2018 STATEWIDE MEDICAL AND HEALTH EXERCISE

AFTER ACTION REPORT

"Emerging Infectious Disease"

County of Santa Cruz, CA
November 15, 2018

PREFACE

The 2018 California Statewide Medical and Health Exercise (SWMHE) is sponsored by the California Department of Public Health (CDPH) and the Emergency Medical Services Authority (EMSA).

This AAR follows guidelines set forth by the U.S. Federal Emergency Management Agency (FEMA) Homeland Security Exercise and Evaluation Program (HSEEP). The AAR is a tool for use in evaluating the exercise and developing improvement plans. See Appendix E for a listing of agency/event acronyms. All exercise participants should use appropriate guidelines to ensure proper control of information within their areas of expertise and protect this material in accordance with current jurisdictional directives.

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EXECUTIVE SUMMARY

The 2018 Statewide Medical/Health Exercise was held on November 15, 2018. The purpose of this exercise was to test county-wide plans to respond to an emerging infectious disease. Capabilities tested included Emergency Public Information and Warning; Emergency Operational Coordination; Information Sharing; Medical Surge and Non-Pharmaceutical Interventions. The exercise was developed by the California Department of Public Health and customized by the Santa Cruz Public Health Department. Members of the Healthcare Coalition participating in this exercise are listed on page 7.

The exercise planning team was composed of representatives from: Public Health Communicable Disease Unit, Epidemiology, Emergency Preparedness and Emergency Medical Services, in consultation with Infection Disease specialists and the hospital emergency preparedness points of contact.

Homeland Security Exercise and Evaluation Program (HSEEP) concepts were employed to design and conduct planning meetings and the functional exercise. The planning meetings consisted of an Initial Planning Conference (08/29/2018), Table Top Exercise (10/19/2018), Final Planning Conference (11/6/2018), Exercise Debriefing (11/15/2018), and an After Action Conference (12/13/2018).

The exercise planning team developed the following objectives: 1. Test activation of public health emergency operations, 2. Determine appropriate non-pharmaceutical interventions, 3. Activate the emergency public information system and test public information, alerts, warnings, and notifications, 4. Update and test CAHAN notification during SWMHE to assess baseline competencies for activation and partner response, and 5. Evaluate capacity of medical surge activation and resource requests.

This report analyzes exercise results, identifies strengths to be maintained and built upon, identifies potential areas for further improvement, and supports development of corrective actions.

Major Strengths identified during this exercise are as follows:

Strengths for Operational Area Partnership

1. CAHAN messaging is effective in reaching and alerting partners
2. Healthcare Coalition member participation in the initial, mid-planning and final planning conference meetings assisted Controllers and Players with knowledge of the exercise scenario, design and scope
3. Healthcare Coalition member participation in the planning and training processes allowed them to prepare, train and communicate with their organization’s leadership, staff and stakeholders
4. Diverse facilities and partners participated in the exercise and garnered positive experiences even when the scenario as an emerging infectious disease was not their primary response role

Primary Areas for Improvement identified during this exercise are as follows:

Areas for Improvement for Operational Area Partnership

1. CAHAN messaging was reported as overwhelming with inconsistent message formats
2. Healthcare Coalition member participation on the day of the exercise included staff who had not received adequate Incident Command System (ICS) training

EXERCISE OVERVIEW

Exercise Name	2018 California Statewide Medical and Health Exercise (SWMHE)
Exercise Date	November 15, 2018
Scope	This exercise was planned for the County of Santa Cruz Health Services Agency Public Health Division and the Santa Cruz County Healthcare Coalition (HCC) to take place at Health Services Agency Department Operations Center (DOC) at 1080 Emeline Avenue Santa Cruz, California and at partner facility locations. The 2018 SWMHE Program is a progressive exercise program comprised of a series of training exercises tied to a set of common program priorities. After Action Meeting was held on December 13th, 2018.
Mission Area(s)	Prevention, Protection, Mitigation, Response, and Recovery
Capabilities	• Medical and Health Response Coordination • Emergency Operations Coordination • Information Sharing • Emergency Alert and Warning • Foundation for Health Care and Medical Readiness • Medical Surge • Non-Pharmaceutical (NPI) Response Interventions • Continuity of Healthcare System Delivery

Objectives	**I. Behavioral Health** 1. Evaluate SCBH ability to initiate call-down alert to appropriate supervisors 2. Evaluate the ability of Managers to notify and assess staff availability **II. Clinics** 1. Evaluate the Clinics' ability to share incident information horizontally with staff and with MHOAC 2. Evaluate the Clinic's ability to assess staff availability **III. EMS/MHOAC** 1. Evaluate the MHOAC ability to send SitStat reports; receive SitStat reports 2. Evaluate the EMS ability to activate ReddiNet 3. Evaluate the MHOAC ability to receive and provide mutual assistance **IV. Hospitals** 1. Evaluate the Hospitals ability to activate call-down procedures 2. Evaluate the Hospitals' ability to activate surge plan 3. Evaluate the Hospitals' ability to request assistance **V. Long Term Care** 1. Evaluate Long Term Care facility ability to activate call-down procedures 2. Evaluate Long Term Care facility ability to send SitStat reports; utilize Emergency Operations Guide (EOG) 3. Evaluate Long Term Care facility ability to request resources **VI. Public Health** 1. Evaluate the ability of Public Health to activate Infectious Disease response 2. Evaluate the ability of Public Health to activate the DOC 3. Evaluate the ability of Public Health to coordinate emergency response with HCC partners 4. Evaluate the ability of Public Health to develop bilingual health advisory/alert to providers and public 5. Evaluate the ability of Public Health to define non-pharmaceutical interventions and provide guidance to healthcare system and providers
Threat or Hazard	Spread of Infectious Disease
Scenario	Emerging Infectious Disease
Sponsor	The 2018 SWMHE is sponsored by the California Department of Public Health and the California Emergency Medical Services Authority in collaboration with response partners representing local health departments, public safety and healthcare facilities across California.

