

HEPATITIS A OUTBREAK SAN DIEGO COUNTY



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LIVE WELL
SAN DIEGO

Image: CDC

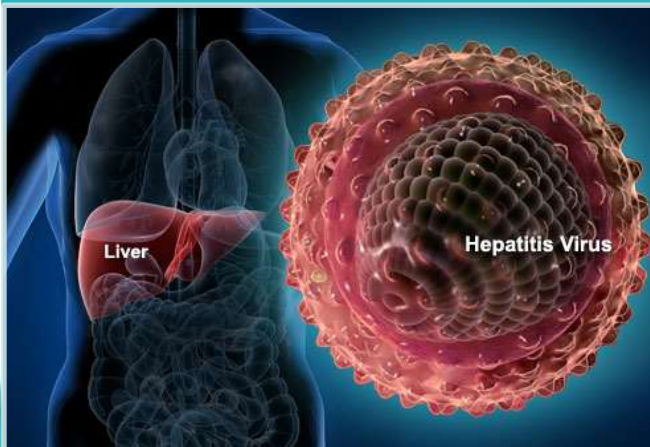


- Population of 3.2 million (1% of our Nation and more residents than 21 states)
- Distinct Boundaries (size of Connecticut)
- 48% W, 32% L, 11% A/PI, 5% B, 5% O.
 - 17 incorporated cities
 - 18 Indian Sovereign nations
 - 5th largest County in the United States (urban & rural)
 - World's busiest border crossing



HEPATITIS A OVERVIEW

**Caused by
a virus**



**Hepatitis A can easily spread
from person-to-person**

**Can cause liver disease lasting
a few weeks to a serious illness
lasting several months**

Can cause death in some cases



**LIVE WELL
SAN DIEGO**

HEPATITIS A VIRUS OVERVIEW

Average incubation period for Hepatitis A infection is 28 days (range: 15–50 days)

The virus can live outside the body for months, depending on the environmental conditions

An individual can be contagious up to two weeks before developing symptoms or 1-2 weeks after onset of symptoms

Adequate chlorination of water kills the virus that enters the water supply

Vaccination with the full, two-dose series is the best way to prevent infection



**LIVE WELL
SAN DIEGO**

HOW DOES IT SPREAD?

