Welcome Healthcare Partners to the 2014 Medical and Health Disaster Exercise Training and Tabletop

Who’s your partner?

Introductions

Jan Koegler, MPH, Public Health Emergency Preparedness
Stacey Rosenberger, MPH
John Eaglesham, EMS Agency Director
Paige Batson, RN, MA, Manager Disease Control
Karen White, RN, Disease Control Supervisor
Lynn Fitzgibbons, MD, PHD Ebola Response Team
“The last place I want to meet you for the first time is during a disaster.”
Partners in Disaster Response

• Disaster Healthcare Partners Coalition
  – Sets priorities for disaster planning for healthcare and long-term care
  – Plans how healthcare providers will work together during a disaster or other incident which:
    • Limits resources or
    • Requires a healthcare surge for increased numbers of patients
Exercise and Response Partners

• Healthcare Partners (SNF, LTC, outpatient, hospitals) in Santa Barbara County
• Santa Barbara Public Health Department
  – Environmental Health Services, Animal Services
  – Emergency Medical Services Agency
• Law and Fire Agencies, Ambulance Providers
• County and City Emergency Operations Centers
• California Department of Public Health
• California Emergency Medical Services Agency
Schedule of Ebola Training and Exercise

- Oct 21 and 23: Partners Training
- Wednesdays: Teleconferences
- Nov 13: Pre- Exercise Tabletop 9:00-11:00
- Nov 20: Ebola Exercise 8:00 am - 12:00 pm
AGENDA

1. Ebola Update
2. Infectious Disease Emergency Response Plan
3. State and Local Disaster Procedures
4. Ebola Disease Detection and Containment
5. Personal Protective Equipment
6. EMS Screening and Response Operations
7. Outpatient and Hospital Screening and Response
8. **Tabletop Planning for Response and November 20th Exercise**
Training and Tabletop Objectives

- Discuss and confirm coordinated Ebola response operations
- Learn current PHD operations for disease detection, reporting, and control of Ebola
- Discuss and agree upon response procedures for suspect cases
- Review PPE and methods to limit spread of disease among healthcare/responders
- Review standard disaster communication and status reporting for all healthcare partners
- Discuss methods for agencies to drill their response
- Determine scope of November 20th Ebola response exercise
What is the Ebola Virus

The virus is known to live in fruit bats, and normally affects people living in or near tropical rainforests. It is introduced into the human population through close contact with the sweat, blood, secretions, organs or other bodily fluids of infected animals such as fruit bats, chimpanzees, forest antelope and porcupines found ill or dead or in the rainforest.

There are five identified Ebola virus species, four of which are known to cause disease in humans.
Animal Reservoir of Ebola Virus

Geographic distribution of Ebola virus disease outbreaks in humans and animals

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization

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2013 Ebola Outbreak History

- Researchers from the New England Journal of Medicine have traced the outbreak to a two-year-old toddler, who died on 6 December 2013 in Meliandou, a small village in south-eastern Guinea.

- In March, hospital staff alerted Guinea's Ministry of Health and then the charity Medecins Sans Frontieres (MSF). They reported a mysterious disease in the south-eastern regions of Gueckedou, Macenta, Nzerekore, and Kissidougou.

- It caused fever, diarrhoea and vomiting. It also had a high death rate. Of the first 86 cases, 59 people died.

- The WHO later confirmed the disease as Ebola.
Democratic Republic of Congo

Unrelated Ebola Outbreak: 68 cases with 49 deaths including eight healthcare workers, and 269 contacts are being monitored. [2]

- In August 2014, the WHO reported an outbreak of Ebola virus in the Boende District, Democratic Republic of the Congo.[135] They confirmed that the current strain of the virus is the Zaire Ebola species, which is common in the country. The virology results and epidemiological findings indicate no connection to the current epidemic in West Africa. This is the country's seventh Ebola outbreak since 1976.
Ebola outbreak
Some 30 countries, including the U.S., have direct regular flights to any of the four African countries affected by the current Ebola outbreak.

Outbreak countries

Countries with direct flights to the outbreak zone

Sources: Airline companies; Nigeria and Guinea’s international airports
Staff, 31/07/2014
Current Response Plan

Bruce Aylward, MD, MPH, the World Health Organization's (WHO's) assistant director-general, Ebola outbreak response

• On the positive side, he said trends suggest that cases are starting to decrease in some of the traditional outbreak hot spots: Liberia's Lofa County and Sierra Leone's Kenema and Kailahun districts. Responders on the ground indicate that the downturns are real and are the result of behavior changes in affected communities, Aylward said.

