



## FACT SHEET: Cal PREPARE Project 2 PROJECT #2: EARLY WARNING, INVESTIGATION, & SURVEILLANCE: EPIDEMIOLOGIC NETWORKS IN ACTION

### EXECUTIVE SUMMARY

The purpose of the research study, Early Warning, Investigation, and Surveillance: Epidemiologic Networks in Action, is to examine all-hazards preparedness for conducting epidemiologic investigations and public health surveillance in California and Hawaii and provide research evidence for the development of future public health preparedness activities to strengthen these functions. We recognize that local jurisdictions throughout California and Hawaii may be operating with different capacities and capabilities to conduct epidemiologic investigations and public health surveillance, and that they are in various stages of public health preparedness given their personnel, funding constraints, physical/social environments, and politics.

### LEAD INVESTIGATOR

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### CO-INVESTIGATORS

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### PARTNERS

- **California Department of Public Health**, Division of Communicable Disease Control
- **Hawaii Department of Health**, Disease Outbreak Control Division
- **Association of Bay Area Health Officials (ABAHO)** Public Health Preparedness Committee

### AIMS

**Aim 1:** Refine our framework for conceptualizing all-hazards preparedness for conducting epidemiologic investigations and public health surveillance.

**Aim 2:** Define, measure, and describe the necessary partnerships that local health departments need to have in place in order to perform epidemiologic investigations and public health surveillance.

**Aim 3:** Measure the effect of capacity, capabilities, and necessary networks of local health departments on public health system performance of epidemiologic investigations and public health surveillance using the California PREPARE Laboratory.

### AIM 1 METHODS:

#### **Study Population**

The Association of Bay Area Health Officials (ABAHO) consists of a group of health officers and health directors in the San Francisco Bay Area that meet on a regular basis to discuss important public health issues. Our target population consisted of 12 Bay Area city and county health departments involved in the ABAHO Public Health Preparedness Committee: Alameda, City of Berkeley, Contra Costa, Marin, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma. In addition, we conducted this study with the Hawaii Department of Health Disease Outbreak Control Division and key personnel from the Hawaii District Health Offices on the islands of Kauai, Maui, and Hawaii.

#### **Measurements**

We conducted key informant interviews with: (1) epidemiologists and/or public health professionals responsible for the epidemiology and surveillance response activities, and (2) health officers or his/her health official designee that were

responsible for responding to pandemic influenza A (H1N1) from each city and county health department. The interviews were conducted using a semi-structured interview format. We collected information regarding the organization's structure, case and contact investigations, data sources for situation awareness, laboratory testing, other public health emergencies or outbreaks during the H1N1 response, networks with other public health professionals utilized during the response to H1N1, public health exercises, and how the health officials worked with one another. Additional documents were collected and reviewed that pertained to the organization's epidemiology and surveillance response (e.g., After Action Reports (AAR), surveillance reports, medical advisories, and influenza testing algorithms).

### **Analysis**

Key informant interviews were recorded and transcribed. Documentary materials were collected. Content and interpretive analyses were performed on all interview transcripts, field notes, and documentary materials. Transcripts were coded by two independent reviewers (WTAE and AC). Discrepancies were resolved by discussion.

## **RESEARCH TRANSLATION**

The research specific aims will provide an increased understanding of how epidemiologic functions are accomplished among local health jurisdictions in California and the state health department in Hawaii, barriers to completing these functions, workforce and occupational practices that impact epidemiologic functions, and information regarding epidemiology capacity and capabilities. We are continuing to build relationships with our practice partners in order to discuss how the research can influence public health practice.

## **IMPACT**

Although our research goals are focused on the epidemiology and surveillance activities, our intent is to provide research evidence to strengthen this critical component of a public health response. By improving epidemiology and surveillance activities, critical and important public health infrastructure will be preserved in a time of limited resources and budget constraints that may lead to other improvements as well.

## **PRELIMINARY RESEARCH FINDINGS**

### **Aim 1:**

- As of February 7, 2011, we conducted 16 interviews among 10 ABAHO cities and counties and 7 interviews with the State of Hawaii Disease Outbreak Control Division.
- Interviews of health officials in California are ongoing as are the analyses of the interview transcripts.
- Our preliminary findings include data from 11 of the 16 interviews conducted in California.
  - 9 epidemiologists, 1 emergency services specialist, and 1 deputy health officer

### **Data Sources Reported:**

- Hospitalized and fatal cases
- Influenza-like illness (ILI) surveillance
- Laboratory surveillance
- School absenteeism
- Absenteeism among employees of the department or major companies
- Syndromic surveillance (e.g. 911 calls, retail sales of cough and cold medicines, etc.)

### **Emerging Themes Regarding Data Sources:**

- The H1N1 pandemic helped establish reporting and/or data sharing agreements that were difficult to obtain previously.
- Partnerships must be strengthened with schools for school-based ILI surveillance.
- Several problems with school-based ILI surveillance have been identified:
  - time and effort required to obtain data;
  - non-standardized definitions of outcomes, differences in data collection methods;
  - different abilities among school districts to report the necessary information.

These themes as well as new themes that emerge will be explored further as we complete the data collection with the health officials and conduct further analyses of the study data.