***Ingestion of fecal matter,
even in microscopic amounts, from:***

**Touching objects
or eating food that
someone with a
Hep A infection
handled**

**Close person-to-
person contact with
an infected person**

**Use of recreational
drugs, whether
injected or not**

**Sexual contact with
someone who has
a Hep A infection**

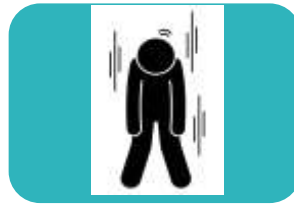


**LIVE WELL
SAN DIEGO**

HEPATITIS A - SYMPTOMS



Fever



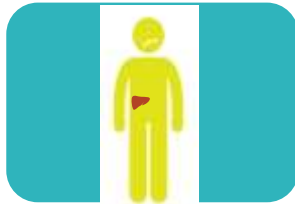
Fatigue



Nausea



Loss of Appetite



Jaundice



Stomach Pain



Vomiting

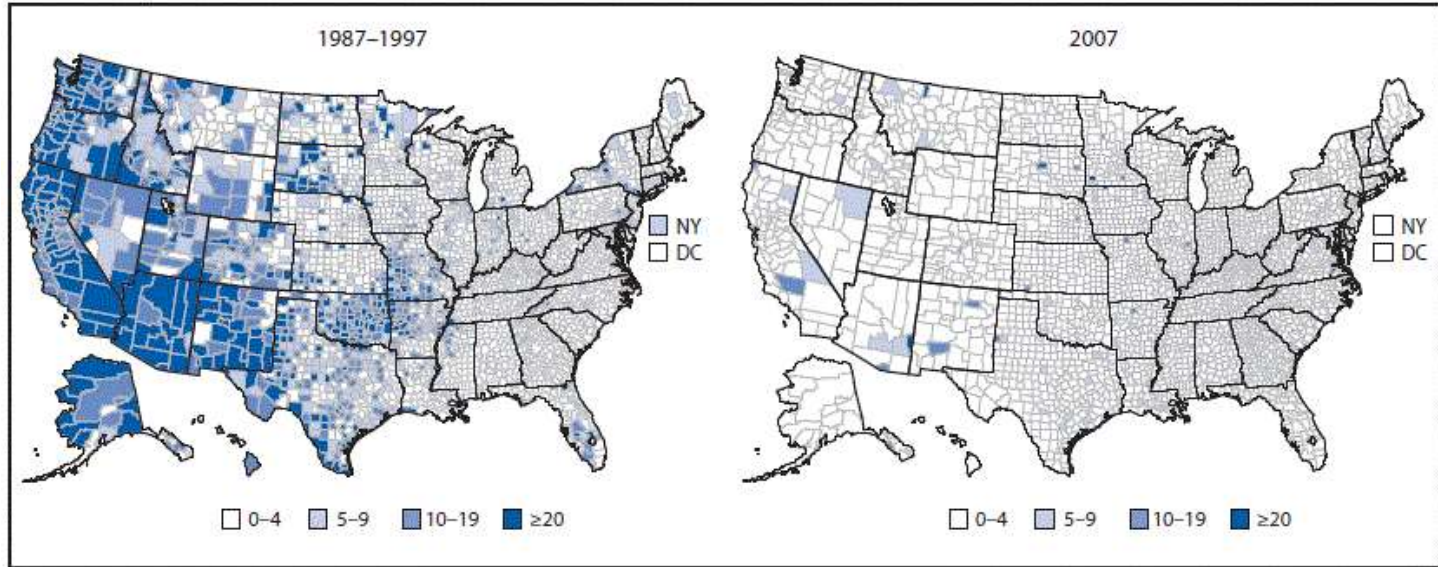


**Dark Urine, Pale
Stools and
Diarrhea**



**LIVE WELL
SAN DIEGO**

Incidence* of reported acute hepatitis A cases National Notifiable Diseases Surveillance System, United States, 1987–1997† (pre-vaccine) and 2007



* Rate per 100,000 population.