Participating Organizations	1. Health Services Agency A. Behavioral Health B. Healthcare Clinics (North, South, Homeless Person Health Project) C. Emergency Medical Services D. Emergency Preparedness E. Environmental Health F. Public Health Communicable Disease Unit (CDU) G. Public Health PIO H. Public Health Administration 2. Office of Emergency Services 3. Dominican Hospital 4. Dominican Home Health 5. Dominican Oaks 6. Sutter Maternity and Surgery Center 7. Palo Alto Medical Foundation 8. Watsonville Community Hospital 9. Watsonville Post-Acute 10. Watsonville Nursing 11. Kaiser Permanente 12. Capitola Surgery Center 13. Cypress Outpatient Surgery Center 14. Santa Cruz Community Health Centers 15. Salud Para La Gente 16. Central Coast Surgery Center 17. Pacific Coast Manor 18. University of California Santa Cruz Student Health Services 19. Cabrillo College 20. American Red Cross 21. Hearts and Hands 22. Telecorp 23. Santa Cruz Endoscopy Center 24. Santa Cruz County Hospice 25. Santa Cruz County Post-Acute 26. Valley Convalescent Hospital 27. Santa Cruz County Medical Reserve Corps

ANALYSIS OF CAPABILITIES

Aligning exercise objectives and capabilities provides consistency for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned capabilities, and average performance ratings for each capability as observed during the exercise and determined by the evaluation team.

Table 1: Summary of Capability Performance

Objectives	Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Behavioral Health					
1. Evaluate SCBH ability to initiate call-down alert to appropriate supervisors	PHEP 3	P			
2. Evaluate the ability of Managers to notify and assess staff availability	PHEP 6	P			
Santa Cruz County Behavioral Health **Strength 1:** Achieved call-down objectives. **Area for Improvement 1:** Engage in SWE planning team and exercise design to further integrate into future exercises.					
Clinics					
1. Evaluate the Clinics' ability to share incident information horizontally with staff and with MHOAC	PHEP 4, 6	P			
2. Evaluate the Clinic's ability to assess staff availability	PHEP 3		S		
Santa Cruz County Clinics (North, South, Homeless Person Health Project) **Strength 1:** Santa Cruz County Clinics were able to set up a Clinic Command Center and perform incident briefings by having Health Center Managers call in via a conference line from their respective locations, which prevented taking managers away from operations. **Strength 2:** Health Center Managers and Clinics Command staff were able to complete and provide sit reps and assistance capacity reports to the PH DOC in a timely manner. **Area for Improvement 1:** Ensure all management and command staff are registered on CAHAN. **Area for Improvement 2:** Clinics will review and revise isolation protocols to cater to the different needs of each facility.					

Objectives	Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
EMS/MHOAC 1. Evaluate the MHOAC ability to send SitStat reports; receive SitStat reports	PHEP 3, 4	P			
2. Evaluate the EMS ability to activate ReddiNet	PHEP 4, 6	P			
3. Evaluate the MHOAC ability to receive and provide mutual assistance	PHEP 3 HPP 1, 2, 3, 4		S		
Strength 1: Achieved goal of rolling-out the ReddiNet system. **Area for Improvement 1:** Expand training for ReddiNet system to additional players and organizations.					
UCSC Student Health Services 1. Evaluate communications between Student Health Services and UCSC Office of Emergency Services	PHEP 6		S		
Strength 1: Collaborated on UCSC WebEOC use for the first time (documenting status, requests, estimates, completion, etc.) **Area for Improvement 1: Increase engagement of more Student Health Services staff, managers, and other UCSC campus players and stakeholders.**					
Hospitals 1. Evaluate the Hospitals ability to activate call-down procedures	PHEP 4, HPP 2, 3		S		
2. Evaluate the Hospitals' ability to activate surge plan	HPP 4	P			
3. Evaluate the Hospitals' ability to request assistance	HPP 2, 3, 4		S		
Sutter Maternity and Surgery Center: **Strength 1:** There were many new people in the command center and everyone responded as if the exercise was real. Just in time PAPR training went really well. **Strength 2:** Command staff were able to use the EOG effectively. **Area for Improvement 1:** Training opportunities for people in command center to fully understand roles and responsibilities sand how to complete documents. Some tasks were duplicated. **Area for Improvement 2:** Only one phone in command center, people were having a hard time reaching command staff. Section chiefs forgot to turn on the emergency go phones for drill.					