• Meanwhile, the United Nations Mission for Ebola Emergency Response (UNMEER) has set targets, which it refers to as the "70-70-60 plan": 70% safe burials and 70% of suspected cases isolated in 60 days (by Dec 1). By that point, responders expect about 5,000 to 10,000 new cases each week.
# Ebola Treatment Beds

Current bed capacity in countries with active cases as of 12 Oct 2014.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Existing beds</th>
<th>Planned beds</th>
<th>Percentage of existing/Planned beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea</td>
<td>160</td>
<td>260</td>
<td>50%</td>
</tr>
<tr>
<td>Liberia</td>
<td>620</td>
<td>2,930</td>
<td>21%</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>346</td>
<td>1,198</td>
<td>29%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,126</strong></td>
<td><strong>4,418</strong></td>
<td><strong>25%</strong></td>
</tr>
</tbody>
</table>
Infectious Disease Emergency Response Plan (IDER Plan) - Review

Jan Koegler, MPH, Program Administrator

Public Health Emergency Preparedness Program

Improve the health of our communities by preventing disease, promoting wellness, and ensuring access to needed health care.
# PHD Disaster Operation Plan

**Infectious Disease Emergency Response Plan**

<table>
<thead>
<tr>
<th><strong>Manual:</strong></th>
<th>Bioterrorism, Communicable Disease, Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number or Group:</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

| **Prepared By:** | Paige Batson, R.N., DC & P Manager  
Amy Bellomy, R.N., MPH, Senior Epidemiologist  
Michelle Wehmer, MPH, Epidemiologist  
Jan Koegler, MPH, Emergency Preparedness Program Administrator |
| **Effective Date:** | July, 2012 |

| **Authorized By:** | Takashi Wada, M.D., Health Officer |
| **Supersedes:** | PHD Surge Capacity Response Plan for Communicable Diseases |

| **Annual Review By:** | Health Officer, Disease Control & Prevention, Epi Unit, Emergency Preparedness Program |
| **Original Date:** | July, 2012 |

**TITLE:** PHD Infectious Disease Emergency Response Plan (IDER)

## Section I: INTRODUCTION

### Background

Infectious disease emergencies are circumstances caused by biological agents, including organisms such as bacteria, viruses or toxins with the potential for significant illness or death in the population. Infectious disease emergencies may include naturally occurring or foodborne outbreaks (e.g., measles, mumps, meningococcal disease, salmonella), emerging infectious diseases (e.g., SARS, avian influenza), and bioterrorism. The circumstances of infectious disease emergencies may vary by multiple factors, including type of biological agent, scale of exposure, mode of transmission and intentionality (bioterrorism), and many others. Public health measures to contain such outbreaks are especially important for diseases with high morbidity or mortality and limited medical prophylaxis and/or treatment.

### Purpose

The Santa Barbara County Public Health Department (PHD) Infectious Disease Emergency Response (IDER)
Operations Section is a hub for communication with partners for status and resource requests.
Role of Medical and Health Operational Area Coordinator “MHOAC”

Status Report and Requests from Medical and Health during disaster

Healthcare, long term care, animal services, environmental health, EMS
Relationship of Healthcare and Long Term Care to their Cities and the PHD

- **COUNTY EOC**
  - JOINT INFORMATION CENTER “JIC”

- **CITY EOC**
  - Public Information
    - Hospital Open? ED Open?
    - Where should patients go for care?

- **PUBLIC HEALTH DEPARTMENT/EMS**
  - Public Information
    - Hospital Open? ED Open?
    - Where should patients go for care?

- Healthcare or Long Term Care Facility or Agency
Disaster Operations in Our County
Santa Barbara County Public Health Department

Emergency and Disaster Communication and Operational Expectations
for Agencies Serving Medically Fragile/Vulnerable Individuals

Please insert this document into your disaster plan.

1. Communication

1.1. Communication of reportable diseases and conditions 24/7:
Call the Public Health Department Disease Control Program at (805) 681-5280. After hours ask to speak to the health officer or disease control staff on call.

1.2. Communication during a disaster:
- The Santa Barbara Public Health Department will open its Department Operations Center (DOC) during a disaster or emergency. The DOC serves to centralize communication, data collection, and response operations. This center has both public health and EMS functions.
- The DOC is located in Santa Barbara at 300 San Antonio Road, Building 1. Alternate locations for the DOC may be established if damaged or evacuated.
- Agencies who provide care for medically fragile/vulnerable populations should communicate their status and urgent resource requests via the Operations Section of the Public Health DOC at (805) 696-1106 or 696-1109.
- If your clients have safely evacuated or is reporting non-urgent general status please email the Public Health DOC at operations.medicalbranch@sbcphd.org. If evacuated please include a list of all clients and their location(s).
- If the DOC is not established the Medical and Health Operational Area Coordinator (MHOAC) for Public Health/EMS can be reached by calling (805) 681-5274 or call county dispatch (805) 692-5722 and ask for the EMS duty officer.
- If you have an emergency always dial 911. If communications are not working listen to the radio for instructions or go to your local fire or police department where radio...
Status Forms