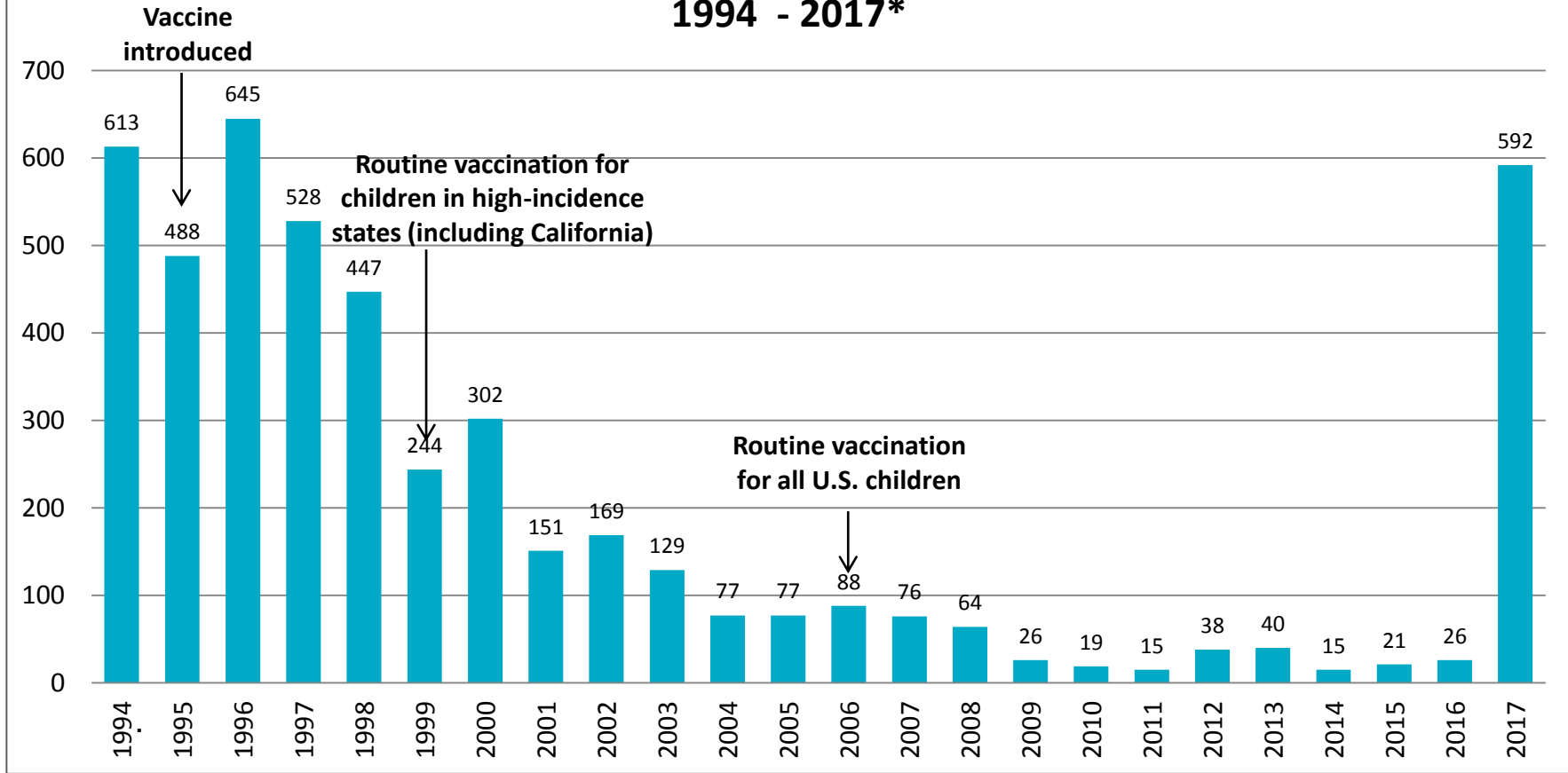
† Annual average incidence.

Source: CDC. Downloaded 7/1/17 from:
<https://www.cdc.gov/mmwr/volumes/65/su/su6501a6.htm>



LIVE WELL
SAN DIEGO

All Hepatitis A Cases, San Diego County 1994 - 2017*



*Year to date. Prepared by County of San Diego, Health & Human Services Agency, Public Health Services, Epidemiology & Immunization Services, 11/20/17

HEPATITIS A OUTBREAKS, UNITED STATES 1995 - PRESENT



YEAR	LOCATION	METHOD OF SPREAD/SOURCE	#CASES	#HOSPITALIZATIONS	#DEATHS
2003	PA & OH	Food (Green Onions)	660	Unknown	3 (0.5%)
2016-17	SAN DIEGO	Close Person to Person Contact	561	378 (67%)	20 (3.6%)
2016-17	MICHIGAN	Close Person to Person Contact	526	436 (83%)	20 (3.8%)
2016	HAWAII	Food (Raw Scallops)	292	74 (25%)	0
2013	10 states	Food (Pomegranate Seeds)	165	71 (43%)	0

HEPATITIS A, SAN DIEGO



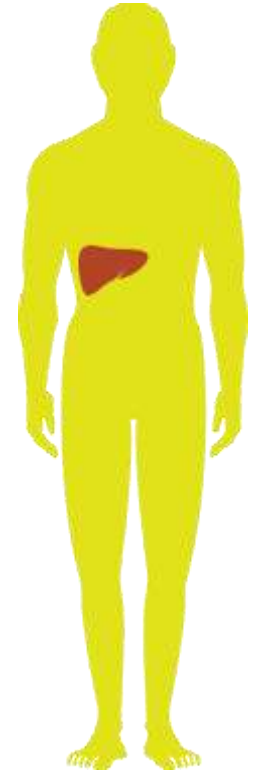
- 561 confirmed/probable outbreak cases
 - Onset dates from 11/22/16 through 11/20/17
 - 378 (67%) hospitalizations, 20 (3.6%) deaths
 - 382 (68%) male, 179 (32%) female
 - Age range 5-87 (median 43)
- Suspected exposure type
 - 179 (32%) homeless and illicit drug use
 - 91 (16.2%) homeless only
 - 67 (12%) illicit drug use only
 - 162 (29%) neither
 - 61 (11.1%) insufficient information to classify