Objectives	Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Dominican Hospital: **Strength 1:** There were staff that were new to the emergency/disaster team and needed HICS training however, there were staff with experience that were able to lead the response. **Area for Improvement 1:** Staff turnover is a reality that presents the ongoing challenge of disaster response and command center training. Exploring regularly scheduled ICS training with coalition partners will be beneficial. Area for Improvement 2: ICS training and participation in exercises needed to include additional staff positions to build the capacity of the disaster response team.					
Watsonville Community Hospital: **Strength 1:** Hospital systems and ICS knowledge strong among select few staff. **Strength 2:** Willingness and openness to learn hospital systems and ICS among newer members of management team. **Area for Improvement 1:** Increase levels of comfort with individuals' roles in ICS with more frequent practice and training. **Area for Improvement 2:** Increase levels of comfort using ICS forms with more frequent practice and training.					
Long Term Care 1. Evaluate Long Term Care facility ability to activate call-down procedures	PHEP 3 HPP 6				
2. Evaluate Long Term Care facility ability to send SitStat reports; utilize Emergency Operations Guide (EOG)	PHEP 3, 6 HPP 2, 3		S		
3. Evaluate Long Term Care facility ability to request resources (e.g. PPE)	HPP 2, 3		S		
Dominican Home Health: **Strength 1:** Had an infection control training and linked with the hospital for fit-testing **Area for Improvement 1:** Ensure adequate stock or sufficient number of N95 masks to be utilized by Clinicians in the field. Add a number of N95 masks that need be in stock at all times. Clinical manager will budget and staff shall track.					

Objectives	Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Public Health					
1. Evaluate the ability of Public Health to activate Infectious Disease response	PHEP 6, 10	P			
2. Evaluate the ability of Public Health to activate the DOC	PHEP 3, 4, 6		S		
3. Evaluate the ability of Public Health to coordinate emergency response with HCC partners	PHEP 3 HPP 1, 2, 3	P			
4. Evaluate the ability of Public Health to develop bilingual health advisory/alert to providers and public	PHEP 4		S		
5. Evaluate the ability of Public Health to define non-pharmaceutical interventions and provide guidance to healthcare system and providers	PHEP 6, 11		S		

Table 2: Rating Definitions

Ratings Definitions:

- **P-** Performed without Challenges: The tasks associated with the capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities.
- **S-** Performed with Some Challenges: The tasks associated with the capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. However, opportunities to enhance effectiveness and/or efficiency were identified.
- **M-** Performed with Major Challenges: The tasks associated with the capability were completed in a manner that achieved the objective(s), but the demonstrated performance had a negative impact on the performance of other activities and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- **U-** Unable to be Performed: The tasks associated with the capability were not performed in a manner that achieved the objective(s).

The following sections provide an overview of the performance related to each exercise objective and associated capability tested during the exercise, highlighting strengths and areas for improvement.

I. OBJECTIVE

Evaluate the ability of Public Health to activate Infectious Disease response

PHEP Capability 6, 10

- Information Sharing
- Medical Surge

Strengths
The full capability levels are attributed to the following strengths:

Strength 1: Communicable Disease Unit (CDU) was prepared to receive medical surge inquiries.

Strength 2: Forms developed with Epi team in advance were effective tools.

Strength 3: PH medical team engagement was fluid from intake staff to assessment, reporting and receiving of Health Officer guidance.

Areas for Improvement
The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Staff training to identify the triggers that require emergency response activation in order to ensure familiarity with job and task shifting that occurs during activation.

Area for Improvement 2: The CDU and DOC are in separate locations which creates challenges for communication. The CDU liaison position requires definition, job action sheets and training for additional staff to perform this important role.

Area for Improvement 3: Medical surge presents challenges to Public Health in regards to responding to the additional work load while continuing to maintain normal operations.

Reference: Emergency Operations Guide (EOG), Emerging Infectious Disease Plan, Isolation and Quarantine protocols, DOC activation

Analysis: The work that was performed following the Hepatitis A outbreak through After Action and Improvement Planning was the root to the successful performance of the capabilities. Tools developed as a result of the Hepatitis A outbreak included: telephone intake forms, CDU liaison position development and improved cohesiveness in the exercise planning between Public Health programs/units CDU, Emergency Preparedness (EP) and senior leadership to ensure that previous gaps were addressed.

2. OBJECTIVE

Evaluate the ability of Public Health to activate DOC

PHEP Capability 3

- Emergency Operations Coordination (PHEP)

Strengths
The partial capability levels are attributed to the following strengths:

Strength 1: The DOC was activated and staffed with experienced leaders and non-experienced "shadow" staff, who trained their colleagues with "hands-on", didactic methods.

Strength 2: Communication and information exchange flowed efficiently between DOC team members and Public Health units once information technology (IT) issues were resolved.

Strength 3: The pre-exercise internal planning between CDU, Epi and EP generated increased ability to implement improvement plans from Hepatitis A outbreak including CDU staff capacity to manage medical surge.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Communication and information exchanges were problematic with IT obstacles.

Area for Improvement 2: Signage and EOG manuals at each work station within the DOC are needed.

Area for Improvement 3: DOC activation plans need to be reviewed and updated to serve the varying levels of experience of the response staff. Just-in-Time training on systems, resource location, and Job Action Sheets (JAS) will be beneficial to participants and the overall exercise. The DOC activation, response, and demobilization plans should be made available as part of a comprehensive training for all DOC staff, with the continued goal of three trained staff per positions.

Reference: Emergency Operations Plan (EOP), DOC Activation

Analysis: While all team members performed their roles and responsibilities in a knowledgeable and efficient manner, newer staff required additional training prior to the exercise on Incident Command System (ICS) in order to participate effectively. Information Services Department (ISD) set-up in advance did not resolve the issues of the conference room not being "at the ready" to function as the DOC. The goals of information sharing between CDU and the DOC were met. HSA will benefit from exploring advanced staff training in ICS and EOC positions for all-hazards responses. The EP Manager and senior leadership should ensure that there are adequate resources to finalize EOP annexes, training and exercises for all staff.