• Status forms are sent to PHD during exercises and real events
  – Captures ability to receive or house patients
  – Status of staffing and facilities
  – Helps the PHD/EMSA to understand what is current capacity of healthcare system

• Hospitals submit some status elements via Reddinet (# cases, # deaths, # beds available)
Role of State Agencies and CDC in Response

- CDPH and EMSA open the Medical and Health Coordination Center in Sacramento
- California Emergency Management Agency opens Regional Emergency Operations Centers
- County will communicate to Region and State:
  - Situation status reports
  - Need for resources
    - epidemiology, contact tracing
    - PPE, equipment, field hospital
The Pentagon says specialized training for a new, 30-member U.S. military Ebola response team will take place at Fort Sam Houston in San Antonio.

Rapid-response team will feature 20 critical care nurses and five doctors trained for infectious disease environments, as well as five trainers in infectious diseases protocols.

It will receive up to seven days of training with personnel from the U.S. Army Medical Research Institute of Infectious Diseases at the San Antonio post
Hospitals with Biocontainment Facilities (4)

Ebola in the U.S.

- Confirmed case of Ebola
- Level 4 Biohazard facilities
- Airports screening for Ebola

St. Patrick Hospital, Missoula, Mt.
Nebraska Medical Center, Omaha, Neb.
National Institutes of Health, Bethesda, Md.
Emory University Hospital, Atlanta, Ga.
Dallas

Sources: Centers for Disease Control and Prevention
"It would not be unexpected for California to eventually have a confirmed case of Ebola, and therefore we must be prepared to respond promptly and carefully," said Dr. Gil Chavez, state epidemiologist with the health department.

Officials said California is trying to determine whether certain hospitals should be designated to treat Ebola patients. California also is asking the federal government to consider adding screenings at its international airports. California currently has no Ebola cases or suspect cases.

It has tested two patients, one in Sacramento County and one in Los Angeles County. Results were negative for both.
Fundamentals of Disease Detection and Containment

Jaclyn Hagon, RN
Supervising Public Health Nurse
Santa Barbara Public Health Disease Control Program
Disease Detection

– Healthcare providers play a fundamental role in disease detection

– Title 17 requires providers to report certain diseases via CalRedi and by phone 24/7 to 681-5280

– Suspect Ebola cases are immediately reportable via phone
Santa Barbara County · Public Health Department · Disease Control
345 Camino del Remedio, Room 338, Santa Barbara, CA, 93110
PHONE: (805) 681-5280 · FAX: (805) 681-4069 · WEB: http://www.sbcphd.org/DCP

Urgent Reporting Requires submittal of CMR to (805) 681-4069 AND the following:

☑ = Report immediately by telephone.
☑ = Report by telephone within 1 working day of identification.
☑ = Report within 7 calendar days from the time of identification.

REPORTABLE DISEASES AND CONDITIONS
Title 17, California Code of Regulations (CCR) §2500, §2593, §2641-2643, and §2800-2812

- Acquired Immune Deficiency Syndrome (AIDS) (HIV Infection only, see Human Immunodeficiency Virus)
- Amebiasis
- Anaplasmosis/Ehrlichiosis
- Anthrax (Human or Animal)
- Babesiosis
- Botulism (Infant, Foodborne, Wound, Other)
- Brucellosis (Animal, except Brucella canis)
- Brucellosis (Human)
- Campylobacteriosis
- Chancroid
- Chicken Pox (Varicella)
  - Chicken Pox, Fatal Cases
  - Chicken Pox, Hospitalized Cases
    (Do not report cases of herpes zoster/shingles)
- Chlamydia trachomatis infections, including Lymphogranulom Venereum (LGV)
- Cholera
- Ciguatera Fish Poisoning
- Coccidioidomycosis
- Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSE)
- Cryptosporidiosis
- Cyclosporiasis
- Cysticercosis or Taeniasis
- Dengue
- Diptheria
- Domonic Acid Poisoning (Amnesic Shellfish
- Hepatitis:
  - Hepatitis A (Acute infection)
  - Hepatitis B (specify acute case or chronic)
  - Hepatitis C (specify acute case or chronic)
  - Hepatitis D (Delta – specify Acute or Chronic)
  - Hepatitis E, Acute Infection
  - Human Immunodeficiency Virus (HIV)*
  - Influenza (ICU or Death – Lab Confirmed 0-64 yrs old)
  - Influenza (Human – Novel Strain)
  - Legionellosis
  - Leptospirosis
  - Listeriosis
  - Lyme Disease
  - Malaria
  - Measles (Rubeola)
  - Meningitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic
  - Meningococcal Infections
  - Mumps
  - Paralytic Shellfish Poisoning
  - Pelvic Inflammatory Disease (PID)
  - Pertussis (Whooping Cough)
  - Plague, Human or Animal
  - Poliovirus Infection
  - Psittacosis
  - Q Fever
  - Rabies, Human or Animal
  - Rocky Mountain Fever
- Streptococcal Infections:
  - Outbreaks of any type
  - Individual case in a food handler
  - Individual case in a dairy worker
  - Syphilis
  - Tetanus
  - Toxic Shock Syndrome
  - Trichinosis
  - Tuberculosis
  - TST Convertors (documented (−) TST to
    Documented (+) TST w/in 2 yrs)*
  - TST Reactors (age <3 years only)*
  - Tularemia (Animal)
  - Tularemia (Human)
  - Typhoid Fever, Cases and Carriers
  - Vibrio Infections
  - Viral Hemorrhagic Fevers – Human/Animal
    (e.g., Crimean-Congo, Ebola, Lassa and
    Marburg viruses)
  - West Nile Virus (WNV) Infection
  - Yellow Fever
  - Yersiniosis