HEPATITIS A, SAN DIEGO



- Co-infections
 - 78/443 (17.6%) with hepatitis C
 - 23/452 (5.1%) with hepatitis B
- 37 non-outbreak cases meet CSTE definition (not included in count)
- 12 suspect cases under investigation
- Linked cases in other CA counties, AZ, KY, CO, RI, UT



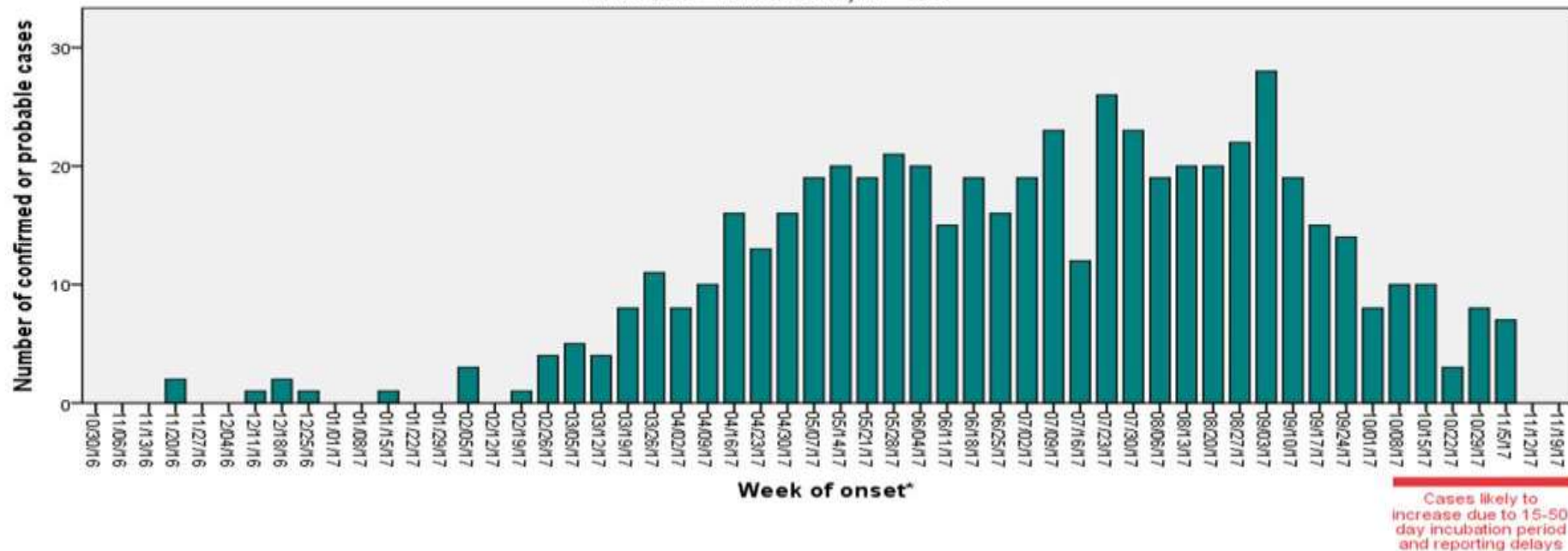
HEPATITIS A IN SAN DIEGO



LIVE WELL
SAN DIEGO

Outbreak-associated Hepatitis A cases by onset week

11/1/2016–11/20/2017, N = 561*



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



- Activation of Incident Command System and response to the outbreak focused on a three-pronged strategic approach to:
 - **Vaccinate**
 - **Sanitize**
 - **Educate**
- Conducted surveillance, case investigations, and post-exposure prophylaxis. Worked closely with Department of Environmental Health on possible food sources and collaboration with other partners at local, state, and federal levels.
- Local health emergency declared on **9/1/17**.
- Governor declared a State of Emergency on **10/13/17**.