OBJECTIVE 3

Evaluate the ability of Public Health to coordinate emergency response with HCC partners

PHEP Capability 3; HPP 1, 2, 3

- Emergency Operations Coordination (PHEP)
- Foundation for Health Care and Medical Readiness (HPP)
- Health Care and Medical Response Coordination (HPP)
- Continuity of Health Care Service Delivery (HPP)

Strengths

The full capability levels are attributed to the following strengths:

Strength 1: Development of the exercise through a progressive sequence of planning meetings.

Strength 2: Healthcare Coalition member engagement in the planning meetings as well as internal readiness.

Strength 3: Identification of gaps from previous year exercises and real-world events to mitigate gaps.

Areas for Improvement
The following areas require improvement to achieve the full capability level:

Area for Improvement 1: The Healthcare Coalition is comprised of representatives across the medical healthcare system. Roles, responsibilities and resources for participation in emergency preparedness activities and therefore readiness, vary greatly across disciplines presenting disparate capabilities and capacity.

Area for Improvement 2: Provide tiered training for newer staff and coalition members including consideration of a tiered table-top exercise allowing more experienced partners to delve into detailed consideration while providing basic ICS training and exercise orientation to less experienced partners.

Reference: Emergency Operations Guide (EOG)

Analysis: Robust and sustained ICS training across the HSA and Healthcare Coalition staff are needed.

OBJECTIVE 4

Evaluate the ability of Public Health to develop bilingual health advisory/alert to providers and public

PHEP 4

- Emergency Public Information and Warning

Strengths
The partial capability level achieved is attributed to the following strengths:

Strength 1: Public Information Officer (PIO) has necessary training to craft emergency public information and warning messages.

Strength 2: Health Officer and PIO work closely together in the DOC and during normal operations.

Strength 3: CAHAN messages were sent to all participants that had been identified in the pre-exercise planning meetings.

Strength 4: CAHAN recipients were able to be added at request during the exercise which evidenced the real-time ability to communicate.

Areas for Improvement
The following areas require improvement to achieve the full capability level:

Area for Improvement 1: CAHAN Administrator training regarding message development, e.g., messages must contain the notation, *This is an Exercise* in order to avoid confusion with a real-world incidents.

Area for Improvement 2: HSA staffing is maximized with normal operations and this prevented garnering additional resources to provide the translated health advisory/alert to providers during the exercise. This was an artificiality.

Reference: CAHAN Administrator Manual

Analysis: Additional staff training in multi-lingual/multi-cultural crisis risk communication would increase the capacity to reach the whole community.

OBJECTIVE 5

Evaluate the ability of Public Health to define non-pharmaceutical interventions and provide guidance to healthcare system partners and providers

PHEP 6, 11

- Information Sharing (PHEP)
- Non-Pharmaceutical Interventions (PHEP)

Strengths
The partial capability level achieved is attributed to the following strengths:

Strength 1: CDU and Health Officer have established non-pharmaceutical intervention strategies based upon best practice and medical-health guidance.

Strength 2: Healthcare Coalition partners with direct patient care have established non-pharmaceutical intervention strategies.

Strength 3: The EOG provides infection control hospital and provider contact information as a resource/reference.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: The ability to process additional injects that would be reflective of real world scenarios needed a longer exercise window.

Area for Improvement 2: The need to assess if the current information sharing processes are best practices (effective and efficient).

Area for Improvement 3: The need to practice injects that explore non-compliance difficulties for non-pharmaceutical interventions (NPI) and other medical directives.

Reference: Emergency Operations Guide (EOG),

Analysis: Integration of ICS management principles with smaller outbreaks that may occur more frequently would build the capacity of staff to respond to larger public health emergencies.

APPENDIX A: IMPROVEMENT PLAN

This Improvement Plan has been developed specifically for the California Department of Public Health, the Emergency Medical Services Authority, and Santa Cruz County Healthcare Coalition as a result of the annual SWMHE conducted on November 15, 2018.

Table 3: Improvement Plan with corrective actions

PUBLIC HEALTH					
Observation	**Corrective Action**	**Primary Responsible Organization**	**Organization POC**	**Start Date**	**Completion Date**
OBJ 1, Area for Improvement 1: Staff orientation to triggers that require emergency response activation to ensure familiarity with job and task shifting during activation.	Exercise plans will include Just-in-Time Training (JIT) that reviews triggers for activation, job action sheets (JAS) and task orientation	EP team	Kathleen Conley	1/1/19	3/30/19
	JAS will be reviewed for assurance that they are current and relevant to the tasks assigned to the position	EP team	Kathleen Conley	1/1/19	3/30/19
OBJ 1, Area for Improvement 2: The CDU and DOC are in separate locations which creates challenges for communication. The CDU liaison position requires definition, job action sheets and training for additional staff to perform this important role.	CDU liaison position requires a written job description and JAS	CDU	Kelly DeBaene	1/1/19	3/30/19
	CDU will benefit from additional staff trained to function in the role of liaison during outbreak response	CDU/PHN	Kelly DeBaene/ Jennifer Herrera	1/1/19	6/30/19
OBJ 1, Area for Improvement 3: Medical surge presents challenges to public health in regards to responding to the additional work load while continuing to maintain normal operations.	Expanding staff positions that are ICS 100, NIMS 700 & 800 trained will alleviate some of the surge impacts on work load as more staff are able to pivot into response roles.	PHN/Admin	Jennifer Herrera/ Dr. Leff/ Jessica Randolph	1/1/19	7/1/19
	CDU and other medical units will benefit from inclusion in surge training, plan review and surge testing.	HCC/ EP/ CDU	Kathleen Conley/ Kelly DeBaene	1/1/19	12/31/19
OBJ 2, Area for Improvement 1: Communication and information exchanges were problematic with IT obstacles.	The DOC setup and operations will be reviewed to assess areas where efficiencies can be gained with the current level of equipment/resources	Admin/IT/ EP	Brenda Brenner/ Jorge Fernandez/ Kathleen Conley	1/1/19	12/31/19
	The DOC setup and operations will be reviewed to assess areas where	Admin/IT/ EP	Brenda Brenner/ Jorge Fernandez/ Kathleen Conley	1/1/19	12/31/19

