deadline	Status
15	Identify List Of Cleaning Products Effective Against HAV	11/30/18	<b>Completed</b> 9/19/18
16A	Pursue Local Avenues to Utilize Medical Reserve Corps (MRC) Volunteer List Outside of a Declared Emergency Status	6/30/19	In progress
16B	Pursue State Avenues to Utilize MRC Volunteer List Outside of a Declared Emergency Status	6/30/19	<b>Completed</b> 1/31/19
17	Pursue Federal Sanitation And Hygiene Guidelines For Homeless Service Providers	9/30/18	<b>Completed</b> 11/16/18
18	Address Public Health Issues at All Regional Task Force on the Homeless Full Membership Meetings	Ongoing	<b>Completed</b>
19	Schedule 200 HAV Vaccination Events at Sites Serving Behavioral Health Clients	11/30/18	<b>Completed</b> 9/7/18

# AFTER ACTION REPORT RECOMMENDATIONS



#	Action Item	Deadline	Status
20A	Work with CDC to Determine Relationships Between Specimens in an Outbreak	Ongoing	<b>Completed</b>
20B	Formalize Partnerships with External Organizations to Enhance PH Lab Capacity in Bioinformatics	6/30/19	In progress – MOA being developed with JCV Institute
21A	Initiate the Implementation of Drug Medi-Cal Organized Delivery System (ODS)	7/31/18	<b>Completed</b> 7/1/18
21B	Establish an Organized Approach to Homeless Outreach throughout the Region	11/30/18	<b>Completed</b> 9/10/18

# GRAND JURY REPORT RECOMMENDATIONS



#	Action Item	Deadline	Status
18-06	Declare a Local Public Health Emergency Much Sooner When Confronted with a Similar Outbreak in the Future	N/A	Will not be implemented
18-07	Revise the County Emergency Operations Plan to Establish a Command Structure During a Health Emergency	04/30/19	<b>Completed</b> 9/11/18
18-08	Clearly Establish Lines of Authority to Prevent Misunderstandings Regarding Departmental Responsibilities	11/30/18	<b>Completed</b> 11/30/18
18-09	Designate a Project Manager who Can Communicate Effectively with City Officials and Medical Personnel to Take Necessary Actions Quickly During a Health Emergency	11/30/18	<b>Completed</b> 11/30/18

# CA STATE AUDITOR'S REPORT RECOMMENDATIONS



#	Action Item	Deadline	Status
3	Revise County's Response Plans to Include Specific and Achievable Objectives, Schedules by Which It Expects to Achieve These Objectives, and the Resources Necessary to Achieve Its Goals and Objectives within the Planned Schedule.	3/31/19	<b>Completed</b> 9/11/18
4	Finalize the County's Draft Policy that Requires It to Promptly Convene Policy Groups with Representatives from Relevant Local Jurisdictions in a Future Outbreak	N/A	<b>Completed</b> 11/30/18
5	Enter into an Agreement with the City of San Diego to Clarify Each Entity's Roles and Responsibilities over Public Health Matters	3/31/19	In progress – MOA being developed



# RECOGNITION



CALIFORNIA STATE  
ASSOCIATION OF COUNTIES



# QUESTIONS?



**Dr. Wilma Wooten**

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Public Health Services

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