



San Diego's Hepatitis A Outbreak

By Acting More Quickly, the County and
City of San Diego Might Have Reduced
the Spread of the Disease

December 2018

REPORT 2018-116





CALIFORNIA STATE AUDITOR

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December 20, 2018
2018-116

The Governor of California
President pro Tempore of the Senate
Speaker of the Assembly
State Capitol
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As requested by the Joint Legislative Audit Committee, the California State Auditor presents this audit report regarding the response to the 2017–18 hepatitis A outbreak in San Diego County (county) and the city of San Diego (city). This report concludes that the county, which is responsible for the area’s public health matters, took steps to understand the increasing number of reported hepatitis A cases, determine the necessary interventions to contain the outbreak, and identify the characteristics and size of the at-risk populations. However, the county failed to include critical details in planning its response such as identifying the number of vaccinations it would administer, the timelines for administering them, and the resources—primarily, nursing staff—needed to carry out the vaccination program. As a result, the county did not accelerate vaccination efforts until September and October 2017. Had the county hastened its vaccination efforts, it may have more quickly reduced the risk of the disease’s spread, which grew to include 584 reported hepatitis A cases, 398 hospitalizations and 20 deaths by the end of January 2018.

Although the county also identified multiple sanitation measures that could address the outbreak, neither it nor the city promptly implemented all of them. For instance, despite conversations between the county and city as early as June 2017, neither began fully implementing measures related to hand-washing stations, public restroom access, and street sanitation until September 2017 and only after the county’s health officer issued a directive telling the city it had to take action on the sanitation measures. The county health officer did not issue the directive earlier because the county wanted to work with the city first before it resorted to mandating compliance.

Finally, the California Department of Public Health (CDPH), the county, and the city have identified changes to improve their response efforts to future incidents, but room for improvement remains. For example, CDPH created guidance for responding to future hepatitis A incidents, but this guidance omits two critical steps: establishing time frames to achieve target vaccination rates and determining the number of nurses or other resources needed to administer the vaccinations within those time frames. Furthermore, the county acknowledged that it would have been appropriate to include leadership from affected local jurisdictions in a policy group to manage their response, and it has drafted—but not yet finalized—policies related to activating such cooperation in future threats to public health. The city has issued its own report about its response to the incident; however, its analysis was limited to only the time during which the local health emergency was in effect—September 2017 through January 2018. By not also assessing its actions before the local health emergency declaration, the city missed an opportunity to address issues that contributed to delays in implementing sanitation measures.

Respectfully submitted,

A handwritten signature in black ink that reads "Elaine M. Howle". The signature is written in a cursive, flowing style.

ELAINE M. HOWLE, CPA
California State Auditor

Selected Abbreviations Used in This Report

CDC	U.S. Centers for Disease Control and Prevention
CDPH	California Department of Public Health
HHS	County of San Diego Health and Human Services Agency
ICS	incident command system
WHO	World Health Organization

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Summary

Results in Brief

In early March 2017, the County of San Diego Health and Human Services Agency (HHSA) announced an increase in the number of reported hepatitis A cases. Hepatitis A is a highly contagious liver disease, which can, in rare cases, cause liver failure and death. The outbreak that HHSA identified was disproportionately affecting two at-risk populations—individuals experiencing homelessness and individuals who use illegal drugs—and the majority of the cases had occurred within the city of San Diego (city). State laws and regulations place the responsibility for containing outbreaks of communicable diseases on local health officers, but county and city governments are also required to take necessary measures to preserve and protect the public health in their jurisdictions. Shortly after the county of San Diego (county) detected the increase in reported cases, it took steps to understand the outbreak, determine the necessary interventions to contain it, and identify the characteristics and size of the at-risk populations. However, its failure to adequately plan and quickly implement certain aspects of its response led to unnecessary delays in its execution of critical actions. As a result, the county was slow to mitigate the risk that more members of the two at-risk populations might acquire the highly contagious disease and spread it to others.

In responding to the outbreak, the county identified vaccination as critical, an approach that aligns with general guidance from the World Health Organization and the U.S. Centers for Disease Control and Prevention. However, it did not consistently set measurable targets and time frames for administering vaccinations to the at-risk populations early in its response, nor did it determine the quantities of key resources—primarily, nursing staff—needed to carry out the vaccination program. Instead, it considered only its own available resources to determine how many vaccinations it could administer, an approach that proved to be ineffective. Despite the county's efforts, the number of new hepatitis A cases averaged around 20 per week from May through mid-September 2017, three times higher than the average of six new cases per week during March. Vaccinations in the county significantly increased—about fivefold—beginning in September 2017, after new contracts increased the county's access to additional public health nurses: the county and its partners administered more vaccinations in that month than in the previous six months combined. In fact, total vaccinations in the county surpassed 41,000 in both September and October 2017, compared to about 7,700 in August. This increase in vaccinations coincided with a dramatic decline in the number of new hepatitis A cases. Had the county accelerated its vaccination efforts sooner, it might have more quickly reduced the risk of the disease spreading.

Audit Highlights . . .

Our audit of the county and city of San Diego's response to the 2017–2018 hepatitis A outbreak highlighted the following:

- » *Although the county took steps to understand and contain the outbreak, it did not adequately plan and quickly implement certain aspects of its response.*
 - *It did not consistently set measurable targets and time frames for administering vaccinations to the at-risk populations early in its response.*
 - *It did not determine the quantities of key resources—primarily nursing staff—needed to carry out the vaccination program.*
- » *Had the county accelerated its vaccination efforts sooner, it might have more quickly reduced the risk of the disease spreading.*
 - *The number of new cases averaged 20 per week from May through mid-September 2017, three times higher than the average of six new cases per week during March.*
 - *More vaccinations were administered in September than in the previous six months combined. This increase in vaccinations coincided with a dramatic decline in the number of new hepatitis A cases.*
- » *Neither the county nor the city promptly implemented measures to improve sanitation and hygiene conditions for the at-risk populations in the city, even though adequate sanitation is critical to controlling the spread of the disease.*
 - *The county and city did not fully implement hand-washing stations, increased access to restrooms, and street sanitizing until months after initially discussing the measures.*

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- *The county did not convene a policy group of county and regional executive leaders to foster planning and coordination for the prompt implementation of sanitation measures and information sharing.*
- *The county did not promptly share location data to inform the city about the concentration of cases within its jurisdiction until November 2017.*

Similarly, even though adequate sanitation is critical to controlling the spread of hepatitis A, neither the county nor the city promptly implemented measures to improve sanitation and hygiene conditions for the at-risk populations in the city. To address sanitation issues, the county identified distributing hygiene kits, providing access to hand-washing stations, sanitizing streets and sidewalks, and opening public restrooms for longer hours as measures. However, despite discussions in June and August 2017, the county and city did not fully implement the measures related to hand-washing stations, restroom access, and street sanitizing until September 2017—after the county’s local health officer (county health officer) issued a directive telling the city it had to take action on the sanitation measures. The county health officer did not issue a directive sooner because she wanted to collaborate with the city instead of mandating its compliance. However, by exercising her legal authority before August 31, 2017, the county health officer likely would have prompted the city to implement the important sanitation measures sooner.

The county also failed to use a tool that could have helped it to foster the planning and coordination necessary for the prompt implementation of sanitation measures and to share information specific to the city about the status of the outbreak. The county’s emergency operations plan empowers the county to convene a policy group consisting of representatives of regions affected by an incident, such as the outbreak. Creating a policy group of this nature in response to the outbreak likely would have enabled the county to more promptly and efficiently facilitate coordination with the relevant jurisdictions, including the city. In the absence of such a group, the city’s assistant chief operating officer stated that the county did not give the city a reason to believe the outbreak was a serious issue until the county health officer issued her directive on August 31, 2017, nearly six months after the county had detected the outbreak. Additionally, the county did not share location data to inform the city about the concentration of the cases within its jurisdiction until November 2017. If the city had had more information, it might have more quickly understood the need for the sanitation measures. In its *Hepatitis A Outbreak After Action Report* (after action report), the county noted its lack of a policy group of county and regional executive leaders, and it acknowledged that regularly convening a policy group that included leadership from impacted jurisdictions would have been appropriate for the outbreak response.

Because the county did not do enough to inform and involve the city, the city lacked information that would have enabled it to understand the severity of the outbreak and the need to implement sanitation measures. State law requires the governing bodies of cities to protect the public health of their residents, which the city

does in part by contracting with the county to address specified public health matters within the city. Nonetheless, we expected the city to have taken some additional steps to understand the actions needed related to sanitation to protect the public health of the at-risk populations, such as requesting updates from the county regarding the response and coordinating any of its own sanitation efforts with the county. However, according to the assistant chief operating officer, the city expected the county to manage the outbreak and provide the city direction on what was required or necessary. Based on discussions it had with the county, the city believed that it was adequately responding to the county's requests; thus, it did not see a need at the time to take additional action.

As a result of San Diego's hepatitis A outbreak, the California Department of Public Health (CDPH), the county, and the city have identified changes they believe will improve their response efforts to future incidents. However, we believe room for additional improvement remains. For instance, although CDPH created a Hepatitis A Outbreak Response Plan to guide jurisdictions facing similar outbreaks in the future, the plan omits two critical steps: establishing time frames to achieve vaccination targets and determining the number of nurses or other resources needed to administer the vaccinations within those time frames. CDPH also created a draft Public Health and Medical Emergency Powers guide (medical powers guide) that more clearly identifies the powers and responsibilities of local health officers. However, this guide does not identify or provide examples of the measures local health officers are authorized to take during outbreaks. Regarding sanitation measures for the outbreak, the county health officer stated that she had never issued a directive before, and that based on discussions with county legal counsel, the directive on its own did not carry any legal authority. We believe that CDPH's current draft guidance does not yet provide the necessary clarity on this matter.

Additionally, both the county and the city completed after action reports related to the hepatitis A outbreak. The county identified and made recommendations for improvement in 21 areas, including using a multidisciplinary approach to monitor public right-of-ways, such as sidewalks and streets, and to address sanitation needs. It has taken action to implement some of these changes. Although the city also issued a report that identified 12 issues or areas for improvement, it did not assess the actions it took before the county declared a local health emergency on September 1, 2017. As a result, the city missed an opportunity to identify and address issues that may have contributed to delays in implementing sanitation measures.

Recommendations

Legislature

To better ensure that local health officers can promptly respond to disease outbreaks, the Legislature should clarify existing state law to specify that the local health officer for each geographic jurisdiction may issue directives to other governmental entities within that jurisdiction to take action as the officer deems necessary to control the spread of communicable diseases.