	efficiencies can be gained with alternate or additional technology and resources				
Observation	**Corrective Action**	**Primary Responsible Organization**	**Organization POC**	**Start Date**	**Completion Date**
OBJ 2, Area for Improvement 2: Signage and EOG manuals at each work station within the DOC are needed.	Assess DOC workstation needs and materials needed	EP	Kathleen Conley/ Courtney Kilgore	1/1/19	6/30/19
	Develop activation instructions for each DOC position	EP	Kathleen Conley/ Courtney Kilgore	1/1/19	6/30/19
	Assess and develop signage identifying each workstation	EP	Courtney Kilgore	1/1/19	6/30/19
OBJ 3, Area for Improvement 1: The Healthcare Coalition is comprised of representatives across the medical healthcare system. Roles, responsibilities and resources for participation in emergency preparedness activities and therefore readiness, vary greatly across disciplines presenting disparate capabilities and capacity.	Develop Healthcare Coalition governance, surge, SWE, training plans and programs	HCC/EP	HCC members/ Kathleen Conley	1/1/19	6/30/19
	Develop training and exercise recommendations for HCC members with information sharing on above local and regional opportunities	HCC/EP	HCC members/ Kathleen Conley	1/1/19	6/30/19
OBJ 3, Area for Improvement 2: Provide tiered training for newer staff and coalition members including consideration of a tiered table-top exercise allowing more experienced partners to delve into detailed consideration while providing basic Incident Command System and exercise orientation to less experienced partners.	Evaluate the ability to provide ICS 100, NIMS 700 & 800 to all PH staff	HCC/ Hospitals/ SNF	HCC members	1/1/19	10/30/19
	Utilize exercise planning team members to tailor the 2019 table-top exercise to the needs of their staff experiences/levels of training	HCC/ Hospitals/ SNF	HCC members	1/1/19	10/31/19
OBJ 4, Area for Improvement 1: CAHAN Administrator training regarding message development, e.g., messages must contain the notation, *This is an Exercise* in order to avoid confusion with a real-world incidents	Train additional PH staff to be HAN coordinators and provide one refresher for experienced HAN coordinators annually	EP/ HPP Coordinator	Kathleen Conley	1/1/19	6/30/19
OBJ 4, Area for Improvement 2: HSA staffing is maximized with normal operations and this prevented garnering additional resources to provide the translated health advisory/alert to providers during the exercise. This was an artificiality.	Explore low cost or existing options for real-time message translation services	HCC/ PH Admin	HCC staff/ PH Admin/staff	1/1/19	6/30/19
OBJ 5, Area for Improvement 1: The ability to process additional injects that would be reflective of real	Exercise Planning team will explore the feasibility of a longer SWE time block	HCC/ CDU/ Health Officer	HCC members/ Kelly DeBaene/ Dr. Leff	1/1/19	10/31/19

world scenarios needed a longer exercise window.	when practicing emerging infectious disease response				
Observation	**Corrective Action**	**Primary Responsible Organization**	**Organization POC**	**Start Date**	**Completion Date**
OBJ 5, Area for Improvement 2: The need to assess if the current information sharing processes are best practices (effective and efficient).	CERC plan review, PIO assessment of information sharing protocols for best practices	EP/PIO/PH Admin/ Hospital PIO councils	Kathleen Conley/ Corinne Hyland/ Jessica Randolph/ others as available	1/1/19	6/30/19
OBJ 5, Area for Improvement 3: The need to practice injects that explore non-compliance difficulties for non-pharmaceutical interventions (NPI) and other medical directives.	CDU and Epi staff will participate in SWE planning teams to explore issuance and potential non-compliance to issuance of PPE, or NPI orders	HO/CDU/ Epi	Dr. Leff/ Jessica Herrera/ Kelly DeBaene/ Epi team	1/1/19	6/30/19
HOSPITALS					
Sutter Maternity & Surgery Hospital Observation	**Corrective Action**	**Primary Responsible Organization**	**Organization POC**	**Start Date**	**Completion Date**
Area for Improvement 1: Training opportunities for people in command center to fully understand roles and responsibilities sand how to complete documents. Some tasks were duplicated.	Identify staff to receive ICS/HICS training. Provide training on roles and responsibilities for command center staff.	Sutter Maternity & Surgery Center	Marian Crockett	1/1/19	6/30/19
Area for Improvement 2: Only one phone in command center, people were having a hard time reaching command staff. Section chiefs forgot to turn on the emergency go phones for drill.	Explore increasing the capacity of staff to communicate effectively in drills, exercises and real-world incidents.	Sutter Maternity & Surgery Center	Marian Crockett	1/1/19	6/30/19
Dominican Hospital Observation	**Corrective Action**	**Primary Responsible Organization**	**Organization POC**	**Start Date**	**Completion Date**
Area for Improvement 1: Staff turnover is a reality that presents the ongoing challenge of disaster response and command center training.	Exploring regularly scheduled ICS training with coalition partners will be beneficial.	Dominican Hospital	Dominican Hospital Disaster Team Coordinators	1/1/19	6/30/19
Area for Improvement 2: ICS training and participation in exercises needed to include additional staff positions to build the capacity of the disaster response team.	Explore building disaster response capabilities through the Bay Area Urban Security Initiative (BAUASI) and ICS online trainings.	Dominican Hospital	Dominican Hospital Disaster Team Coordinators	1/1/19	6/30/19