CHALLENGES



LIVE WELL
SAN DIEGO

- Disease-specific
 - Long incubation period; infectious period before & after symptom onset
 - Lack of effectiveness of hand sanitizer
 - Relapse
- Population-specific
 - May be difficult to reach for interview
 - May not interface with or be able to access existing vaccination sites
 - May not have adequate access to sanitation
- 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 as relates to those at risk vs. “worried well”

VACCINATION SITES



LIVE WELL
SAN DIEGO

- Over 100,000 vaccinations offered at:

- Public Health Centers
- Medical institutions

-
- Jails during intake and to inmates
 - Substance use disorder treatment programs
 - Homeless service providers
 - Single Room Occupancy hotels
 - Encampments, ravines, culverts, and other areas in the field with homeless outreach workers, sometimes including homeless outreach team workers or police officers;
 - Emergency Departments



Enhanced
Approach

New
Approach



- Vaccinations offered by:
 - County-employed nurses, including behavioral health settings
 - Contract or temp agency nurses
 - Local Medical Reserve Corps volunteers
 - Medical community, including pharmacists
 - County Medical Society Foundation volunteers
 - Paramedics – required local scope of practice expansion
- Note: Coupling with flu vaccinations and other services when possible

SANITIZE (HYGIENE)



- Indoor sanitation
 - Disinfection guidance for indoor areas available
 - Food inspectors provide guidance information to operators during more than 11,817 inspections
- Outdoor sanitation and access to hygiene
 - Sanitation of streets being conducted in some areas
 - 153 handwashing stations placed
 - Public restroom access expanded where possible
 - 9,232 hygiene kits distributed