☑ OCCURRENCE OF ANY UNUSUAL DISEASE (including diseases not listed in
  §2500. Specify if institutional and/or open Community)

☑ OUTBREAKS OF ANY DISEASE
Disease Reporting Pathway

Ill Staff Reported

Healthcare Providers

Institutions

County/Local Health Departments

State Health Department

CDC

Labs

Food Establishment Inspection Reports

Public Complaints

Report a Foodborne Illness
What is a Suspect Case? Do exposures also need to be reported?

Definition of suspect case vs potential exposure

- Suspect case = history of exposure with symptoms
- Potential exposures =
  - travel history to affected area
  - airline travel with suspect case
  - known exposure of healthcare workers
  - Exposure to a suspect case
Ebola Virus Disease (EVD)

Outpatient Ebola Screening Tool

The Santa Barbara County Public Health Department is requesting that all outpatient providers evaluate patients using the following algorithm:

Ask every patient:
Within the past 28 days have you:
- Travelled to Guinea, Liberia, or Sierra Leone
- Had contact with known or suspect Ebola case
- Had direct handling of bats, rodents or primates from disease endemic areas

Does patient have:
- FEVER > 100°F * OR
- Ebola Symptoms - headache, myalgias, vomiting, diarrhea, abdominal pain, unexplained hemorrhage

Evaluate patient for other illnesses.

Report asymptomatic patients with positive travel or Ebola patient contact history in the past 28 days to the health department:
(805)681-5280

1. ISOLATE patient in single room with door to hallway closed and limit contact with other staff and patients.
2. IMPLEMENT standard, contact & droplet precautions.
The Santa Barbara County Public Health Department is requesting that all outpatient providers evaluate patients who visit or call the provider for possible exposure to Ebola. The following form may be used by outpatient staff to collect the necessary information for Ebola screening.

If a caller has a positive travel history or reports possible contact with suspect or confirmed Ebola case please do the following:

☐ If callers are critically ill they should call 911 and tell 911 of their symptoms as possible Ebola exposure.
☐ If called is stable inform caller that they should remain where they are and they will receive a call from the health department within one hour to evaluate their status and give further instructions. If status as a suspect is confirmed the PHD would arrange transport to a hospital for isolation and testing.
☐ If the caller is not ill but has a history of travel or contact with a suspect Ebola patient the health officer will determine if quarantine and monitoring is necessary.
☐ Call **805-681-5280** and state that you are reporting possible “Ebola Suspect”. You will be connected to the Santa Barbara County Health Officer. Please be prepared to provide the information on the form below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Caller Name</th>
<th>Caller Phone Number</th>
<th>Caller Address</th>
<th>Have you traveled to Liberia, Guinea, or Sierra Leone in the past 28 days?</th>
<th>Possible contact with an Ebola case or suspect case?</th>
<th>Symptoms: Fever, headache, myalgias, vomiting, diarrhea, abdominal pain, unexplained hemorrhage?</th>
<th>Report to health officer all callers with a positive travel history OR contact with suspect or confirmed case. (805) 681-5280 (Note time of call below)</th>
</tr>
</thead>
</table>
• EMS providers
• Airlines

Other sources of disease detection

- Dispatch Agencies
- Self-report
Disease Containment Methods

Quarantine

• voluntary vs legal order
• Legal order to non-ill exposed or potentially exposed persons and households to stay home

Could include: healthcare workers, families of ill
Legal Order

Order(s) of the Health Officer

The Health Officer has received medical information that you have recently been diagnosed with, or have been exposed to a disease that is likely to be communicable to persons exposed as a result of your employment and work-related activities, or attendance in a daycare or school setting.

Pursuant to the authority in California Health and Safety Code §120175, the Health Officer of Santa Barbara County hereby issues the following order(s):

Date order issued: 11/6/2013. This order shall remain in effect until such time as the Health Officer receives laboratory or other evidence that you no longer have or are suspected to have a communicable disease.