Watsonville Community Hospital (WCH) Observation	Corrective Action	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Area for Improvement 1: Increase levels of comfort with individuals' roles in ICS with more frequent practice and training.	Explore opportunities for training and additional exercises to increase familiarity with emergency response roles.	WCH	WCH Disaster Response Team	1/1/19	6/30/19
Area for Improvement 2: Increase levels of comfort using ICS forms with more frequent practice and training.	Explore opportunities for training and additional use of ICS form, SitStat reports and county reporting forms.	WCH	WCH Disaster Response Team	1/1/19	6/30/19

APPENDIX B: EXERCISE PARTICIPANTS

Table 4: List of SWMHE participating Healthcare Coalition partners

NAME	ORGANIZATION
Federal	
N/A	N/A
State	
Emergency Preparedness Office	California Department of Public Health (CDPH)
EMSA	California Emergency Medical Services Authority
Local	
Patsy Gasca	American Red Cross
Kate Dowling	Cabrillo College
Gail Hay	Capitola Surgery Center
Robert McCullough	Central Coast Surgery Center
Vadis Lake	Cypress Outpatient Surgery Center
Sandra Heeley	Dominican Home Health
Paul Angelo	Dominican Hospital
Deborah Routely	Dominican Oaks
Dr. Arnold Leff	Santa Cruz County Health Officer
Jennifer Phan	Health Services Agency Clinics
Kathleen Conley/Kelly DeBaene	Health Services Agency Public Health
Ryan Franco	Hearts and Hands
Lisa Glasgow	Kaiser Permanente
Brenda V. Brenner	Emergency Medical Services/MHOAC
Rosemary Anderson	Office of Emergency Services
Marise Goetzl	Pacific Coast Manor
Linda Oster	Palo Alto Medical Foundation
Dan Sedenquist	Salud Para La Gente
Azura Sanchez	Santa Cruz Community Health Centers
Beth Sorauf	Santa Cruz County Hospice
Courtney Kilgore	Santa Cruz County Medical Reserve Corps
Teresa Martinez	Santa Cruz Endoscopy Center
Erik Haston	Santa Cruz Health Centers
Oscar Bueno	Santa Cruz Post-Acute
Marian Crockett	Sutter Maternity and Surgery Center
Cameron Coltharp	Telecorp
Diane Lamotte	University of California Santa Cruz Student Health Services

NAME	ORGANIZATION
Sally Robin	Valley Convalescent Hospital
Chris Johnston	Watsonville Community Hospital
Corey Miller	Watsonville Nursing Center
Ryan Taylor	Watsonville Post-Acute Center

APPENDIX C: PARTICIPANT FEEDBACK

Table 5 represents consolidated feedback from all forms received. This information is based on a total of 18 usable feedback forms.

Table 5: Rating Satisfaction Assessment tool

RATING SATISFACTION OF EXERCISE			
Assessment Factor	**Disagree (1)**	**Neutral (2)**	**Agree (3)**
Pre-exercise briefings were informative and provided the necessary information for my role in the exercise.	0%	22%	78%
The exercise scenario was plausible and realistic.	0%	0%	100%
Exercise participants included the right people in terms of level and mix of disciplines.	0%	27%	73%
Participants were actively involved in the exercise.	0%	22%	78%
Exercise participation was appropriate for someone in my field with my level of experience/training.	5%	11%	84%
The exercise increased my understanding about and familiarity with the capabilities and resources of other participating organizations.	0%	22%	78%
The exercise provided the opportunity to address significant decisions in support of critical mission areas.	0%	16%	84%
After this exercise, I am better prepared to deal with the capabilities and hazards addressed.	0%	5%	95%

SELECT PARTICIPANT FEEDBACK

- “I would like to attend more Table Top trainings on this topic in the future.”
- “I would like for more/all of my staff to be ICS certified.”
- “Next year, I would like to engage more partners and have a longer exercise!”
- “There was a good mix of administration, supervisors, and line staff in the DOC with open communication.”
- “I enjoyed the high levels of involvement with the Healthcare Coalition partners."

APPENDIX D: SCHEDULE

Table 6: Schedule of SWMHE events

Time	Personnel	Activity	Location
November 13, 2018 (HSA pre-ex briefing)			
08:00-12:00hrs	Exercise Controller, EP Staff, IT Support Staff	• Set up DOC communications	DOC (1080 Emeline Ave. 2nd Floor)
15:00-16:30hrs	HSA participants, Players, Controllers	• Player Briefing	DOC
November 15, 2018 (Game Day)			
07:30hrs	Controllers and Exercise Staff	• Check-in for final instructions and communications check	DOC
07:50hrs	Controllers and Evaluators	• Controllers and Evaluators in starting positions	DOC
08:00hrs	All	• Controllers deliver day-of Player Briefing	DOC
08:00hrs	All	• Exercise Starts – See MSEL	DOC
11:00hrs	All	• Exercise Ends	DOC
Immediately Following the Exercise	All	• Venue Hot Washes • Turn in all Participant Feedback Forms; Activity Logs, EEGs	Participant facilities/venues
13:00hrs-15:00hrs	Points of Contact (POC) for HCC Partners	• De-briefing	American Red Cross 2960 Soquel Ave. Santa Cruz, CA
December 13, 2018 (After Action Conference)			
14:00hrs-16:00hrs	Controllers, Evaluators, and Exercise Planning Team	• After Action Meeting	1080 Emeline Ave Santa Cruz Health Services Agency – large auditorium

APPENDIX E: HOT-WASH

The Hot-wash information is compiled from participating HSA staff directly after the exercise. Discussion included a guided debrief to bring strengths and areas of improvement to light.