To ensure that each local public entity has the information necessary to adequately respond and protect the public health of its residents during disease outbreaks, the Legislature should enact legislation requiring local health officers to promptly notify and update those local public entities within the health officers' jurisdictions about communicable disease outbreaks that may affect them. The legislation should also require health officers to make available relevant information to these local public entities, including the locations of concentrations of cases, the number of residents affected, and the measures that the local public entities should take to assist with outbreak response efforts.

San Diego County

To prevent delays when responding to future communicable disease outbreaks, the county should ensure that in the event of an outbreak, its response plans include the following critical elements: specific and achievable objectives, time frames by which it expects to achieve these objectives, and the resources necessary to achieve its objectives within the planned time frames. Furthermore, the county should update its emergency operations plan and other planning documents to reflect these changes by April 30, 2019.

To better ensure effective collaboration and cooperation with other local jurisdictions, the county should finalize its draft policy that requires it to respond to future outbreaks by promptly convening policy groups that include representatives from relevant local jurisdictions. Furthermore, to facilitate improved communication with and participation from jurisdictions potentially affected by disease outbreaks, the county should promptly share relevant data with each jurisdiction.

To ensure that it takes appropriate action to protect the public health of the residents of the city, the county should enter into an agreement—such as a memorandum of understanding—with the city or should negotiate revisions in its contract with the city by March 31, 2019, to clarify each entity's roles and responsibilities over

public health matters, and to include city leadership in coordinating response efforts when public health matters, such as disease outbreaks, affect the city's residents.

City of San Diego

To ensure that the city is sufficiently aware of future disease outbreaks and other public health concerns that affect its residents and that it can take appropriate action to protect the public health of its residents, the city should enter into an agreement—such as a memorandum of understanding—with the county or should negotiate revisions in its contract with the county by March 31, 2019, to clarify each entity's roles and responsibilities over public health matters, and to include city leadership in coordinating response efforts when public health matters, such as disease outbreaks, affect the city's residents.

To identify and address any unresolved issues that may have contributed to delays in implementing sanitation measures before the county health officer's September 2017 declaration of a local health emergency, the city should, by March 31, 2019, examine its actions related to the hepatitis A outbreak before the emergency declaration, identify any such issues, and use the results of that examination to develop a corrective action plan to address them.

CDPH

To better enable other jurisdictions to more promptly respond to future hepatitis A outbreaks, CDPH should amend its Hepatitis A Outbreak Response Plan by February 28, 2019, to recommend that the jurisdictions set vaccination targets as soon as possible, establish dates by when they expect to achieve those targets, and determine the quantities of resources necessary to administer the vaccinations by those dates.

To further clarify the authority of local health officers, CDPH should finalize and issue its medical powers guide by April 30, 2019, and revise it to describe to the greatest extent possible the types of actions that local health officers can take within their jurisdictions to prevent or contain the spread of infectious disease.

Agency Comments

The county, city, and CDPH agreed with our recommendations.

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Introduction

Background

In early March 2017, the County of San Diego Health and Human Services Agency (HHSA) announced a detected increase in hepatitis A cases. According to the U.S. Centers for Disease Control and Prevention (CDC), hepatitis A is a highly contagious liver disease that can range in severity from a mild illness lasting a few weeks to a severe illness lasting several months. In adults, hepatitis A presents with flu-like symptoms, including fever, fatigue, and loss of appetite, and it can also cause jaundice, a condition that turns a person's skin or whites of the eyes yellow. Once infected, most people fully recover and develop life-long immunity. However, in rare cases, hepatitis A causes liver failure and death. On March 10, 2017, HHSA issued a health advisory to the San Diego medical community that an outbreak of hepatitis A was occurring and that it was disproportionately affecting two primary populations: individuals experiencing homelessness (the homeless population) and individuals who use illegal drugs (the illicit drug-using population). HHSA stated in the health advisory that 19 cases of hepatitis A had occurred in the county of San Diego (county) from November 2016 through early March 2017, more than double the seven or eight cases that the county expected for that period.

Hepatitis A Prevention and Response

According to CDC, hepatitis A is a vaccine-preventable disease that is transmitted through the ingestion of fecal matter. This transmission can occur in a number of ways, such as when infected individuals who did not wash their hands adequately after using the restroom touch objects or food that others subsequently touch or ingest. In the United States, the occurrence of hepatitis A has decreased by more than 90 percent over the last several decades, most likely because of the vaccination of at-risk populations and the routine vaccination of children. However, periodic epidemics arise about once every decade, and hepatitis A remains one of the most frequently reported, vaccine-preventable diseases in the United States, with many of the new cases stemming from Americans who travel to parts of the world where hepatitis A is common and then bring the disease home with them.

CDC and the World Health Organization (WHO) offer guidance for dealing with hepatitis A that focuses on vaccination as the primary method of preventing the spread of the disease, especially among individuals with risk factors that include poor sanitation, lack of safe water, use of recreational drugs, living with an infected

person, sexual partnering with someone with an acute hepatitis A infection, and travelling without immunization to areas where hepatitis A is prevalent. According to CDC, the hepatitis A vaccine is safe and effective. It consists of two doses, given six months apart, both of which are necessary for long-term protection. However, a single dose of the vaccine within two weeks of contact with the virus may prevent a person from developing the disease and spreading it to others. CDC recommends vaccination against hepatitis A for the at-risk groups listed in the text box; however,

At-Risk Groups That CDC Recommends Should Receive the Hepatitis A Vaccine

CDC recommends vaccination for the following groups:

- All children at the age one year.
- Travelers to countries that have high rates of hepatitis A.
- Family members and caregivers of recent adoptees from countries where hepatitis A is common.
- Men who have sexual contact with other men.
- People who use recreational drugs.
- People with chronic liver diseases, such as hepatitis B or hepatitis C.
- People who are taking clotting-factor concentrates.
- People who work with hepatitis A-infected animals or in a hepatitis A research laboratory.

Source: CDC's 2017 hepatitis A outbreak webpage.

we noted that CDC did not include the homeless population as an at-risk group.¹ According to WHO, anyone who has not received the vaccine or previously contracted the hepatitis A virus is at risk of contracting the disease. This can include people who are not in an at-risk population. In addition, both WHO and CDC note the importance of sanitation and hygiene efforts to stop the spread of the disease. Preventive measures include maintaining adequate supplies of safe drinking water; properly disposing of sewage; and encouraging effective personal hygiene practices, such as washing hands after using the restroom.

According to the Association of State and Territorial Health Officials (health officials association), time is of the essence when outbreaks occur. It has also stated that a timely and complete public health response can save lives, avert illness, and limit health care costs.

Government Agencies Involved in Protecting Public Health

National, state, and local public agencies contribute to protecting public health, including the control of infectious disease. As the nation's health protection agency, CDC collaborates with a variety of outside organizations, like WHO, to provide the expertise, information, and tools that people and communities need to protect their health. At the state level, the California Department of Public Health (CDPH) uses these tools to guide its efforts to control and prevent infectious disease. The CDPH director acts as the State's public health officer. According to CDPH, its fundamental

¹ On October 24, 2018, the Advisory Committee on Immunization Practices, which is composed of medical and public health experts who develop recommendations to CDC on the use of vaccines, voted to add individuals experiencing homelessness to the at-risk list.

responsibilities include infectious disease control and prevention, and its services include providing public health laboratory services and information about health threats.

State law requires CDPH to create a list of reportable diseases and conditions, and regulations require that health care providers report those diseases and conditions to the local health officer where the patients reside. State law requires that the governing body of each jurisdiction appoint a health officer. The State currently has 61 local health officers, one for each of the 58 counties and one each for three cities—Berkeley, Long Beach, and Pasadena. The local health officers must report the number of cases of certain diseases to CDPH at least weekly. The primary purpose of these reporting requirements is to alert other local health officers and the State’s public health officer to the presence of diseases within their jurisdictions.

At the local level, each jurisdiction is responsible for ensuring the public health of its residents. State law requires local health officers to take measures necessary to prevent the occurrence or spread of communicable diseases within the officer’s jurisdiction. Further, state law requires the governing body of each city to preserve and protect the public health, which includes the regulation of sanitary matters within the city, while the board of supervisors of each county must take necessary measures to preserve and protect the public health in the unincorporated territory of the county. Moreover, state law allows cities to contract with counties for the performance of all enforcement functions within the cities related to ordinances of public health and sanitation. In 1953 the city of San Diego (city) entered into such a contract with the county, which after several amendments, remains in effect as of the date of this report.

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Audit Results

Although the County Took Some Reasonable Steps Early in Its Response to the Hepatitis A Outbreak, It Did Not Establish Timely Objectives and Deadlines

In early March 2017, HHSa detected and began investigating an increase in the number of hepatitis A cases, and on March 10, it issued a health advisory to the San Diego medical community stating that an outbreak of hepatitis A had occurred. Because time is of the essence when dealing with such outbreaks, public health entities must respond promptly to prevent further cases, save lives, and limit health care costs. Both WHO and CDC identify vaccination, sanitation, and education as critical for preventing hepatitis A and responding to outbreaks of the disease. Given this general guidance, we expected the county and the city to have moved quickly to identify, plan, initiate, and monitor efforts to control the spread of the outbreak. Specifically, we expected the San Diego County local public health officer (county health officer)—who also serves as the health officer for the city—to have taken the following steps:

- Identified the specific approach the county would take to prevent the outbreak's further spread.
- Established objectives related to the methods the county planned to use to vaccinate, educate, and provide options for sanitation to relevant populations.
- Set time frames to complete these objectives.
- Identified and mobilized the resources necessary to achieve the objectives.
- Monitored results to assess whether the county's response efforts were effective.

In light of state law that requires local health officers to take whatever steps are necessary to control outbreaks of reportable diseases, we also expected the city to have complied with any directives the county health officer issued.

Certain aspects of the county's early efforts to respond to San Diego's hepatitis A outbreak were consistent with our expectations and with general guidance from WHO and CDC. The county's data show that by the end of March 2017, the county had identified 42 cases, 33 hospitalizations, and one death. In its March health advisory announcing the outbreak, the county identified the two primary at-risk populations and noted the likely means of the disease's transmission from person to person as through the fecal-oral route. Its implementation plan for responding to the outbreak and other

The County's Methods for Vaccinating At-Risk Populations

Points of dispensing—On-site mass vaccination clinics held at locations such as homeless service provider facilities.

Mobile vans—On-site vaccinations provided using mobile vans.

Foot teams—Teams of nurses, public safety officers, and social service providers who located homeless individuals and administered vaccinations in the field.