Order Issued to:

NAME: Ima, Salmonella
PHONE: 505551122

ADDRESS:
1122 Foodborne way, CA 93333

DATE OF BIRTH: 1/1/70

You are hereby ordered to comply with the following order(s):
Dallas Quarantine of Victim’s Family

May require housing provided by county. Will require food, communication, and other support for medical and educational needs.
Containing Disease: Cleaning and Decontamination of Home
Symptom Monitoring

• Temperature and symptom monitoring of non-ill exposed or potentially exposed persons.

• *Self-monitoring or by PHD staff.*

• With or without travel restrictions

• Who will we monitor:
  – Anyone with travel history?
  – Potentially exposed healthcare workers?
  – Debate: Monitoring vs Quarantine of pot exposed healthcare workers

• How do we prepare workers for monitoring or quarantine?
Self-monitoring or Quarantine?

• “The health workers who treated Dallas’ first Ebola patient Thomas Eric Duncan should not have been allowed to move around, county health director Zachary Thompson said Wednesday.”

• “Thompson said that decision isn’t up to him — the Centers for Disease Control and Prevention are handling the monitoring of those workers. He said he hasn’t heard any discussion about quarantine. But if it was up to the county health department, the patients “wouldn’t have been able to move around,” Thompson said.”

• CDC didn't tell Ebola-infected nurse she couldn't fly, government spokesman says

• Presbyterian offers health workers who treated Duncan room at hospital

• Presbyterian workers wore no hazmat suits for two days while treating Ebola patient
Isolation

Isolation: legal order

• **Isolation** separates sick people with a contagious disease from people who are not sick.

• Ebola: Isolation of confirmed or suspect cases to hospitals
Controlling Ebola: Public Health Department Role

1. Investigate and Interview Persons with:
   - History and Symptoms that meet case definition
   - Travel history for endemic areas
   - Contact with suspect or confirmed cases

2. Legally Isolate a Suspect Case until Testing Complete

3. Quarantine Individuals with history/contact OR

4. Require temperature and symptom monitoring
Laboratory Capacity: Diagnosing Ebola

Ebola Virus Disease in West Africa
EDPLN laboratories for Ebola or Marburg virus diagnostic

AFR-EDPLN laboratories with capacity for Ebola or Marburg virus diagnostic
Global EDPLN laboratories supporting the Guinea Ebola outbreak response

EDPLN : Emerging and Dangerous pathogens Laboratory Network

1. Senegal
   Institut Pasteur de Dakar
2. Gabon
   Centre International de Recherches Médicales de Franceville
3. South Africa
   National Institute for Communicable Diseases
4. Uganda
   Uganda Virology Research Institute
5. Kenya
   Kenya Medical Research Institute (KEMRI)
6. Germany
   Bernhard-Nocht-Institut für Tropenmedizin (BNI)
7. France
   Institut Pasteur Lyon et Paris
8. United States of America
   Centers for Disease Control and infection
9. Canada
   National Microbiology Laboratory
   Public Health Agency of Canada

Source: WHO, 10 April 2014

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Laboratory Testing

- No specimens will be tested without consultation with the appropriate local health department and the California Department of Public Health (CDPH)
- Testing is available at Los Angeles County Department of Public Health laboratory.
- Samples will be sent simultaneously to LA PHL and the CDC.
How long will it take to test?

- 8 hours for Los Angeles Public Health Lab to give preliminary testing results
- 1-3 days for CDC Lab to confirm
- *May take up to 72 hours following onset of symptoms for enough virus to be present in blood to detect*
- *Initial positive test is very useful for management, but it may take several days of tests to rule out EVD following an initial negative test.*
- Ebola virus detected in blood only after onset of symptoms, most notably fever.
- Takes up to 3 days post-onset of symptoms for the virus to reach detectable levels.
- Virus is generally detectable by real-time reverse-transcriptase polymerase chain reaction (RT-PCR).
Ruling out Suspect Case (WHO)

- Early detection of Ebola in suspected cases requires RNA or viral antigen testing, and two negative polymerase chain reaction tests conducted 48 hours apart required for an asymptomatic patient to be discharged from the hospital or for a suspected case to be ruled out, the WHO said.
Restricting Travel to Contain Disease

• Currently only Moroccan airlines and Brussels Air fly to all 3 countries.
• Planes can't fly to the affected countries because they are afraid they will be refused landing elsewhere, said the African Union chair Nkosazana Zuma on Thursday [16 Oct 2014]
All travelers flying to the United States from the three countries hit hardest by the Ebola outbreak in West Africa now have to travel through the five airports with enhanced screening.

The enhanced measures: temperature checks and Ebola-specific questionnaires, were put into place at five U.S. airports to screen people who had been in Liberia, Sierra Leone or Guinea.