EDUCATE

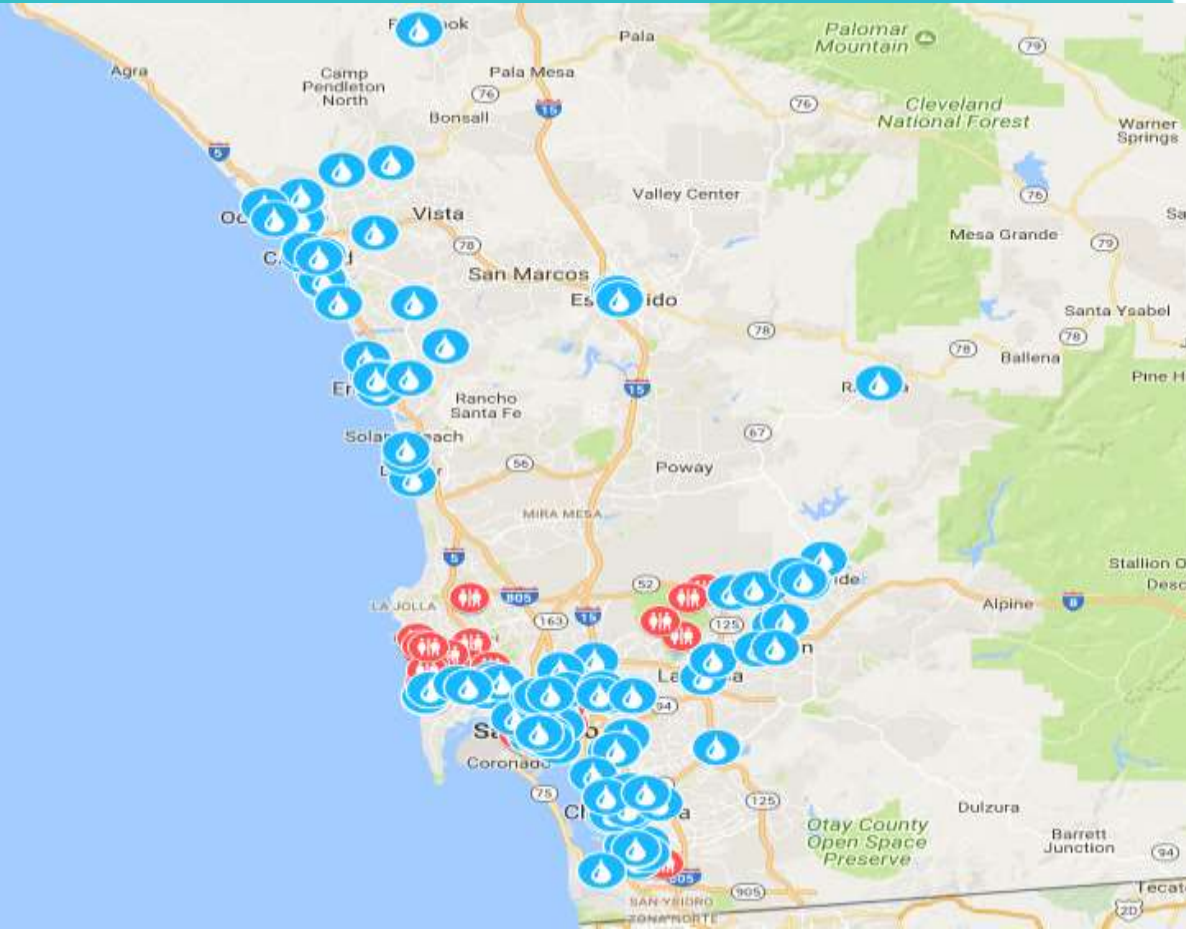


- 16 news stories, 2 press conferences
- 10 CA Health Alert Network (CAHAN) notifications
- Provided 159 education events, with a total reach to over 3,000 attendees
- Conducted meetings with homeless service providers (more recently with HUD), behavioral health providers, and city leadership of local jurisdictions
- Distributed flyers, posters, FAQs, and more – available on [webpage](#)
- Activated 2-1-1, non-emergency hotline, for general inquiries
- Food inspectors have provided guidance information to operators during more than 10,161 inspections.
- Created guidance for “infrequent volunteers” during holidays and for annual Point in Time Count of homeless
- Enhanced communication to MSM population to prevent crossover given other outbreaks



- 10 CA Health Alert Network (CAHAN) notifications
- Convened health care providers and attended high level health care stakeholder meetings to encourage:
 - Recognition and active reporting of suspect cases to allow interviews to be conducted before patient lost to follow up
 - Vaccination of population at risk and/or those recommended by CDC
 - Checking of San Diego Immunization Registry before vaccination to avoid redundant doses and noting doses given afterwards
 - Avoiding discharge of infectious patients to the street by using established temporary housing process
 - Use of standard precautions

MAP OF HANDWASHING STATIONS AND PUBLIC BATHROOMS ON 211 PAGE



<http://211sandiego.org/resources/health-wellness>

IT TAKES A VILLAGE...



- Multiple County Departments involved
- Local medical providers, medical society, hospital association, San Diego Health Connect (health information exchange)
- Local homeless service and behavioral health providers and related organizations
- Local municipalities
- Other local partners including but not limited to local restaurant association, food and beverage association, faith-based organizations, food banks and pantries, hotel motel association, farmers market and agricultural growers, chamber of commerce, 2-1-1
- State partners including but not limited to California Department of Public Health, California Emergency Medical Services Authority, California Department of Pesticide Regulation, and San Diego River Conservancy
- Federal partners
 - Centers for Disease Control and Prevention
 - Housing and Urban Development

...AND A COALITION



- Multiple presentations to local Healthcare Disaster Coalition (HDC) by Deputy Public Health Officer, EISB Medical Director, and Epi/Bioterrorism PHN Supervisor
- Discussions with local Hospital Preparedness Program (HPP) representatives and Hospital Association of San Diego and Imperial Counties (HASDIC)
- Leveraged relationships with local coalition partners (and their understanding of PH emergencies, outbreaks and mass prophylaxis) to assist with executive buy-in and support for:
 - Vaccinating at-risk patients & staff
 - Prompt case reporting
 - Sound infection control
- Representatives from local coalition involved with hospital teams vaccinating in the field
 - 50 vaccines given in the field by hospital teams as of 11/17





For more information contact:

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epidemiology/dc/Hepatitis_A.html](http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/community_epidemiology/dc/Hepatitis_A.html)