Source: The county's after action report, May 2018.

documents show that, by the end of April 2017, it had identified a three-pronged approach to address the outbreak: vaccination, sanitation, and education. In addition, the county had identified the key personnel supporting its response and assigned areas of responsibility to these personnel. It had also begun coordinating

with other public and community organizations to develop estimates of the sizes and locations of the at-risk populations and to establish approaches to vaccinate these individuals. The transient nature of the homeless and illicit drug-using populations, as well as challenges in building trust and engaging with these individuals, required the county to collaborate with community and other public organizations. By May 2017, the county had begun administering vaccinations at the events described in the text box.

In addition, shortly after it declared the outbreak, the county coordinated the distribution of educational materials throughout its jurisdictions to inform at-risk individuals, key stakeholders and organizations, and the general population about the disease. For instance, beginning in April 2017, the county distributed fact sheets on hepatitis A to homeless services providers and health care providers, as well as to individuals attending community presentations and vaccination events. By the end of May 2017, the county had also issued at least two press releases that included the number of cases, hospitalizations, and deaths to date; described the disease's symptoms; and advised at-risk populations and people falling into certain other groups—for instance, travelers to countries that have higher rates of hepatitis A—to obtain vaccinations. It also had issued three more health advisories to the medical community with updates on the outbreak.

However, the county did not take other critical steps in the early months of the outbreak. Specifically, it failed to consistently establish agreed-upon, concrete objectives with time frames that could have guided its response and better ensured the timeliness of its actions. As we discuss in later sections of this report, it failed to set objectives that identified both the specific number of vaccinations it planned to administer and the rates at which it planned to administer those vaccinations; set appropriate milestones for when it planned to achieve vaccination-related objectives; and calculate the amount of resources necessary—such as vaccines, nursing staff, and vaccination events—to meet those milestones. Further, although it eventually identified specific hygiene and sanitation measures to control the spread of the hepatitis A outbreak, it was slow to implement many of these measures and to communicate specific sanitation measures to the city to implement.

Likely as a result of this lack of planning and its delays in fully implementing its outbreak response, the county's early efforts did not contain the spread of the disease. As Figure 1 on the following page depicts, the number of new cases of hepatitis A began significantly increasing in March 2017. By mid-April 2017, the number of new cases per week exceeded 10. In total, from the end of March through the end of May 2017, the number of hepatitis A cases more than quadrupled to 180, the number of hospitalizations more than tripled to 120, and the number of deaths increased to four. Further, from May through mid-September 2017, the outbreak became more severe. During this time, the average number of new cases per week was 20, three times higher than the average of six new cases per week during March.

The county health officer declared a local health emergency on September 1, 2017. From September through December 2017—the period when the county and city significantly increased their efforts related to vaccination and sanitation—the number of new cases each week dropped significantly. In fact, starting with the first week in October, the number of new cases per week dropped to 11 or fewer. We believe that the county's and city's more aggressive actions, which we describe below, were appropriate and appear to have been effective in reducing the spread of the disease. However, had the county and city taken these steps in early summer of 2017 rather than waiting until September, they could have better protected the health of county residents. By the end of January 2018, the county had experienced 584 hepatitis A cases from the outbreak, 398 hospitalizations, and 20 deaths. The county ended the local health emergency on January 23, 2018—10 months after announcing the outbreak—and declared the outbreak over on October 18, 2018, 19 months after its announcement.

Because of Weaknesses in Its Planning, the County Was Slow to Vaccinate Many of Its Most Vulnerable Residents

The county recognized the need for vaccination early during the outbreak and mentioned in its March 10, 2017, health advisory the necessity of vaccinating at-risk populations. Although the county developed a plan for implementing its response strategies as early as April, it did not consistently set objectives until October 2017 that clearly identified both the number of vaccinations it would administer and the rate at which it would administer them. As a result, it could not ensure that it had sufficient resources to promptly provide the necessary vaccinations. These crucial missing details suggest that the county failed to embrace fully that “time is of the essence” when responding to an outbreak, as the health officials association describes. Instead, through August 2017, the county relied mostly on its existing nursing resources to dictate the pace and scheduling of its vaccination efforts, and it also worked

The number of new cases of hepatitis A began significantly increasing in March 2017 and on September 1, 2017, the county health officer declared a local health emergency.

Figure 1
The Number of New Hepatitis A Outbreak Cases Each Week Did Not Start Steadily Decreasing Until September 2017



Source: Analysis of Web Confidential Morbidity Reporting system data provided by the county.

with certain private providers and community clinics to administer vaccinations. The text box describes the types of entities that reported administering vaccines during the outbreak. Although the county had entered into agreements with 24 health care providers by August 2017 to administer federally funded vaccines, it did not significantly increase its vaccination efforts until the county health officer declared a local health emergency in September 2017, more than five months after the county identified the outbreak. As Table 1 on the following page shows, the county's increased efforts had positive results: total vaccinations in the county surpassed 41,000 in both September and October 2017, compared to about 7,700 in August, while the number of new cases in October dropped to 35, compared to 80 in September.

Although the county's April 2017 implementation plan described its proposed actions and response strategies, this plan and later versions of its various planning documents did not consistently include agreed-upon vaccination targets combined with time frames for meeting these targets and analyses of the resources necessary for doing so. For example, the county's incident action plan dated May 24, 2017, identified a target of vaccinating 8,000 homeless individuals, but did not include a date by which it planned to achieve this target. Similarly, although the incident action plan dated June 9, 2017, included a target of vaccinating 5,000 at-risk individuals by June 30, 2017, the July update to this plan did not include new vaccination targets, a time frame for completing vaccination targets, or estimates of the resources necessary to administer the vaccinations within a specified time frame. In an email dated June 26, 2017, the medical director of HHSA's Epidemiology and Immunization Services Branch (medical director) expressed concern that there was still no agreed-upon vaccination targets to address the outbreak. In fact, the county did not set specific measurable targets with time frames for achieving its objectives until early October 2017, when the county established the targets of vaccinating 200 at-risk individuals per week in each of the county's six regions and 120 inmates per day. In October the county also formalized its Hepatitis A Outbreak Response Plan, in which it mentioned vaccinating as many individuals as needed to control the outbreak, which it identified as perhaps 125,000 or more. We believe that had the county set these types of targets in early summer 2017 and then identified the resources necessary to achieve them, it would have been better positioned to accelerate its vaccination efforts.

Entities That Reported Administering Hepatitis A Vaccinations From March 2017 Through July 2018

County—The county held a number of vaccination events at facilities including jails, public health centers, and locations such as homeless service provider facilities. In addition, it had foot teams that administered vaccines in the field.

Community clinics—These clinics are federally qualified health centers that provide necessary services to a medically underserved population and adjust their fees based on the patients' ability to pay.

Hospitals, health plans, private providers, and pharmacies—Many private facilities provided vaccinations to patients during the outbreak.

Source: County of San Diego Immunization Registry data and California Association of Public Hospitals and Health Systems website.

Table 1
Hepatitis A Vaccinations Accelerated in September 2017

MONTH AND YEAR	NUMBER OF CASES		NUMBER OF HOSPITALIZATIONS		NUMBER OF DEATHS		TOTAL NUMBER OF VACCINATIONS ADMINISTERED		VACCINATIONS ADMINISTERED BY COUNTY PROGRAMS, PUBLIC HEALTH CENTERS, AND COMMUNITY CLINICS*	
	NEW	CUMULATIVE	NEW	CUMULATIVE	NEW	CUMULATIVE	NEW	CUMULATIVE	NEW	CUMULATIVE
March 2017	42 [†]	42 [†]	33 [†]	33 [†]	1 [†]	1 [†]	1,378	1,378	306	306
April 2017	51	93	35	68	2	3	2,399	3,777	1,265	1,571
May 2017	87	180	52	120	1	4	3,216	6,993	1,656	3,227
June 2017	73	253	50	170	1	5	3,869	10,862	2,305	5,532
July 2017	86	339	67	237	6	11	4,354	15,216	2,822	8,354
August 2017	94	433	62	299	5	16	7,630	22,846	5,173	13,527
September 2017	80	513	53	352	2	18	41,444	64,290	19,816	33,343
October 2017	35	548	20	372	2	20	44,689	108,979	17,217	50,560
November 2017	21	569	16	388	—	20	13,733	122,712	5,728	56,288
December 2017	8	577	7	395	—	20	6,886	129,598	3,464	59,752
January 2018	7	584	3	398	—	20	5,880	135,478	3,344	63,096

Source: Analysis of data from the county's Web Confidential Morbidity Reporting system and San Diego Immunization Registry.

* Vaccinations that county programs, public health centers, and community clinics administered were likely administered to the at-risk populations.

† These cumulative totals include outbreak-classified cases, hospitalizations, and deaths from November 2016 through March 2017.

By late June 2017, the county had critical information to guide its vaccination efforts. Specifically, in May 2017 the county engaged the University of California, San Diego's Division of Infectious Diseases and Global Public Health to create a model (UC San Diego model) to estimate the potential magnitude and duration of the outbreak and the potential impact of vaccination efforts. In late June 2017, the county received the UC San Diego model, which calculated that achieving community immunity would require 71 percent to 80 percent of the at-risk populations to be immune to the disease, either because they had received vaccinations or because they had already had hepatitis A. Community immunity occurs when the percentage of a population that is immune to an infection is large enough to help protect those who are not immune because the disease has little opportunity to spread. According to an HHS staff officer, HHS's Community Health Statistics Unit estimated that the county's homeless and illicit drug-using populations at the time of the outbreak consisted of between 25,000 and 240,700 individuals. Assuming that 60 percent of the potentially 240,700 at-risk individuals had preexisting immunity, the parameters of the UC San Diego model suggested that as many as 77,000 at-risk individuals would require vaccinations. The model also indicated that providing vaccinations as early as possible would avert additional infections.

As Table 1 shows, county programs, public health centers, and community clinics administered only about 5,500 hepatitis A vaccinations in the county in the four months from March through June 2017, or about 7 percent of the number estimated as necessary to reach community immunity. The medical director stated at that time that he supported vaccinating at least 10,000 additional at-risk people in July 2017. However, the county did not establish this as a target, nor did it develop new vaccination targets or time frames to reflect the information in the UC San Diego model. Instead, county programs, public health centers, and community clinics performed only 2,800 of the 4,400 vaccinations administered in the county in July and about 5,200 of the 7,600 vaccinations administered in the county in August. Private parties such as hospitals and clinics accounted for the rest.

We believe the county did not accelerate its vaccination efforts to address the hepatitis A outbreak because it lacked a strong sense of urgency. Its failure to hire additional temporary nurses in a timely manner is symptomatic of this lack of urgency. Even though internal county meeting agendas from April 2017 through June 2017 indicate that the county discussed acquiring extra nurses to administer vaccinations, it did not initiate the procurement process to hire additional nurses until July 2017. Instead, the county responded to the early months of the outbreak by relying on its own nursing staff, soliciting vaccination assistance from certain community clinics and health care providers, and using its existing contract for temporary staff.