October 22, 2014
US Travel Restrictions

- Five airports: John F. Kennedy (NY), Newark Liberty International (NJ), Dulles International (VA), Chicago O'Hare International (IL), and Hartsfield-Jackson Atlanta International (GA).
- Additional evaluation by a public health officer in a quarantine station if travelers have fever, symptoms, or reveals possible Ebola exposure.
- Tracking of travelers and reporting travelers to state and local public health departments.
- CDPH reports 2-3 persons per day.
Travelers from Guinea, Liberia, and Sierra Leone will receive a CARE (Check And Report Ebola) kit when they arrive in the United States tracking log and pictorial description of symptoms, a thermometer, guidance for how to monitor with thermometer, a wallet card on who to contact if they have symptoms and that they can present to a health care provider, and a health advisory infographic on monitoring health for three weeks
PHD Will Monitor Travelers

• Active post-arrival monitoring
  – PHD will maintain daily contact with all travelers and check for temperature OR any symptoms
  – Travelers without febrile illness or symptoms consistent with Ebola will be followed up daily by state and local health departments for 21 days from the date of their departure from West Africa
Ebola Update: Ebola Virus Disease & Current State of the Outbreak

Lynn Fitzgibbons MD
October 23rd 2014
Ebola Virus Disease

- Transmission
  - direct contact with body fluids or aerosolized droplets

- Incubation
  - Asymptomatic period following exposure, typically 8-12 days (up to 21 days)
  - PCR usually negative at this stage

- Symptoms
  - Initial: fever, chills, myalgias and malaise
  - GI phase: severe watery diarrhea, nausea, vomiting and abdominal pain
  - Bleeding (not always present) is a late stage, often concurrent with multiorgan system failure

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage**</th>
</tr>
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<tbody>
<tr>
<td>Fever</td>
<td>87%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>76%</td>
</tr>
<tr>
<td>Vomiting</td>
<td>68%</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>66%</td>
</tr>
<tr>
<td>Loss of appetite</td>
<td>65%</td>
</tr>
</tbody>
</table>

**Percent of patients during current West African Outbreak
Ebola Virus Disease (2)

- Treatment options
  - Primarily supportive care
  - No approved treatments
    - Several investigational treatments

- Fatality rate
  - West Africa (current outbreak): 71%
  - Only 1 of 8 pts with EVD treated in US have died
West African Outbreak

WHO and MOH Data (CDC)
*Updated: Oct 19th 2014
- Total Cases: 9915
- Total Deaths: 4555

Largest Ebola outbreak in history
- Widespread transmission: Sierra Leone, Liberia, Guinea
- Travel-associated cases
  - Senegal (1)
  - Spain (1)
- Localized transmission
  - Nigeria (8)
  - US (3)
Good news
- Outbreaks in Nigeria and Senegal have been declared over
  - Localized outbreak/cluster in US will be declared over when 42 days have past after last patient becomes non-infectious (PCR negative)

More concerning
- Liberia, Sierra Leone and Guinea
  - True case count likely more than double the reported case count
  - Short term projections (NEJM, CDC):
    - 20000 cases by November 2\textsuperscript{nd}
    - 5000 to 10000 new cases per week in December
  - Potential for hundreds of thousands of cases by early 2015
Public Health ID Considerations for Disaster Preparations

- Current US cluster nearing end of high risk period

- Concerning projections in West Africa
  - Threat of another infectious case in US is related to the extent of the outbreak in West Africa (or elsewhere in the future)

- Need for robust, straightforward plans and systems
  - Training, retraining and repeated drills
  - Duration of threat may be many months to years
Questions?
Ebola Disease and PPE

- 10 billion viral particles in on-fifth a teaspoon of blood at height of illness
- 50,000-100,000 in HIV patients
- 5-20 million Hepatitis C
What Kind of PPE?
CDC’S PROTECTIVE GEAR CHANGES FOR HEALTH WORKERS

PREVIOUS GUIDELINES
- Goggles, safety glasses or face shield
- Mask or respirator
- Gown
- One pair of protective gloves
- No leg or shoe coverings

NEW GUIDELINES
- Disposable full-face shield
- Respirator
- Waterproof apron
- Fluid-resistant gown or coverall
- Two pairs of protective gloves
- Fluid-resistant pants and shoe coverings
Revised CDC PPE Guidelines

• The new guidelines are expected to set a firmer standard: calling for full-body suits and hoods that protect worker’s necks

• Rigorous rules for removal of equipment and disinfection of hands, and calling for a “site manager” to supervise the putting on and taking off of equipment.

• The guidelines are expected to require a “buddy system,” in which workers check each other as they come in and go out, according to an official who was familiar with the guidelines but not authorized to discuss them before their release.