Strengths

Communication:

- Clear internal DOC communication
- Receptive of feedback from players within the DOC
- PIO received clear communication and direction from Operations Section Chief and Incident Commander

Communicable Disease Unit:

- Lively caller interaction and participation
- Communication between CDU, DOC, and Epi was thorough and quick
- Explore adding CDU to ReddiNet for a quick response time and fluidity of information
- Unit expanded to fit emergency role and balance existing cases
- Explore officially creating a CDU liaison role, as it was highly functional within CDU and DOC communication; could use a back-up position

HSA DOC:

- Prior overlap of DOC positions lead to quick thinking and response time – knowledge was rich
- ISD in the DOC for preparation and logistical assistance during exercise
- Variety of media used to accommodate (whiteboards and overhead screens)
- ReddiNet was successful for partners who had access and provided a quick response to MHOAC for HAvBed polling

Additional Comments:

- CDU and Emergency Preparedness preparation and set up

Improvements

Technology:

- Overall poor electronic functioning and difficulties logging into accounts
- Additional equipment and laptops needed – preferably laptops and potentially dual screens (created large issue for Planning and Operations)
- Log-in to all accounts on each computer both externally and on Outlook
- Add in additional phone lines for MHOAC, Exercise Simulator, and Incident Command (ensure that numbers are posted and redundant in EOG)
- Ensure that ISD is involved throughout the entirety of DOC activation for assistance
- Two WIFI connections – Ocean Network and DOC – will they be working in actual activation?
- Determine how to potentially waive the NCF fee in activation for access to internal folders

- Dongles for blue/grey network cable for outside computers
- Split fax/phone line to receive on both lines

Communication:

- Confusion on who/how to report SitStat, facility activation notifications, and resource requests
- Review of communication tools – SAT phone, NETCOM
- CDU did not receive a CAHAN alert
- Add DOC positions (landline and email) into the CAHAN system
- CAHAN was overwhelming at times, messages were not concise and occasionally misleading

Communicable Disease Unit:

- Flood of phone calls was not realistic – need a warm line set up to take in additional calls
- Reporting cases in "real-time" – DOC give CDU time to gather information, create a timeframe for provided information to DOC.
- Incorporate ReddiNet into CDU to inform and process information quickly
- Discuss and define the CDU liaison role
- Failure to get information in consult with providers

DOC:

- SitStat Forms – forms have both logistics and planning; consider a more concise system for transferring information
- Data entry was time consuming
- MHOAC, Health Officer, and Incident Command confusion in roles (also with NETCOM call down)
- New/more office supplies (working whiteboard markers)
- Longer exercise period to realize full-scope of the incident
- Additional ReddiNet training
- ICS forms are confusing without training
- ICS forms online at CHAMPS were not fully functional
- Need hard copy packets for forms

Additional Comments:

- Public Health Labs – update on current involvement and incorporate them in an exercise/real time
- FIT testing for emergencies are not current across the board (CPR, etc.)
- Manual at the table for each section including: available supplies, purchasing information if necessary, more contact information
- JITT – Just-in-Time Trainings for new DOC personnel
- Implement ICS trainings for ALL HSA and PH Staff

APPENDIX F: HCC DEBRIEF

Healthcare Coalition partners provided ample information to implement to future exercises through general guided conversation at the Healthcare Coalition debrief after the exercise. Below are the strengths, areas for improvement, and awareness of future ideas from the debrief conversations.

Table 7: HCC Partner debrief notes

HCC Partner	S: Strength(s)	I: Areas of Improvement	A: Awareness Thoughts/Questions
Emergency Operations Center	NETCOM Notification	CAHAN to positions AND people, WEBEOC difficulties, dialing down CAHAN, SAT Phone.	Provide WEBEOC training and how to use it for an emerging infection, SAT phone training. How to get buy-in for Behavioral Health in EOC?
HSA Communicable Disease Unit	Internal receiving of information. Preparation of forms and staff training.	Checking a box of recording a case, no details of the investigation, case reports & how they should be sent. "Did we play the exercise to the depth that we need to?" Communication and plan for an ambulance request. Communication with DOC was limited.	Explicitly sharing tool for partners to use to call when reporting cases. Remove CDU staff from DOC if it is a CDU based emergency to assist with staff burnout.
Sutter Maternity and Surgery Center	High levels of action and involvement. Just-in-Time training with PAPRs.	Lack of response for suspected cases, Sutter was not listed on ReddiNet (they had log-in). Form problems for external transfers. Isolation procedures need further update.	N/A
Dominican Home Health	Impressed with the feedback from CDU when discussing patients (via phone). Recently FIT tested, created a screening tool, delegating was easy within staff.	Did not received CAHAN Alerts.	N/A
Kaiser Permanente	Communication within the three facilities– high levels of engagement, work with non-English speaking patients, involved their BH and dialysis departments. Created two entrances for sick and not sick clients. Converted some normal visits to video visits. Discussed different limits within internal group.	Incorrect information provided for CDU.	Information that is needed to report cases to CDU. Gain access to their identification forms so they can properly screen patients.
HSA Clinics	Activated clinic command center and isolation protocols, identified gaps around isolation. High levels of involvement.	Increase isolation protocols; less CAHAN notifications.	How do they confirm that CD received cases when leaving a voicemail? Is there a way that they could receive a confirmation?