Within two weeks of receiving the UC San Diego model, the county initiated its procurement process to acquire additional public health nurses to assist in the vaccination effort. However, the county did not use an expedited procurement process as allowed during an emergency; instead, it initiated its normal procurement process for hiring additional nurses. Specifically, San Diego County's Public Health Services division (Public Health Services) submitted a procurement-planning request dated July 10, 2017, to the purchasing department, which then posted a request for quotation on August 4, 2017. Seven weeks after the initial request—effective September 1, 2017—the county had 18 contracts for temporary nurses in place, or three contracts for each of its six geographic regions.

If the county health officer had declared a local health emergency sooner, the county could have significantly accelerated this procurement process. According to the county's purchasing and contracting director, the department of purchasing and contracting would expedite the posting of a request for quotation if an emergency declaration is in place, and it would further prioritize the contract. Further, once the county health officer declared the

We believe the county did not accelerate its vaccination efforts to address the hepatitis A outbreak because it lacked a strong sense of urgency.

We believe that the volume of new cases—around 18 per week from mid-April through June—should have been a sufficient indicator that the county’s vaccination efforts were insufficient to stem the outbreak.

local health emergency on September 1, 2017, the county board of supervisors waived its competitive procurement policy and granted authority to the county’s purchasing and contracting director to award and amend contracts for goods and services as necessary to respond to the local health emergency. If it had more quickly declared a local health emergency and used an expedited procurement process to contract with the temporary nurses, the county might have accelerated its vaccination efforts before September and likely slowed the spread of the disease sooner.

Moreover, if the county health officer had declared a local health emergency sooner, it might have prompted the county and its partners, including private entities, to increase their vaccination efforts more quickly. The county health officer asserted that local health emergencies are typically called when the county exhausts the resources necessary to respond to an outbreak. Furthermore, she indicated that the county did not face a shortage of staffing resources in June and July 2017. However, we believe that the volume of new cases—around 18 per week from mid-April through June—should have been a sufficient indicator that the county’s vaccination efforts were insufficient to stem the outbreak. The county did not begin significantly more aggressive vaccination efforts until September 2017: during this one month the county, public health centers, and community clinics administered more vaccinations—19,800—than in the previous six months combined. Further, during this same month, private entities, such as hospitals and pharmacies, administered another 21,600 vaccinations. The county continued this level of vaccination effort into the next month, and, combined with public health clinics and community clinics, administered an additional 17,200 vaccinations (out of nearly 44,700 in total) during October 2017.

The increase in vaccinations administered raised concerns about vaccine availability. According to CDPH, it recommended in October 2017 that the Governor declare a statewide emergency related to the hepatitis A outbreak based in part on California’s unusually high vaccine orders and in part on vaccine manufacturers, stating that the volume of vaccine orders would soon result in back orders and supply constraints. Citing outbreaks in San Diego and other California counties, the Governor proclaimed a state of emergency on October 13, 2017, to address concerns regarding the availability of the hepatitis A vaccine. As part of the proclamation, the Governor required CDPH to take all measures necessary to obtain hepatitis A vaccines, prioritize the vaccination of at-risk individuals in affected locations, and control and coordinate all drugs and medical supply stocks intended for wholesale distribution. The Governor also authorized individuals with emergency medical technician or paramedic licenses in the affected locations to administer vaccines to at-risk populations.

We believe that had the county significantly accelerated its response efforts earlier than September 2017, it could have more quickly reduced the opportunities for the disease to spread and thus minimized the risk of more hepatitis A cases occurring. Once the county and other public and private entities increased the number of vaccinations administered in September 2017, the number of new cases reported began a steady decline. In fact, the county's data show that more than 70 percent of the confirmed outbreak cases occurred before September 1, 2017, the date the county health officer declared the local health emergency. As Figure 2 on the following page depicts, the sharp decline in new monthly cases coincided with a five-fold increase in vaccinations across the county—from around 8,000 in August to more than 40,000 in September. By the third week of January 2018, the number of new cases reported during the month was five, a volume that the county considered to be within its staff's normal capabilities for investigation and response. Thus, the county ended the local health emergency on January 23, 2018. If the county had accelerated its response efforts earlier, it might have more quickly reduced the risk of the disease spreading.

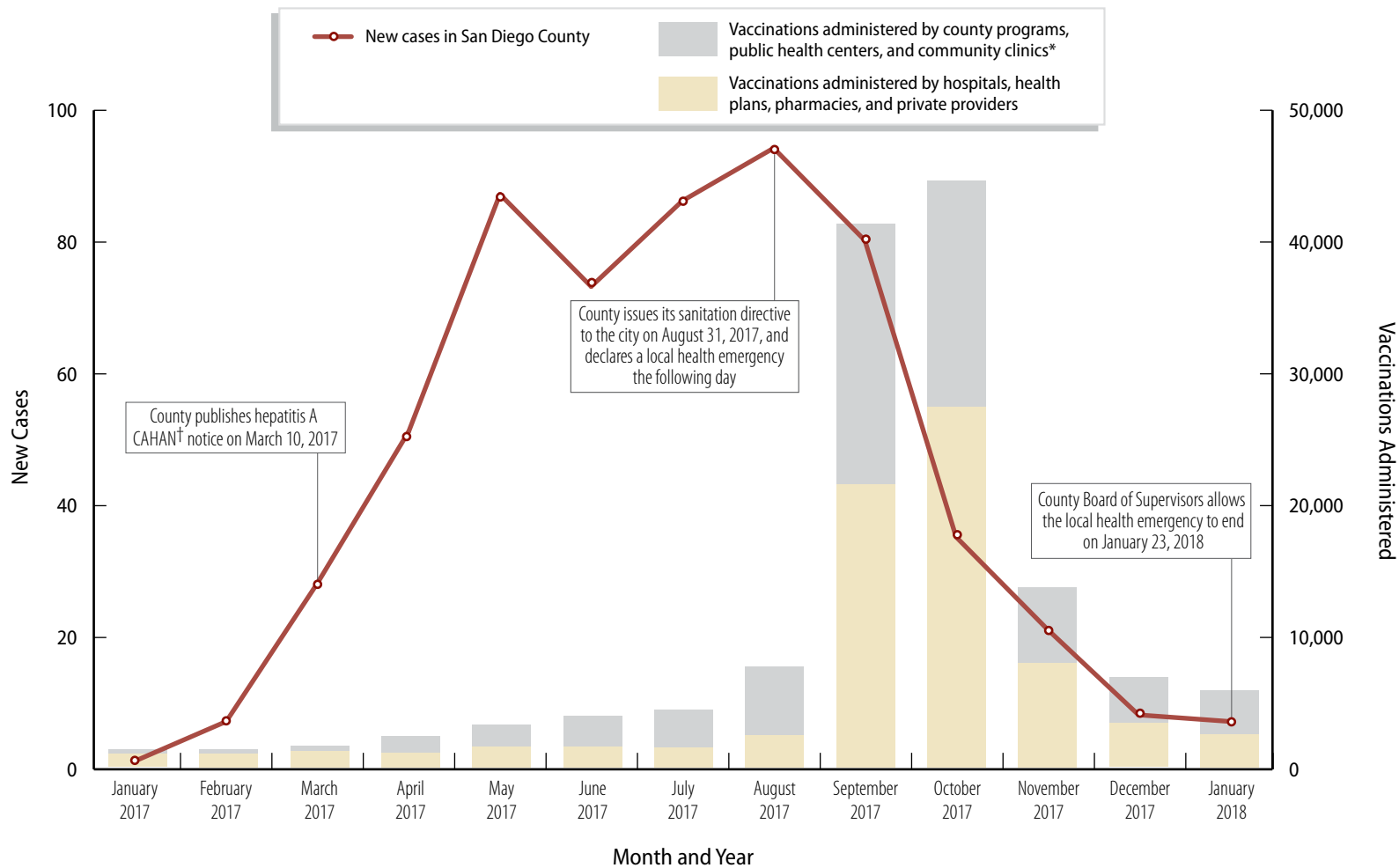
The county's data show that more than 70 percent of the confirmed outbreak cases occurred before September 1, 2017, the date the county health officer declared the local health emergency.

Weaknesses in the County's Planning Also Contributed to the Slow Implementation of Sanitation Measures

Although public health organizations indicate that vaccination is the best method for preventing hepatitis A or controlling outbreaks, these organizations also note the importance of sanitation or hygiene efforts in stopping the spread of the disease. We expected the county and the city to have collaborated in response to the outbreak to implement such sanitation efforts. Specifically, we expected the county to have identified the necessary sanitation measures, including practices related to personal hygiene; to have communicated to the city and other local jurisdictions those measures they needed to implement, as well as the time frames for implementation; and to have monitored the city's and other jurisdictions' progress in implementing the measures. Furthermore, we expected the city to have implemented the measures that the county determined were necessary.

In certain instances, the county met our expectations. Specifically, in the spring of 2017, the county identified and implemented several sanitation measures in response to the outbreak. For example, in late March 2017, the county's Department of Environmental Health began conducting investigations at food facilities, where individuals with hepatitis A had dined or worked. Additionally, according to the assistant director of Public Health Services, the county considered distributing hygiene kits to the at-risk populations in April 2017; however, contemporaneous evidence shows that the county identified distributing hygiene kits as a solution in May 2017.

Figure 2
 New Monthly Hepatitis A Cases Declined When the County and Other Providers Significantly Increased the Number of Vaccinations They Administered



Source: Analysis of the county's Web Confidential Morbidity Reporting system and San Diego Immunization Registry.

* Vaccinations that county programs, public health centers, and community clinics administered were likely related to at-risk individuals.

† The county uses the California Health Alert Network (CAHAN), a state-sponsored web-based system, to send warnings of impending or current situations that may affect the public's health.

However, the county failed to promptly implement other critical sanitation measures. For example, the county identified hand-washing stations as a preventive countermeasure in early May 2017, and it added sanitizing streets and sidewalks and opening public restrooms for longer hours by August 2017. Nonetheless, neither the county nor the city fully implemented these sanitation measures until nearly six months after the county identified the hepatitis A outbreak. Although the two entities discussed hand-washing stations in June 2017 and again in August 2017, they agreed on a pilot project only. Moreover, although the county health officer had the authority at any point to direct the city to implement sanitation measures, such as hand-washing stations and access to restrooms for longer hours in response to the outbreak, she did not do so until August 31, 2017. On that date, she directed the city to immediately expand access to wash stations and public restrooms within the city that were adjacent to at-risk populations, as well as to immediately implement a cleaning and sanitization protocol for public right-of-ways, such as sidewalks and streets.