• Hospital workers also will be expected to practice getting in and out of the equipment, the official said.
Emory

Bruce Ribner, MD, MPH, director of Emory's Serious Communicable Disease Unit

• In the patient care unit, wearing body suits and hooded PAPR was the most efficient, practical, and comfortable option for staff.
• Whatever form of PPE a hospital uses for treating Ebola patients, it is critical to perform proper donning and doffing, especially doffing.
• He said Emory has a buddy system and a checklist for the donning and doffing steps.
• He said Emory has a small point-of-care lab next to its isolation unit, which addresses several of the hospital's infection control concerns.
Tychem Suit and Decontamination
Reusable PPE
Oakwood Hospital’s emergency drills
PREPARING FOR POSSIBLE EBOLA VIRUS

OAKWOOD HOSPITAL RUNS EBOLA DRILL

EBOLA OUTBREAK
EMERGENCY PREPAREDNESS DRILL AT OAKWOOD HOSPITAL
Hospital Ebola PPE Drills

- **EMORY:**

What do you see that could be an issue?

Hospital Ebola PPE Drills

Drill NOW

• Donning and Doffing of PPE—evaluate staff
• Detecting suspect patient

• Announced OR Unannounced
  – Can staff detect suspects
  – Put on and take off PPE appropriately
  – Inform clinic/hospital internal staff
  – Inform PHD health officer

Doctors Without Borders/Médecins Sans Frontières (MSF) Ebola Clinic
MSF has set up a specialized Ebola clinic in a hospital in Conakry, Guinea. The virus is contagious and so dangerous that patients must be quarantined. Access to the isolation area is thus strictly controlled.
PPE Considerations

- PPE for Screening vs Treatment
- Donning Clean areas and Doffing Dirty areas should not intersect
- Showering areas post doffing
- Waterproof vs Non-waterproof
- Buddy and “Area Supervisor”
- Time in suits is limited
- PPE shortages
Who Needs PPE?
Where is the suspect patient going to present?

• Outpatient providers?
• EMS providers?
• Hospitals?
• SNF?
• Labs?
• Pharmacies?
“Doctors are urging patients to avoid smaller medical facilities and head to emergency rooms if they think they've been exposed to the virus that has put a focus on weak spots in the U.S. health care system.”

“Urgent Care Association of America sent emails to its roughly 6,400 members asking them to send suspected Ebola cases to hospitals for treatment.”

*Urgent-Care Clinics Ill-Equipped to Treat Ebola*
*Oct 20, 2014, 5:03 PM ET*
*By JULIE WATSON Associated Press*
The Yale Medical Group has announced new recommendations requiring that outpatient facilities ask questions about recent travel as well as contact with others who have visited West Africa. The system’s computers will not let patients make appointments without the answers.

- The clinic will also be buying personal protective gear to distribute to all its office locations, at significant cost, said Dr. Ronald J. Vender, the chief medical officer of the Yale Medical Group.
- “It will be very expensive, and hopefully completely unnecessary, but we are going to prepare for it anyway,” Dr. Vender said. “We’re preparing for the one-in-a-million situation.”
California Department of Public Health Establishes Ebola Hotline

SACRAMENTO - The California Department of Public Health (CDPH) has established an Ebola hotline call center to respond to public inquiries related to Ebola.

“This hotline has been set up and staffed to answer questions from those concerned about the possibility of Ebola in California,” said Chapman. “Our goal is to be available to eliminate the mystery of this disease and offer the facts to Californians as the situation evolves. This is one in a series of steps we have taken in the last few months.”

The hotline, 855-421-5921 will be in operation from 8:00 a.m. to 5:00 p.m. Monday through Friday.
Staffing: Who Will Work?

- Training and drilling with appropriate PPE will build confidence that we can safely treat patients
- Specially trained “Ebola Response Team” at each facility is a consideration
- Staff volunteers or assigned
Waste Management

Each night, all the waste from the high risk zone needs to be burnt. In fact, no object that cannot be chlorinated can exit the high risk zone for security reasons and therefore need to be burnt on site.
Waste: Nebraska Medical Center

- Angela Hewlett, MD, associate director of NMC's biocontainment unit, said waste disposal has been a challenge, and that the facility has had to take special steps to meet demands of waste disposal providers and water treatment authorities. She said NMC has an autoclave on the unit to decontaminate all Ebola materials.
Family Communication Needs

“To address patient family issues, NMU has appointed an advocate to streamline communication between patients, their families, and the media, and to meet the needs of Ebola patients and their families during the hospital stay, she said.”
Emergency Medical Response to EVD
Medical Dispatch

There will be no change in caller interrogation procedures. However, if the reporting party volunteers that:

1) S/he is concerned about possible Ebola, or
2) The patient has symptoms of Ebola (listed above) AND has traveled from West Africa in the previous 21 days, that information should be relayed to responding EMS units prior to their arrival on scene.
3) Make this notification by requiring a landline phone call from the responding fire captain and paramedic unit prior to arrival on scene and by documenting in the CAD notes/comments section.
4) Do not put this information out over the radio.
EMS Providers