Dominican Hospital	Internal census for HAv Bed form on ReddiNet Activating HIC went well. Technology assisted in a variety of levels (ReddiNet).	Situation status form difficulty – submitting online there was no response when they click on the form. Terminology on all forms was not consistent with ReddiNet. Increase ICS training for leadership.	At what point do they call MHOAC to internally figure out who is necessary to communicate when calling an ambulance?
Santa Cruz Community Health Centers	Facilities manager created a make-shift isolation room. Was not fully implemented well. (Created an interest in their staff and created office chatter, watching, and gown-up*.)	Wanted to isolate and has not tested that prior. Did not get a chance to fully implement isolation.	N/A
HSA Behavioral Health	Tested call down list, and found outdated contact information for two personnel.	N/A	N/A
University of California Santa Cruz	WEBEOC, PIO had a large role due to family and staff communication and UC branch that they had to manage.	Creating a positive buy-in to bring in more participants on campus.	Utilization of delivery systems; there is not currently a pharmacy coalition in area.
Hearts and Hands	Proper use of PPE.	Difficult to have residents keep patients in once place (containment issues).	N/A
Watsonville Post-Acute	Successfully submitted SitStat reports.	Implementing objectives took longer than scheduled.	N/A
Watsonville Nursing Center	High levels of clinical staff involvement.	Limited play.	Would like to implement larger levels of play in the future.
Santa Cruz County Hospice	All went well; launched alert system that included a script to patients.	SAT Phone did not properly function.	N/A
MHOAC	ReddiNet utilization.	Increase ReddiNet training to all facilities.	Protocol for MHOAC communication is a bit confusion (from partners). Discussion encouraged to call NETCOM first, then DOC to confirm.
Health Officer (Public Health)	High levels of participation and understanding of issues.	Communication difficulties.	Include Behavioral Health in DOC/EOC to prevent burnout. Would also like to implement Environmental Health in shelter management.
Director of Nursing (Public Health)	Team collaboration at the DOC, all alternative positions were working.	Clerical support needed for each branch position.	N/A

APPENDIX G: ACRONYMS

AAM	After Action Meeting
AAR	After Action Report
AAR/IP	After Action Report / Improvement Plan
AFN	Access and Functional Needs
C/E	Controller/Evaluator
CAHAN	California Health Alert Network
CAHF	California Association of Health Facilities
Cal OES	California Governor's Office of Emergency Services
Cal OSHA	California Division of Occupational Safety and Health
CBO	Community Based Organizations
CCLHO	California Conference of Local Health Officers
CDPH	California Department of Public Health
CERT	Community Emergency Response Team
CHA	California Hospital Association
C/ME	Coroner/Medical Examiner
CPCA	California Primary Care Association
CHHS	California Health and Human Services Agency
DHS	Department of Homeland Security
DOC	Department Operations Center
ED	Emergency Department
EEG	Exercise Evaluation Guide
EHD	Environmental Health Department
EMS	Emergency Medical Services
EMSA	Emergency Medical Services Authority
EMSAAC	Emergency Medical Services Administrators Association of California
EOC	Emergency Operation Center
EOM	California Public Health and Medical Emergency Operations Manual
EOP	Emergency Operations Plan
EPO	California Department of Public Health Emergency Preparedness Office
ETA	Estimated Time of Arrival
ExPlan	Exercise Plan
FAC/FIC	Family Assistance Center / Family Information Center
FBI	Federal Bureau of Investigation
FE	Functional Exercise
FEMA	Federal Emergency Management Agency
FOUO	For Official Use Only
FSE	Full Scale Exercise
HAZMAT	Hazardous Materials
HCC	Hospital Command Center
HICS	Hospital Incident Command System
HIPAA	Health Insurance Portability and Accountability Act
HPP	Hospital Preparedness Program
HSEEP	Homeland Security Exercise and Evaluation Program

IAP	Incident Action Plan
ICS	Incident Command System
IP	Improvement Plan
ISD	Information Services Department
IT	Information Technology
JIC	Joint Information Center
JIS	Joint Information System
JRIC	Joint Regional Intelligence Center
JTTF	Joint Terrorism Task Force
LEMSA	Local Emergency Medical Services Authority
LHD	Local Health Department
MCI	Mass Casualty Incident
MHCC	Medical and Health Coordination Center
MHOAC	Medical/Health Operational Area Coordinator Program
MOU	Memorandum of Understanding
MRC	Medical Reserve Corps
MSEL	Master Scenario Events List
NGO	Non-governmental organization
NHICS	Nursing Home Incident Command System
NIMS	National Incident Management System
OA	Operational Area
OEM	Office of Emergency Management
OES	California Governor's Office of Emergency Services
PHEP	Public Health Emergency Preparedness
POC	Point of Contact
PPE	Personal Protective Equipment
RDMHC	Regional Disaster Medical Health Coordinator
RDMHS	Regional Disaster Medical Health Specialist
REOC	Regional Emergency Operation Center
SEMS	Standardized Emergency Management System
SimCell	Simulation Cell
SitMan	Situation Manual
SME	Subject Matter Expert
SWMHE	Statewide Medical and Health Exercise