The county health officer stated that she did not issue a directive earlier because the county wanted to work with the city first instead of forcing it to comply. However, we believe that waiting two months—from late June through the end of August 2017—was excessive. Furthermore, although state laws do not specifically state that local health officers may direct cities' actions to prevent the spread of disease, existing laws and regulations authorize the officers to take measures as may be necessary to prevent or control communicable diseases. The city's assistant chief operating officer (assistant chief) explained that because the county did not tell or ask the city to install hand-washing stations until the county health officer issued her directive on August 31, the county minimized the sense of urgency and seriousness of the outbreak. Had the county health officer exercised her legal authority sooner, the city might have implemented sanitation measures earlier.

After the county health officer issued her directive, both the city and county implemented more aggressive response actions related to sanitation and hygiene. After the county provided the right-of-way sanitation guidance to the city, the city contracted with a vendor that began sanitizing streets and sidewalks on September 11, 2017. In addition, the city expanded access to public restrooms beginning in September. For instance, city records show that the city increased access to 23 restrooms located in Balboa Park, including 14 that it kept open for 24 hours a day, and it also installed 16 portable restrooms in four locations. Further, the county ultimately installed 40 hand-washing stations within the city within the first two days of September and installed 40 more by the end of November 2017. Finally, the county placed 10 portable restrooms in unincorporated areas during October 2017.

Neither the county nor the city fully implemented sanitation measures—including hand-washing stations and sanitizing streets and sidewalks—until nearly six months after the county identified the hepatitis A outbreak.

We believe that the county's weak planning contributed to the significant delays in implementing necessary sanitation measures.

Although we recognize the effectiveness of the actions that the county and city eventually took, we believe that the county's weak planning contributed to the significant delays in implementing these necessary sanitation measures. To ensure progress on containment of the disease, the county should have set a time frame for reaching agreement with the city on implementing sanitation measures, developed a plan that identified the measures for which each entity would be responsible, and established schedules for completing those measures. If the county and city were unable to reach consensus within the scheduled time frame, the county health officer should have directed the city to act on the sanitation measures. Developing a plan that defined the specific steps that need to be taken, the parties responsible for taking those steps, and the time frames for accomplishing them, would have fostered participation and increased accountability.

During the outbreak, the county also failed to fully use an available tool that could have helped it to foster the planning and coordination necessary for the prompt implementation of sanitation measures. The county's emergency operations plan—which has aspects that users can implement in situations that fall short of emergencies—provides this tool. It states that it can be partially or fully implemented in response to a potential or actual threat, in anticipation of a significant event, or in response to an incident. According to the plan, responders to an incident are to use an incident command system (ICS). An ICS is a standardized management system that provides an integrated organizational structure that can reflect the complexity and demands of an incident, without being hindered by jurisdictional boundaries. One tool that an ICS provides is the ability to establish a policy group consisting of those responsible for managing the response effort. To ensure coordination among different jurisdictions, this policy group can include representatives of regions affected by the incident.

Given that the outbreak affected several cities within the county and that the response required the participation of community partners and local governments, we expected the county to have included leadership from these entities as part of the policy group to manage the response efforts. On at least two occasions in March and April 2017, the medical director mentioned to the county health officer the possibility of activating an ICS to respond to the outbreak, pointing to the increasing need for responses that crossed agency and county service lines. He also indicated that an ICS should be considered to address underlying hygiene issues for homeless people that were likely contributing to the outbreak.

The county decided to activate an ICS structure at the end of April 2017. However, in an email to the county health officer dated April 28, 2017, the medical director expressed concerns that the ICS activation was not HHSA-wide and warned that the county's outbreak could become one of the worst in the country since the introduction of the vaccine, which was an argument for a more aggressive approach. He advocated for an HHSA-wide ICS activation, citing the need for coordination and resources outside of Public Health Services. Although the county eventually activated an agency-wide ICS structure that included a policy group of county executives from different departments, this policy group did not include representatives from the affected cities. Moreover, the county provided no evidence that it used the ICS or policy group to regularly share information on the progression of the outbreak with the affected cities or to work regularly with them on coordinating the logistics of the specific sanitation measures necessary to prevent the spread of the disease.

In its May 2018 after action report, the county noted its lack of a policy group of county and regional executive leaders, and it acknowledged that regularly convening a policy group that included leadership from impacted jurisdictions would have been appropriate for the outbreak response. The emergency medical services coordinator for the HHSA's Public Health Preparedness and Response Branch agreed that the county could have benefitted from improved—and earlier—coordination with stakeholder groups and jurisdictions. Had the county promptly implemented a policy group that included all jurisdictions affected by the outbreak, it might have improved participation and accountability among the participants, facilitated the coordination of necessary sanitation interventions, and mitigated misunderstandings. In response to its after action report, HHSA drafted policies and procedures related to activating and convening a policy group during a public health threat. Although these policies and procedures are not yet final, the assistant director of Public Health Services stated that HHSA already implemented them in response to a meningococcal outbreak at San Diego State University. According to a November 2018 organization chart for that outbreak, the county initiated a policy group that includes representatives of a number of county entities and three representatives from the university.

The county's limited sharing of information specific to the city about the status of the outbreak also hindered the city's full recognition of the seriousness of the outbreak and the need to implement sanitation measures quickly. As Table 2 on the following page indicates, the county had the data to determine early during the outbreak that the majority of the hepatitis A cases were occurring within the city. However, the county did not share location data by zip code with the city until November 2017.

The county's limited sharing of information specific to the city about the status of the outbreak also hindered the city's full recognition of the seriousness of the outbreak and the need to implement sanitation measures quickly.

Had the county shared information with the city about the concentration of cases earlier, the city might have more quickly implemented the necessary sanitation measures.

Table 2
The Majority of the Outbreak-Related Hepatitis A Cases During 2017 Occurred in the City

2017	NEW HEPATITIS A CASES IN COUNTY	NEW HEPATITIS A CASES IN CITY		NEW HEPATITIS A CASES IN REMAINING AREAS OF COUNTY	
	NUMBER	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
January	1	0	0%	1	100%
February	7	0	0	7	100
March	28	18	64	10	36
April	51	31	61	20	39
May	87	47	54	40	46
June	73	33	45	40	55
July	86	43	50	43	50
August	94	65	69	29	31
September	80	56	70	24	30
October	35	18	51	17	49
November	21	8	38	13	62
December	8	2	25	6	75
Totals	571	321	56%	250	44%

Source: Analysis of the county's Web Confidential Morbidity Reporting system.

Note: The county's data included 69 cases not linked to any city or specific location in the county, which may affect the precision of these amounts.

State law requires the city's governing body to take measures necessary to preserve and protect the public health. Although, the city fulfills this responsibility in part by contracting with the county to provide public health services within the city's jurisdiction, we expected the city to have taken at least some additional steps to understand the actions needed related to sanitation to protect the public health of its residents. Such steps should have included requesting regular updates regarding the county's outbreak response, and coordinating any of its own sanitation response efforts with the county. Because the city knew that it had a large homeless population residing within its jurisdiction, it should have taken steps to ensure that it sufficiently protected these residents' health.²

² One report estimated the city's homeless population to be about 5,000 as of January 2018.

Emails indicate that city leadership knew of the outbreak by April 2017, and the county and city met on May 4 to discuss the outbreak specifically. In fact, the city believed that it was adequately responding to the county's requests because of its discussions about the outbreak with the county from May through August 2017, and its regular correspondence from the county for specific assistance as it pertained to educational materials and with reaching out to the at-risk populations for vaccinations. According to the assistant chief, the city expected the county to manage the outbreak and provide the city direction on what was required or necessary because the city had a contract with the county and it is responsible for public health matters in the city. The assistant chief also stated that the county had never given the city a reason to believe that the outbreak was a serious issue that warranted the immediate implementation of sanitation measures until the county health officer issued the sanitation directive in August 2017.

By Applying Lessons Learned From the Outbreak, the State, County, and City Can Ensure They Are Better Positioned to Respond Effectively to Similar Situations in the Future

When we spoke to CDPH about the county's response to the outbreak, it identified a number of strengths. The chief of CDPH's Division of Communicable Disease Control (division chief) stated that the county responded to its hepatitis A outbreak with the appropriate vigor and was creative in developing solutions. Additionally, CDPH's deputy director of its Center for Infectious Diseases highlighted the county's use of foot teams to vaccinate a marginalized population. The division chief also stated that the county developed additional responses, especially regarding sanitation, that were not readily available. The division chief noted that CDPH had expected the outbreak to last as long as two years, based on the length of prevaccine-era outbreaks, and stated that the cases in San Diego leveled off more quickly than cases have in other states. Similarly, the chief of CDPH's Immunization Branch stated that the county had a robust response to the outbreak, and compared to other states, was the only jurisdiction that was able to bring an outbreak under control.

We acknowledge that the actions the county ultimately took were effective in controlling what could have been a much worse outbreak. That said, we believe that the county could have aggressively responded to its hepatitis A outbreak more quickly than it did. Had the county taken in June and July 2017 the actions that it took starting August 31 and continuing through October 2017—namely, declaring a local health emergency, improving hygiene opportunities by directing the city to expand access to public restrooms and wash stations within the city limits,

The State, county, and city can use the events of the outbreak to avoid delays in the future.

and vaccinating more than 40,000 individuals against hepatitis A in both September and October—we believe it may have brought the outbreak under control sooner. As we explain previously, the county had case information by the end of May that showed that its early efforts had not successfully contained the spread of the disease. Furthermore, on April 28, 2017, the county’s medical director mentioned the immediate need for more coordination and vaccinations to the county health officer. He stated that “mass immunizations are just now getting underway” and that he believed that if more aggressive measures were not coordinated immediately, the outbreak was on track to be one of the worst in the United States since the introduction of the vaccine. Nonetheless, the county allowed four more months to pass before it significantly increased its efforts related to vaccination and sanitation. We believe that the State, county, and city can use the events of the outbreak to avoid delays in the future.

As a result of San Diego’s hepatitis A outbreak, CDPH, the county, and the city have identified changes to improve their response efforts to future incidents. However, we believe that room for additional improvement remains. For example, CDPH adapted the county’s Hepatitis A Outbreak Response Plan to create its own Hepatitis A Outbreak Response Plan to guide other jurisdictions facing similar outbreaks in the future. Although CDPH developed this document to establish a comprehensive response to hepatitis A outbreaks, particularly among the homeless and illicit drug-using populations, the plan is incomplete. Specifically, it omits two critical steps: establishing time frames to achieve vaccination targets and determining the number of nurses and other resources needed to administer the vaccinations within those time frames. According to the division chief, CDPH did not include these two steps because local circumstances are very different and the time and resources needed to deliver vaccines vary based on these circumstances. However, as we described previously, time is of the essence when dealing with an outbreak. Because public health experts indicate that vaccination is the best method for controlling a hepatitis A outbreak, we believe that the performance of these steps is critical to ensuring the prompt response to outbreaks.