- Detect suspect patients via screening
- Protect personnel through use of PPE
- Inform supervisor and Health Officer
- Transport when unit is safely prepared
- Decontaminate personnel and vehicle
Screening Tool

EBOLA SCREENING AND RESPONSE

FOR ALL PATIENTS, BEFORE TOUCHING HIM/HER, FROM A THREE (3) FOOT OR GREATER DISTANCE, ASK THE FOLLOWING:

- HAVE YOU TRAVELLED OUTSIDE THE COUNTRY IN THE LAST MONTH?
  - NO
  - CONTINUE WITH ROUTINE ASSESSMENT, CARE AND TRANSPORT
  - YES
    - WHERE HAVE YOU TRAVELLED?
      - NO
        - If AFRICA was it one of the following countries?
          - GUINEA, LIBERIA, SIERRA LEONE
            - NO
            - YES
              - Ask the following questions:
                - What is your current complaint?
                - Do you have a headache, fever, chills, muscle aches, weakness, abdominal pain, vomiting, diarrhea or unexplained bleeding or bruising?
              - Step away from the patient and ask them to remain in their current location.
              - Use your cell phone and contact your local AMR Supervisor (North County: 805 245 3414 or South County: 805 245 3424) with the screening information and current patient status.
              - Await further directions at your vehicle as relayed by the AMR Supervisor including medical direction contact.
              - Don the appropriate PPE.
              - Should you be directed to treat and transport the patient:
                - Alert the destination hospital as soon as possible, via telephone, of your patient’s status and request patient off-loading location (you will most likely NOT be directed to the regular ambulance bay location.)
                - Upon arrival at your destination hospital, remain in the vehicle until the hospital team arr...
EMS Ebola Procedures

AMR

• 4 complete PPE kits
• Two supervisor units carry one kit each and two as spares at the Goleta Station and Santa Maria Station
• Each Kit contains:
  • 3 DuPont Tychem suits, gloves, and boots
  • Additional gloves and booties and N100 respirators kept on every ambulance as part of their regular stock
Ambulance Transportation

Protecting Transport Units:
• Shield inside of units with plastic sheeting.
• Not all units are suited for use of plastic sheeting.
• Specific units will be designated and supplied for set up.
• Units will need to be out of service for extended period to allow for decontamination.
• Drilling set up of protective sheeting to improve process and shorten time to set up.
Arrival at Hospital

Need to work to coordinate process with receiving facilities:

• Expect and or assume that the gurney wheels and attendants feet are contaminated upon arrival at the facility
• Expect each facility will have their own policy or process to ensure proper decon prior to entering

Proposed:

• Deployment of a 3mil plastic barrier to the ground outside the rear doors of the ambulance.
• Remove the patient on gurney, and remain on the plastic barrier.
• At that point, saturate the gurney wheels with a germicidal bleach solution and allowed to set for 10 to 15 minutes while the Medics change out of the booties they wore in the unit to clean booties
• This step is to prevent the potential track of the virus onto the facility floors.
Decontamination of Ambulance

• Decontamination kits developed.
• Kit contains a 4 gallon backpack sprayer, a gallon of germicidal bleach and some additional PPE and bio-hazard bags.
• Sprayer with the bleach solution to kill off any residual EBOLA contaminate will be used to:
  – saturate both the crews (prior to doffing their PPE) and
  – spray the units interior (prior to removing the plastic sheeting)
  – Goal is to eliminate any potential for transference of virus during the doffing and breakdown process.
Outpatient/ED

- Protect
- Screen (Phone and In-Person)
- Detect
- Protect using PPE (CDC guidance)
- Isolate
- Report to HO for Evaluation and Transport
- Decontaminate staff and facilities
Hospital/ED Receiving

- Receive Information
- Protect
- Receive
- Isolate
- Communicate
- Test
- Treat/Transfer
Ebola Tabletop Exercise

• What are possible sources of Ebola suspect cases?
• Where could suspect cases present?
• What is the role of Fire Hazmat Teams if other workers are not prepared?
• Will quarantine space be offered at hospitals for their healthcare workers?
Tabletop Response Planning

- Outpatient Group
- Hospital/ED and EMS Group
- Long Term Care/SNF/Home Health Group
Discuss Exercise Scenarios

- Response to 911 call
- Assessment of patient in the home
- Communication with PHD and hospital
- PPE for responders
- Transport to receiving hospital
- Hospital receipt and isolation of patient
- PPE processes for hospitals
Report Back

• Best Practices
• Answers to Questions
• Technical Assistance Needed
• Exercise Scenario Choice for November 20th
• Turn in your form with answers at the end of training
Thank You!