

CSAC 2018 Submission Template

Program Title: San Diego County Hepatitis A Outbreak Response

Overview: The County of San Diego contained its hepatitis A virus (HAV) outbreak impacting hard-to-reach homeless and illicit drug users by developing new strategies and tools.

Challenge: Since the introduction of the HAV vaccine in 1995, HAV outbreaks have generally been small and were often linked to contaminated food sources. San Diego's 2017 outbreak was large, its primary method of transmission was person-to-person, and the homeless individuals that made up half of reported cases were difficult to reach with traditional outbreak response strategies. This unprecedented outbreak required new approaches to combat it.

Innovative Solution: The County Health and Human Services Agency, Public Health Services (PHS) used several innovations in vaccine delivery, including foot teams, and new tools, such as the Outbreak Management Response System (ORMS) to address the HAV outbreak. PHS initiated memoranda of agreement with hospitals and other healthcare organizations to store and administer HAV vaccines provided from PHS, which was obtained from the state, increasing their ability to vaccinate the at-risk populations. However, the at-risk populations faced barriers to receiving vaccinations at these sites, such as lack of reliable transportation and difficulty accessing healthcare. To overcome these barriers, PHS brought vaccinations directly to vulnerable populations by conducting vaccination events at community organizations that served the at-risk groups and sending "foot teams" of nurses, law enforcement officers, and others to vaccinate and educate the at-risk populations living in remote encampments on river beds, bridges and canyons.

PHS also collaborated with local organizations to extend the routine provision of vaccinations into new settings, such as emergency departments, jails, drug treatment programs, and homeless service providers. In addition to vaccine supplies, PHS provided administrative and technical support, including site visits, to help these organizations comply with vaccine storage and administration requirements. Institutionalizing vaccinations at these facilities is expected to prevent future HAV cases among the at-risk populations served.

Foot teams and other vaccination events were scheduled, staffed and tracked using ORMS, a tool developed by PHS to manage and collect data from its HAV vaccination events. ORMS improved

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coordination between PHS, the organizations hosting events and the staffing agencies providing nurses to administer the vaccines. It also served as a database for data collected at events, including the number of HAV vaccines administered to the at-risk populations, the number of second doses of HAV administered and other key metrics.

Originality: While other counties in California experienced HAV outbreaks in 2017, most were caused by individuals who were originally infected in San Diego and all outbreaks were considerably smaller than the San Diego outbreak. As of April 11, 2018, there were only 117 cases among all other counties in California combined, compared to 588 cases reported in San Diego County as of May 17, 2018. As a result, San Diego's outbreak response was larger and more complex than those of other counties and required innovations like the foot team model and ORMS to be effective. These efforts supported the County's *Live Well San Diego* vision of healthy, safe and thriving communities.

Cost Effectiveness: As of April 30, 2018, the County of San Diego has spent \$12.5 million on the HAV outbreak response. Epidemic modeling developed by the University of California, San Diego Division of Global Public Health indicate that over 5,000 cases could have occurred had the County and its partners not conducted their vaccination campaign. Though efforts to provide vaccinations in the field were expensive, with a hospitalization rate of 68 percent and death rate of 3.4 percent of all cases respectively, these field efforts significantly contributed to containment of the outbreak and prevented cases, hospitalizations, and deaths. This is significant since each hospitalization is estimated to between \$30,000 and \$60,000.

Results: As of May 2, 2018, the County of San Diego and its partners have provided 151,115 HAV vaccines and conducted 3,322 field events. The number of new cases has dropped dramatically as a result; there have only been 12 cases to date in 2018, compared to 570 in 2017. Furthermore, medical director with the Centers for Disease Control and Prevention, Dr. Monique Foster praised the County of San Diego, saying that we "deployed novel strategies and tactics for vaccination of hard-to-reach population." She also claimed that "Some of these strategies and tactics could be replicated by other state health departments dealing with a hepatitis A outbreak among populations similar to the outbreak in San Diego."