CDPH also created a draft Public Health and Medical Emergency Powers guide (medical powers guide) for the *California Public Health and Medical Emergency Operations Manual* to identify the powers and responsibilities of certain officials, including local health officers. However, the draft guide provides only partial clarity. Specifically, the guide clearly states the authority of local health officers to take measures as necessary to prevent the occurrence or spread of additional cases of communicable disease in their jurisdictions and to exercise this power regardless of whether an emergency declaration or proclamation is in place.

However, other than orders for isolation, quarantine, or “social distancing,” the guide fails to identify or provide examples of the measures local health officers are authorized to take during outbreaks.³ When we asked the county health officer about imposing sanitation measures during the outbreak, she explained that she could not force the city to install hand-washing stations and that she needed to comply with the city’s ordinances and policies. She also stated that she had never issued a directive before, and that based on discussions with county legal counsel, she believed that the directive on its own did not carry any legal authority. We believe that CDPH’s current draft guidance does not yet provide the necessary clarity on this matter.

After examining both the county’s and city’s response efforts to the outbreak, the San Diego County Grand Jury also had recommendations for improvement. Specifically, in the May 2018 report it issued, it made a number of recommendations to the county and city, including those listed in the text box. With the exception of the recommendation that the county declare a local health emergency sooner if confronted with a similar outbreak in the future, the county agreed to implement these recommendations. Similarly, the city’s mayor responded in October 2018 that the city has addressed two of the three recommendations and partially implemented the third.

Moreover, in its after action report for the outbreak, the county identified 21 recommendations, which included developing protocols to convene a policy group of county and regional executive leadership from affected jurisdictions for outbreaks with the potential for regional impacts, developing a notification process to communicate pertinent information to municipalities and other governmental agencies to assist in response to emerging public health issues, and using a multi-disciplinary approach to monitor public right-of-ways and address sanitation needs. The county has taken action to implement some of the report’s recommendations. For example, in April 2018, the county surveyed cities and the unincorporated areas within its jurisdiction to determine the sanitation and hygiene activities

**San Diego County Grand Jury’s
Recommendations to the County
and the City Regarding the Outbreak**

In its May 2018 report, the grand jury made the following recommendations:

County

- Declare a local public health emergency much sooner when confronted with a similar outbreak in the future.
- Revise its emergency operations plan to establish a command structure during a health emergency, facilitating the affected agencies’ ability to recognize and implement their duties.
- Clearly establish lines of authority to prevent misunderstandings regarding departmental responsibilities.
- Designate a project manager who can communicate effectively with city officials and medical personnel to take necessary actions quickly during a health emergency.

City

- Adopt procedures to reinforce the authority of the county health officer in dealing with public health crises.
- Designate a medical professional to report directly to the mayor and advise city officials on the significance of announcements regarding potential health emergencies.
- Construct and maintain additional secure restrooms and hand-washing facilities in areas where the homeless population congregates.

Source: Report by the 2017/2018 San Diego County Grand Jury, *The San Diego Hepatitis A Epidemic: (Mis)Handling a Public Health Crisis*, May 2018.

³ According to WHO, *social distancing* means reducing opportunities for exposure. Related measures include school and workplace closures, as well as the limitation or cancellation of mass gatherings such as large conferences, public events, and congregations.

each entity undertook during and after the local health emergency and each jurisdiction's future plans for such activities. The county summarized the results from this survey in May 2018, and discussed the results with the cities in November 2018.

Although the city also issued a report following the outbreak, it did not assess the actions it took before the county declared a local health emergency. The report stated that its purpose was to analyze the city's response to an incident, and that it identified 12 issues or areas for improvement. However, because the report covered only the time during which the local health emergency was in effect—September 2017 to January 2018—it did not identify any areas for improvement related to the implementation of sanitation measures before the declaration. As we previously explained, the city and county held discussions about hand-washing stations in June and August 2017, but agreed only to a pilot project; the county did not begin installing hand-washing stations in the city until September 2017. By not also assessing its actions before the local health emergency declaration, the city missed an opportunity to identify issues that may have contributed to delays in the implementation of sanitation measures and to develop steps to address these issues in the future.

Recommendations

Legislature

To better ensure that local health officers can promptly respond to disease outbreaks, the Legislature should clarify existing state law to specify that the local health officer for each geographic jurisdiction may issue directives to other governmental entities within that jurisdiction to take action as the officer deems necessary to control the spread of communicable diseases.

To ensure that each local public entity has the information necessary to adequately respond and protect the public health of its residents during disease outbreaks, the Legislature should enact legislation requiring local health officers to promptly notify and update those local public entities within the health officers' jurisdictions about communicable disease outbreaks that may affect them. The legislation should also require health officers to make available relevant information to these local public entities, including the locations of concentrations of cases, the number of residents affected, and the measures that the local public entities should take to assist with outbreak response efforts.

San Diego County

To prevent delays when responding to future communicable disease outbreaks, the county should ensure that in the event of an outbreak, its response plans include the following critical elements: specific and achievable objectives, time frames by which it expects to achieve these objectives, and the resources necessary to achieve its objectives within the planned time frames. Furthermore, the county should update its emergency operations plan and other planning documents to reflect these changes by April 30, 2019.

To better ensure effective collaboration and cooperation with other local jurisdictions, the county should finalize its draft policy that requires it to respond to future outbreaks by promptly convening policy groups that include representatives from relevant local jurisdictions. Furthermore, to facilitate improved communication with and participation from jurisdictions potentially affected by disease outbreaks, the county should promptly share relevant data with each jurisdiction.

To ensure that it takes appropriate action to protect the public health of the residents of the city, the county should enter into an agreement—such as a memorandum of understanding—with the city or should negotiate revisions in its contract with the city by March 31, 2019, to clarify each entity’s roles and responsibilities over public health matters, and to include city leadership in coordinating response efforts when public health matters, such as disease outbreaks, affect the city’s residents.

City of San Diego

To ensure that the city is sufficiently aware of future disease outbreaks and other public health concerns that affect its residents and that it can take appropriate action to protect the public health of its residents, the city should enter into an agreement—such as a memorandum of understanding—with the county or should negotiate revisions in its contract with the county by March 31, 2019, to clarify each entity’s roles and responsibilities over public health matters, and to include city leadership in coordinating response efforts when public health matters, such as disease outbreaks, affect the city’s residents.

To identify and address any unresolved issues that may have contributed to delays in implementing sanitation measures before the county health officer’s September 2017 declaration of a local health emergency, the city should, by March 31, 2019, examine its actions related to the hepatitis A outbreak before the emergency declaration, identify any such issues, and use the results of that examination to develop a corrective action plan to address them.

CDPH

To better enable other jurisdictions to more promptly respond to future hepatitis A outbreaks, CDPH should amend its Hepatitis A Outbreak Response Plan by February 28, 2019, to recommend that the jurisdictions set vaccination targets as soon as possible, establish dates by when they expect to achieve those targets, and determine the quantities of resources necessary to administer the vaccinations by those dates.

To further clarify the authority of local health officers, CDPH should finalize and issue its medical powers guide by April 30, 2019, and revise it to describe to the greatest extent possible the types of actions that local health officers can take within their jurisdictions to prevent or contain the spread of infectious disease.

We conducted this audit under the authority vested in the California State Auditor by Government Code 8543 et seq. and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives specified in the Scope and Methodology section of the report. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Respectfully submitted,



ELAINE M. HOWLE, CPA
California State Auditor

December 20, 2018

Appendix

Scope and Methodology

The Joint Legislative Audit Committee (Audit Committee) directed the California State Auditor to review how the county and city identified, contained, and treated the recent hepatitis A outbreak. Table A.1 lists the audit objectives that the Audit Committee approved and the methods we used to address them.

Table A.1
Audit Objectives and the Methods Used to Address Them

AUDIT OBJECTIVE	METHOD
<p>1 Review and evaluate the laws, rules, and regulations significant to the audit objectives.</p>	<ul style="list-style-type: none"> • Reviewed relevant laws, regulations, and policies applicable to the county's and city's responsibilities in responding to the hepatitis A outbreak. • Reviewed other background material, including hepatitis A guidance obtained from the websites for WHO, CDC, and CDPH, as well as national hepatitis A outbreak information from CDC's website. • Identified and evaluated the roles and responsibilities of public health and medical officials at the state, county, and city levels.
<p>2 Evaluate the county's response to the hepatitis A outbreak by determining the following:</p> <p>a. Which criteria the county used to determine that the increased number of hepatitis A cases was, in fact, an outbreak and an emergency and whether the county identified, contained, and treated the hepatitis A outbreak in accordance with legal requirements and established protocols.</p> <p>b. Whether the county's efforts to identify, contain, and treat the hepatitis A outbreak before the county officially declared a public health emergency in September 2017 were consistent with legal requirements and established protocols for managing an infectious disease outbreak, including the release of location data and communication between the medical directors of local municipalities.</p> <p>c. What steps the county has taken to prevent another infectious disease outbreak and how those steps may be helpful for other jurisdictions.</p>	<ul style="list-style-type: none"> • Interviewed relevant county and CDPH staff. • Obtained and evaluated the county's relevant policies and procedures related to identifying, containing, and treating infectious diseases. • Obtained and examined information relevant to the county's efforts regarding vaccination, sanitation, and education in response to the hepatitis A outbreak. • Reviewed information we obtained from the county on hepatitis A cases, vaccinations, and vaccination events, as well as other relevant data. We also reviewed the correlation between the timing of administered vaccines and the identification of new cases. • Obtained and evaluated HHSAs's justifications for withholding certain location data from affected jurisdictions. • Reviewed and analyzed the county's after action report and other documentation to identify measures to be taken to better respond to future outbreaks.

continued on next page...

AUDIT OBJECTIVE	METHOD
<p>3 Evaluate the city's response to the hepatitis A outbreak by determining the following:</p> <p>a. Which criteria the city used to determine that the increased number of hepatitis A cases was, in fact, an outbreak and an emergency and whether the city identified, contained, and treated the hepatitis A outbreak in accordance with legal requirements and established protocols.</p> <p>b. Whether the city's efforts to identify, contain, and treat the hepatitis A outbreak before the county officially declared the public health emergency in September 2017 were consistent with legal requirements and established protocols for managing an infectious disease outbreak, including the release of location data and communication between the medical directors of local municipalities.</p> <p>c. What steps the city has taken to prevent another infectious disease outbreak and how those steps may be helpful for other jurisdictions.</p>	<ul style="list-style-type: none"> • Interviewed relevant city staff. • Reviewed and analyzed documents relevant to the city's ability to proclaim a local emergency, pass emergency ordinances, and enact other emergency-related orders. • Reviewed and analyzed the city's after action report and the programs, procedures, and guidance the city is implementing to better respond to future hepatitis A outbreaks.
<p>4 Determine whether the county or city was aware of the potential for an infectious disease outbreak among a particular population before March 2017 and, if so, whether they had the resources to prevent an infectious disease outbreak of this magnitude.</p>	<ul style="list-style-type: none"> • Interviewed relevant county and city staff. • Reviewed relevant documents regarding the potential risk of a disease outbreak among the homeless and illicit drug-using populations. • Reviewed relevant documents regarding the resources available to the city and county to prevent an infectious disease outbreak of this magnitude. • Determined that the State has plans for general emergency response. Although the plans do not specifically address outbreaks among particular populations, they address infectious disease outbreaks. Information from CDC indicates that the county was one of the first jurisdictions in the United States and the first county in California to experience this type of hepatitis A outbreak in the post-vaccine era.
<p>5 Determine whether the city's policy for approving public works contracts in response to declared emergencies differs between contracts awarded any other time and whether the city approved contracts related to the hepatitis A emergency in accordance with applicable legal requirements and its own policy.</p>	<ul style="list-style-type: none"> • Interviewed relevant city staff. • Obtained and evaluated the city's policies and procedures related to contracting for goods and services in emergency and nonemergency situations. For outbreak-related contracts, we also analyzed whether the city complied with its policies. • Obtained, reviewed, and analyzed information related to the nine contracts that the city used during the local health emergency. For the contracts regarding right-of-way sanitation, we reviewed and analyzed charges from and payments to the vendor. • Determined that the city appropriately followed its processes for awarding emergency contracts related to the hepatitis A outbreak and for paying for services under the emergency contract for right-of-way sanitation.
<p>6 Review and assess any other issues that are significant to the audit.</p>	<ul style="list-style-type: none"> • Obtained and evaluated relevant information regarding CDPH's roles and responsibilities related to controlling the spread of infectious diseases and reporting outbreaks to other communities. • Interviewed relevant CDPH staff to gain an understanding of their roles and to determine their perspectives on the effectiveness of the county's response to the outbreak. • Obtained and evaluated CDPH's hepatitis A outbreak response plan.

Source: Analysis of the Audit Committee's audit request number 2018-116, as well as information and documentation identified in the table column titled *Method*.

Assessment of Data Reliability

In performing this audit, we obtained electronic data files extracted from the data sources listed in Table A.2. The U.S. Government Accountability Office, whose standards we are statutorily required to follow, requires us to assess the sufficiency and appropriateness of the computer-processed information that we use to support our findings, conclusions, or recommendations. Table A.2 describes the analyses we conducted using the data from these sources, our methods for testing, and the results of our assessments. Although these determinations may affect the precision of the numbers we present, there is sufficient evidence in total to support our audit findings, conclusions, and recommendations.

Table A.2
Methods Used to Assess Data Reliability

DATA SOURCE	PURPOSE	METHOD AND RESULT	CONCLUSION
County Web Confidential Morbidity Reporting System	To determine the number of cases, hospitalizations, and deaths resulting from the hepatitis A outbreak and to determine where and when these cases occurred.	<ul style="list-style-type: none"> We performed data-set verification procedures and did not identify any significant issues. We conducted electronic testing of key data elements and did not identify any significant issues. Because this system is paperless, we were unable to perform completeness or accuracy testing. Furthermore, we did not perform a review of the controls over these data because of the significant resources required to conduct such an analysis. To gain some assurance of the accuracy of the data, we compared the data to the case numbers that the county calculated and found that the totals materially agreed with our calculations. 	<p>Undetermined reliability for the purpose of this audit.</p> <p>Although this determination may affect the precision of the numbers we present, there is sufficient evidence in total to support our findings, conclusions, and recommendations.</p>
County San Diego Immunization Registry (SDIR)	To determine the number of hepatitis A vaccinations administered in the county during the hepatitis A outbreak, when they were administered, and the type of organization that administered them.	<ul style="list-style-type: none"> We performed data-set verification procedures by comparing the total number of records in the data file to the data description provided by the county and by reviewing key fields for errors. For example, we reviewed the <i>date-of-birth</i> field to ensure that only adult vaccinations were included in the data. We did not note any concerns. We also reviewed the county's procedures for identifying and removing test records that do not represent real patients from the data, and we identified discrepancies related to the county's removal of test records from the data because test records are not clearly labeled as such in the data. We assessed the possibility of such discrepancies materially affecting our conclusions as low. We performed completeness testing by comparing the total number of vaccinations in the SDIR data to other reports generated by the county and found the totals to be materially close. Because over 400 user/provider facilities can input data into SDIR, it would have been cost-prohibitive to perform in-depth sampling and testing of records to determine their accuracy. 	<p>Undetermined reliability for the purpose of this audit.</p> <p>Although this determination may affect the precision of the numbers we present, there is sufficient evidence in total to support our findings, conclusions, and recommendations.</p>

Source: Analysis of various documents, interviews, and data from the county.

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County of San Diego

NICK MACCHIONE, FACHE
AGENCY DIRECTOR

HEALTH AND HUMAN SERVICES AGENCY
1600 PACIFIC HIGHWAY, ROOM 206, MAIL STOP P-501
SAN DIEGO, CA 92101-2417
(619) 515-6555 • FAX (619) 515-6556

DEAN ARABATZIS
CHIEF OPERATIONS OFFICER

December 3, 2018

Ms. Elaine M. Howle*
California State Auditor
621 Capitol Mall, Suite 1200
Sacramento, CA 95814

Dear Ms. Howle:

The County of San Diego (County) has reviewed the sections of Audit Report 2018-116 pertaining to the County. Attached you will find our response. While our analysis differs in areas, your recommendations generally align with what the County already concluded in our May 2018 Hepatitis A Outbreak After Action Report.¹ We continue to stand by the detailed findings and recommendations identified in the After Action Report. ①

Significant events such as the County's unprecedented hepatitis A outbreak should always be reviewed with the benefit of hindsight—and we appreciate the contribution of the California State Auditor's Office. As you have learned through this audit, this hepatitis A outbreak was unparalleled. With no previously established response playbook for this type of outbreak, a virus with an incubation period of 50 days, and an extremely difficult to reach affected population, the County's response required innovation and agility. For example, County staff developed vaccination "foot teams" early in the outbreak to reach chronically homeless individuals who may be otherwise reluctant to seek medical care or vaccination at service delivery sites. This approach has been adopted as a nationally recognized model and was commended by the San Diego County Grand Jury. There is also a perception that deploying handwashing stations is a routine response to this type of outbreak, but this strategy was actually implemented for the first time by our own County public health officials. While there are areas in which we could have acted more quickly, success is not purely measured by the speed of the response, but also the effectiveness of the actions taken. ②

We are proud that the County's actions have been recognized by public health subject matter experts who practice in this area such as the Centers for Disease Control and Prevention (CDC) and the California Department of Public Health. CDC experts stated they were "impressed with the rapid action of the San Diego County Health and Human Services Agency." The County continues to share its best practices with states and other jurisdictions throughout the country that are still battling similar hepatitis A outbreaks, some of which have unfortunately far surpassed ours in severity.

¹ <https://www.sandiegocounty.gov/content/dam/sdc/cosd/SanDiegoHepatitisAOutbreak-2017-18-AfterActionReport.pdf>

* California State Auditor's comments begin on page 41.

Review of Audit Report 2018-116
December 3, 2018
Page 2

- ③ While the Report implies that the County should have been more forceful with other local governments regarding their efforts to clean and sanitize their streets and sidewalks, the County believes strongly in collaboration as the best practice in working among local governments. We are proud of the relationships we have developed and will continue to work with local, State and federal agencies as well as our stakeholder partners. By focusing collective efforts on the three-pronged strategy of vaccination, sanitation, and education, our relationships helped mitigate this outbreak.

We appreciate the difficult task given to your Office in reviewing this complicated public health matter.

Sincerely,



NICK MACCHIONE, FACHE
Agency Director

c: Helen Robbins-Meyer, Chief Administrative Officer

County of San Diego Health and Human Services Agency (HHS) Response to the California State Audit Report 2018-116 entitled *San Diego's Hepatitis A Outbreak: By Acting More Quickly, the County [redacted] of San Diego Might Have Reduced the Spread of the Disease*

Recommendation 1: To prevent delays when responding to future communicable disease outbreaks, the county should ensure that in the event of an outbreak its response plans include the following critical elements: 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. Furthermore, the county should update its emergency operations plan and other planning documents to reflect this change by April 30, 2019.

Reponses: **The County of San Diego agrees with the overall recommendation.**

As noted in the County's May 2018 Hepatitis A Outbreak After Action Report, in a public health outbreak, the County applies standard emergency management principles, including the Incident Command System (ICS) emergency management structure, to develop and deploy a tailored response strategy. During the hepatitis A outbreak, ICS management principles were applied, such as setting clear objectives for education, vaccination, and sanitation, designating outbreak roles and responsibilities, and establishing regular status reports and meetings to coordinate and forward the response. While we understand the audit was looking for more fixed objectives and measures, our approach recognized that unprecedented events, such as this outbreak, require plans, specifically the objectives, schedules and identified resources, to be nimble and constantly re-evaluated in order to adjust as the incident demands. (4)

The ICS was established in April 2017 and an Incident Action Plan, which outlined several hepatitis A planning objectives, was developed on May 5, 2017, and revised during the early to mid-outbreak time periods (May 24, 2017, June 7, 2017, June 9, 2017, July 24, 2017). Additionally, the County developed formal Response Plans and Implementation Plans, which went through several revisions and were finalized in November 2017 and October 2017 respectively. Several iterations of these plans were necessary in order to respond effectively. The Deputy Director for Infectious Diseases, California Department of Public Health stated the following about the County's Hepatitis A Response Plan, "Overall, we found the plan to be well conceived, thoughtful, and comprehensive. This is a good model for other health departments to use when responding to the hepatitis A outbreak." (5)

The County of San Diego's Emergency Operations Plan (EOP) was recently updated and approved by the Board of Supervisors in September 2018 and was reviewed and approved by the Emergency Management Accreditation Program on November 7, 2018, an independent nonprofit organization that fosters excellence and accountability in emergency management and homeland security programs. The current EOP includes

these critical planning elements, however we will again review to determine if any elements should be more explicit.

Recommendation 2:

To better ensure effective collaboration and cooperation with other local jurisdictions, the county should finalize its draft policy that requires it to respond to future outbreaks by promptly convening policy groups that include the representatives from relevant local jurisdictions. Furthermore, to facilitate improved communication with and participation from jurisdictions affected by disease outbreaks, the county should promptly share relevant data with each jurisdiction.

Response:

The County of San Diego agrees with this recommendation.

Through the process of developing the Hepatitis A Outbreak After Action Report, the County acknowledged we should enhance our use of incident management structures to coordinate regional actions. One key structure was to regularly convene a policy group of County and regional executive leadership from affected jurisdictions during the outbreak. This policy to convene the policy group was finalized on November 30, 2018.

⑥

The County agrees that in order to facilitate improved communication with impacted jurisdictions, relevant data should be shared accordingly, taking into consideration legal constraints regarding privacy. This practice was completed throughout the hepatitis A outbreak, as demonstrated by the multiple meetings held with impacted jurisdictions and stakeholders, as well as by over 400 presentations provided by County staff to jurisdictional staffs, organizations, and the public.

⑥

Additionally, the County sends priority health communications to health care and public safety professionals in San Diego County through the California Health Alert Network (CAHAN) San Diego. Topics include communicable diseases outbreaks, emerging health issues, requests for heightened surveillance related to communicable diseases, recommendations on communicable disease identification, prevention, infection control, specimen submission and laboratory testing, and emergency preparedness information. The May 4, 2017 CAHAN specified that clusters of hepatitis A cases were noted at homeless services providers in downtown San Diego and El Cajon. Further, on August 17, 2017, during the Regional Taskforce on Homelessness meeting with various jurisdictional attendees, the County shared maps of hepatitis A cases. In September 2017, the County also shared maps with city-level data in a similar meeting.

Recommendation 3:

To ensure that it takes appropriate action to protect the public health of the residents of the city, the county should enter into an agreement-such as a

memorandum of understanding-with the city or negotiate revisions in its contract with the city by March 31, 2019, to clarify each entity's roles and responsibilities over public health matters, and to include city leadership in coordinating response efforts when public health matters, such as disease outbreaks, affect the city's residents

Response:

The County of San Diego agrees with this recommendation.

The County has already begun to work towards this goal. The County of San Diego Public Health Services was selected to participate in the Kresge Foundation's Emerging Leaders in Public Health Initiative. This national program equips local public health officers to enhance organizational and leadership skills for public health systems development. As part of this project, the County identified the need to have clear agreements on jurisdictional roles and responsibilities regarding public health topics and threats. The County's intent is to have agreements with all 18 municipalities within the county. Given this goal, we will work to meet the March 31, 2019 target for the City of San Diego.

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Comments

CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE COUNTY OF SAN DIEGO HEALTH AND HUMAN SERVICES AGENCY

To provide clarity and perspective, we are commenting on the response to our audit report by the County of San Diego Health and Human Services Agency. The numbers below correspond to the numbers we placed in the margin of HHSA's response.

The recommendations in our report address key issues not discussed in the county's after action report. For instance, as we mention on page 19, we believe the county could have responded to the hepatitis A outbreak more quickly than it did. Additionally, our recommendations on page 29 state that the county should include specific and achievable objectives, times frames by which to achieve those objectives, and the resources necessary to achieve those objectives in its future response plans, and that it should enter into an agreement with the city that clarifies each entity's roles and responsibilities over public health matters that affect the city's residents, none of which the county's after action report addresses.

①

Our report does not indicate that the deployment of hand-washing stations is a routine response to this type of outbreak. Our concern regarding hand-washing stations was the length of time it took to deploy them. We state on page 21 of our report that the county identified hand-washing stations as a preventive countermeasure to hepatitis A in early May 2017, but it did not fully implement hand-washing stations until early September 2017, nearly four months later.

②

We say directly on page 21 of our report that two months—from late-June when the county and city discussed hand-washing stations through the end of August 2017—was an excessive amount of time for the county to wait to issue a directive that the city immediately expand access to hand-washing stations and public restrooms within the city and implement a cleaning and sanitation protocol for public right-of-ways. During these two months, neither entity implemented the sanitation measures that the county deemed necessary; meanwhile, the outbreak continued even though the county health officer had the authority at any point to direct the city to implement such measures.

③

We disagree with HHSA's statement that the county had set clear objectives for responding to the outbreak. As we state on page 13, the county did not set clear objectives until October 2017. By then, the number of new reported cases of hepatitis A were already declining. Although it included the number of vaccinations it wanted to

④

administer in some of its plans, the county did not include the number of vaccinations in its plans consistently; nor did it include a time frame for administering them or the resources required to complete those vaccinations. We also note that setting clear objectives in these areas would neither preclude the county from being nimble nor prevent it from adjusting its plans in response to the demands of an incident as HHSA implies.

- ⑤ HHSA's reference to CDPH's review of its plan needs additional context. We acknowledge on page 25 that officials with CDPH lauded the county's response to the hepatitis A outbreak and on page 26 that CDPH adapted the county's outbreak response plan to develop its own plan that could guide other jurisdictions facing similar outbreaks in the future. However, we also found that CDPH's Hepatitis A Outbreak Response Plan is incomplete in that it omitted two critical elements regarding efficiency: establishing time frames to achieve vaccination targets and determining the number of resources needed to administer the vaccinations within the time frames.
- ⑥ The examples HHSA cites fail to demonstrate that the county properly communicated the severity of the hepatitis A outbreak to appropriate officials of the city of San Diego, the jurisdiction most affected by the outbreak. As we show in Table 2 on page 24, more than half the outbreak's hepatitis A cases occurred in the city. However, as we state on page 23, the county did not provide location data by zip code to the city until November 2017, well past the peak of the outbreak. Further, the county health officer did not give explicit direction regarding sanitation measures to the city until August 31, 2017. Simply mentioning in a health advisory issued to the general medical community that clusters of cases occurred in the city or conducting group presentations did not convey to the city the appropriate sense of urgency to prompt immediate action. Moreover, the county missed an opportunity to properly communicate the severity of the outbreak when it failed to include representatives from affected jurisdictions, including the city, as members of the policy group it created to manage the response to the hepatitis A outbreak, as we indicate on page 23.



CITY OF SAN DIEGO

KRIS MICHELL
CHIEF OPERATING OFFICER

December 3, 2018

Ms. Elaine M. Howle
State Auditor
621 Capitol Mall, Suite 1200
Sacramento, CA 95814

RE: Response to California State Auditor's Draft Report: San Diego's Hepatitis A Outbreak (Report 2018-16)

Dear Ms. Howle:

Thank you for providing the City of San Diego the opportunity to respond to the draft report.

From the beginning, the City of San Diego has welcomed your audit and appreciated the opportunity for the review of the City's efforts during this unprecedented regional public health emergency.

We also acknowledge there were no recommendations as it related to the City's efforts of education, and vaccinations prior to the public health emergency; nor with the City's procurement processes during the emergency declaration.

The City of San Diego agrees with the two (2) recommendations addressed to the City and will implement them by the stated deadlines. By clarifying roles, responsibilities, and our partnership with the County of San Diego as it pertains to public health matters and re-examining our response prior to the County Public Health Officer's sanitation directive, issued on August 31, 2017, we will be better able to ensure the safety of our community in a health emergency.

If you have any questions, please contact Stacey LoMedico, Assistant Chief Operating Officer, at slomedico@sandiego.gov or (619) 533-4548.

Sincerely,

Kris Michell
Chief Operating Officer

cc: Aimee Faucett, Chief of Staff, Office of the Mayor
Stacey LoMedico, Assistant Chief Operating Officer
Ron Villa, Acting Assistant Chief Operating Officer
Mary Nuesca, Assistant City Attorney
Katie Keach, Director, Communications Department

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KAREN L. SMITH, MD, MPH
Director and State Public Health Officer

State of California—Health and Human Services Agency
California Department of Public Health



EDMUND G. BROWN JR.
Governor

December 3, 2018

Ms. Elaine M. Howle
State Auditor
1621 Capitol Mall, Suite 1200
Sacramento, CA 95814

Dear Ms. Howle,

The California Department of Public Health (CDPH) reviewed the California State Auditor's draft report titled, "San Diego's Hepatitis A Outbreak." CDPH appreciates the opportunity to respond to the report.

The report concludes that although CDPH has identified and made changes to improve response efforts for future outbreaks, additional improvement remains.

Below, we address the report findings in more detail followed by our response to the auditor's specific recommendations.

Finding 1: CDPH's Hepatitis A Outbreak Response Plan omits two critical steps: establishing schedules to achieve target vaccination rates and determining the resources needed to administer target vaccinations within schedule.

Recommendations to Public Health:

To better enable other jurisdictions to more promptly respond to future hepatitis A outbreaks, CDPH should amend its Hepatitis A Outbreak Response Plan by February 28, 2019 to recommend that the jurisdictions set vaccination levels as soon as possible, establish time schedules by when they expect to achieve those targeted vaccination levels, and determine the quantities of resources necessary to administer target vaccination within those schedules.

Response: Agree



Elaine M. Howle
December 3, 2018
Page 2

CDPH agrees that amending the Hepatitis A Outbreak Response Plan to incorporate vaccination targets and resources would be helpful. CDPH will amend the plan by February 28, 2019, to reflect the auditor's recommendations.

Finding 2: CDPH's Public Health and Medical Emergency Powers guide fails to identify and provide examples of the measures a local health officer is authorized to take in an outbreak.

Recommendations to Public Health:

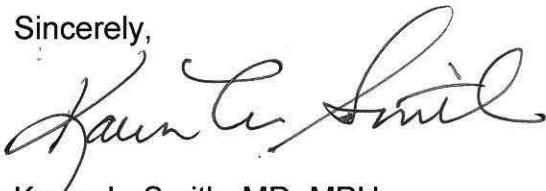
To further clarify the authority of local health officers, CDPH should finalize and issue its medical powers guide by April 30, 2019, and revise it to describe to the greatest extent possible the types of actions that local health officers can take within their jurisdiction to prevent or contain the spread of infectious disease.

Response: Agree

CDPH will incorporate the types of actions that local health officers can take related to the prevention or containment of infectious disease in the California Public Health and Medical Emergency Operations Manual, Emergency Powers chapter and release that chapter by April 30, 2019.

We appreciate the opportunity to respond to the audit. If you have any questions, please contact Monica Vazquez, Chief, Office of Compliance at (916) 306-2251.

Sincerely,



Karen L. Smith, MD, MPH
Director and State Public Health Officer