

Highly Infectious Diseases:

A microscopic image showing a dense network of blue, fibrous structures, possibly representing a cell or tissue. A large, solid red shape is overlaid on the image, partially obscuring the blue structures. The text "ARE WE READY?" is written in large, bold, white capital letters across the center of the image, with the red shape behind it.

**ARE WE
READY?**

Presented by the
Albuquerque Regional Coalition for
Healthcare Preparedness -
HID Subcommittee

Objectives

1. Discuss the evolution of Ebola and HID awareness from the perspectives of Frontline Facilities, Assessment Hospitals, and EMS/Transport Agencies
2. Discuss the need for and Formation of the ARCH-P HID Subcommittee



Objectives

3. Discuss the current state of readiness of our coalition and region
4. Discuss important lessons learned about HID preparedness





2015

2016

2017

2018

2019

2014

UNMH Spring & Summer 2014

- A Missionary and a Teacher present to the Emergency Department (ED)
- Fever, malaise
- History of travel to West Africa
- Patients tell triage staff there is a viral outbreak in the location they were staying

UNMH Spring & Summer 2014

- A Missionary and a Teacher present to the Emergency Department (ED)
- Fever, malaise
- History of travel to West Africa
- Patients tell triage staff there is a viral outbreak in the location they were staying

UNMH Spring & Summer 2014

CDC Home



Centers for Disease Control and Prevention

CDC 24/7: Saving Lives. Protecting People.™

☒ Travelers' Health

☐ All CDC Topics

Choose a topic above

SEARCH

A-Z Index [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

TRAVELERS' HEALTH 
TRAVEL SAFE. TRAVEL SMART.

Home

[Destinations](#)

[Travel Notices](#)

[Find a Clinic](#)

[Disease Directory](#)

[Information Centers](#)

[For Travelers](#)

[For Clinicians](#)


[Travel Industry](#)

[Yellow Book](#)

[Mobile Apps](#)

[RSS Feeds](#)

 Recommend

 Tweet

 Share

Travel Health Notices


Types of Notices

Warning Level 3, Avoid Nonessential Travel

Alert Level 2, Practice Enhanced Precautions

Watch Level 1, Practice Usual Precautions

Current Notices


 [Email page link](#)

 [Print page](#)

 [Our Twitter](#)

 [Our Facebook page](#)

 [Get email updates](#)

 [Get email updates](#)

To receive email updates about this page, enter your email address:

[What's this?](#)

Submit

Alert Level 2, Practice Enhanced Precautions

New! Polio in Equatorial Guinea

Updated April 17, 2014

As of March 20, 2014, 1 case of polio has been reported from Equatorial Guinea. The case is in Centro Sur Province close to the border with Cameroon, where an outbreak is already occurring. This is the first polio case reported from the country since 1999.

[Read More >>](#)

Updated Polio in Cameroon

Updated April 17, 2014

As of January 31, 2014, 3 cases of polio have been reported in Cameroon for 2014. There were also 4 cases reported in 2013. This outbreak of polio is the first reported in Cameroon since 2009.

[Read More >>](#)

Updated Polio in Syria

Updated April 17, 2014

As of April 3, 2014, 27 cases of polio have been reported from the Syrian Arab Republic (Syria) since the outbreak began in 2013. Due to conflict in the region, immunization rates have dramatically decreased. CDC recommends that all travelers to Syria be fully vaccinated against polio. In addition, adults should receive a one-time booster dose of polio vaccine.

[Read More >>](#)

Ebola in Liberia

Released April 10, 2014

As of March 31, 2014, the Ministry of Health and Social Welfare (MoHSW) of Liberia reported confirmed cases of Ebola in Lofa District, Liberia. CDC recommends that travelers to Liberia avoid contact with blood and body fluids of infected people to protect themselves.

[Read More >>](#)

Ebola in Guinea

Updated April 10, 2014

According to the Ministry of Health of Guinea, cases of Ebola have been confirmed in Conakry, Guékédou, Kissidougou, Macenta, Dabola, and Djingaraye prefectures. There are confirmed cases in Liberia. Suspected cases in border areas of Sierra Leone are being investigated. CDC recommends that travelers to these areas avoid contact with blood and body fluids of infected people to protect themselves.

[Read More >>](#)

Polio in Ethiopia

SEARCH

page link

ge

ttter

ebook page

ail updates

ail updates

email

post this

or your email

Submit

PREVENTION

The risk of acquiring VHF is low for international travelers. Travelers at increased risk for exposure include those engaging in animal research, health care workers, and others providing care for patients in the community, particularly where outbreaks of VHF are occurring.

Prevention should focus on avoiding contact with host or vector species in endemic countries. Travelers should not visit locations where an outbreak is occurring, avoid contact with rodents and bats, and avoid livestock in RVF- and CCHF-endemic areas. To prevent vectorborne disease, travelers should use insecticide-treated bed nets and wear insect repellent.

Standard precautions and contact and droplet precautions for suspected VHF case-patients are recommended to avoid transmission. Direct contact should be avoided with corpses of patients suspected of having died of Ebola, Marburg, or Old World arenavirus infection. Contact with or consumption of primates, bats, and other bushmeat should be avoided. Bat-inhabited caves or mines should be avoided. Investigational vaccines exist for Argentine hemorrhagic fever and RVF; however, neither is approved by FDA nor are they commonly available in the United States.

CDC website: www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/vhf.htm

2014

July 28th 2014



- First CDC Tele-briefing on the Ebola outbreak in West Africa US Healthcare was oblivious
- CDC teams deployed to Guinea, Sierra Leone, and Liberia
- Largest outbreak in history
 - 1,201 reported cases
 - 627 deaths
- Two US healthcare workers were hospitalized in the US with Ebola after working abroad

2014

September 30, 2014

- On September 30th, the CDC announced that Thomas Eric Duncan had been diagnosed with Ebola and was hospitalized in Dallas.
- Hospitals had to quickly develop process and find safe locations to house patients with confirmed or suspected Ebola.



2014

October 2014 - UNMH

- UNMH established their EOC
- Third potential patient presented to UNMH during this time. Best lesson learned was the use of the EOC to coordinate preparedness efforts

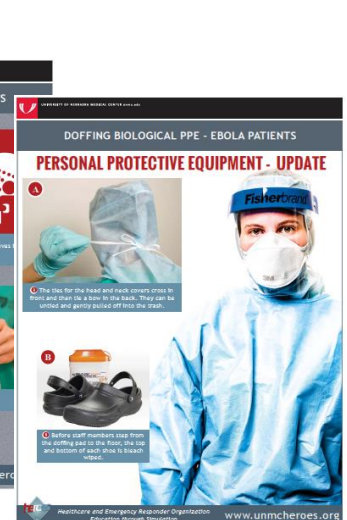


2014

October 2, 2014 – Presbyterian



Recommendations for PPE- CDC deferred to University of Nebraska & Emory Biocontainment Units



2014

October 20th – Training initiated



- Mandatory computer-based learning modules developed
- Hands on donning and doffing training for the patient care team



October 2014: Assessment Hospitals Initiated Training

Presbyterian

- Mandatory computer-based learning modules developed
- PPE checklists created
- Hands on donning and doffing training for the patient care team
- Cleaning and waste disposal procedures created

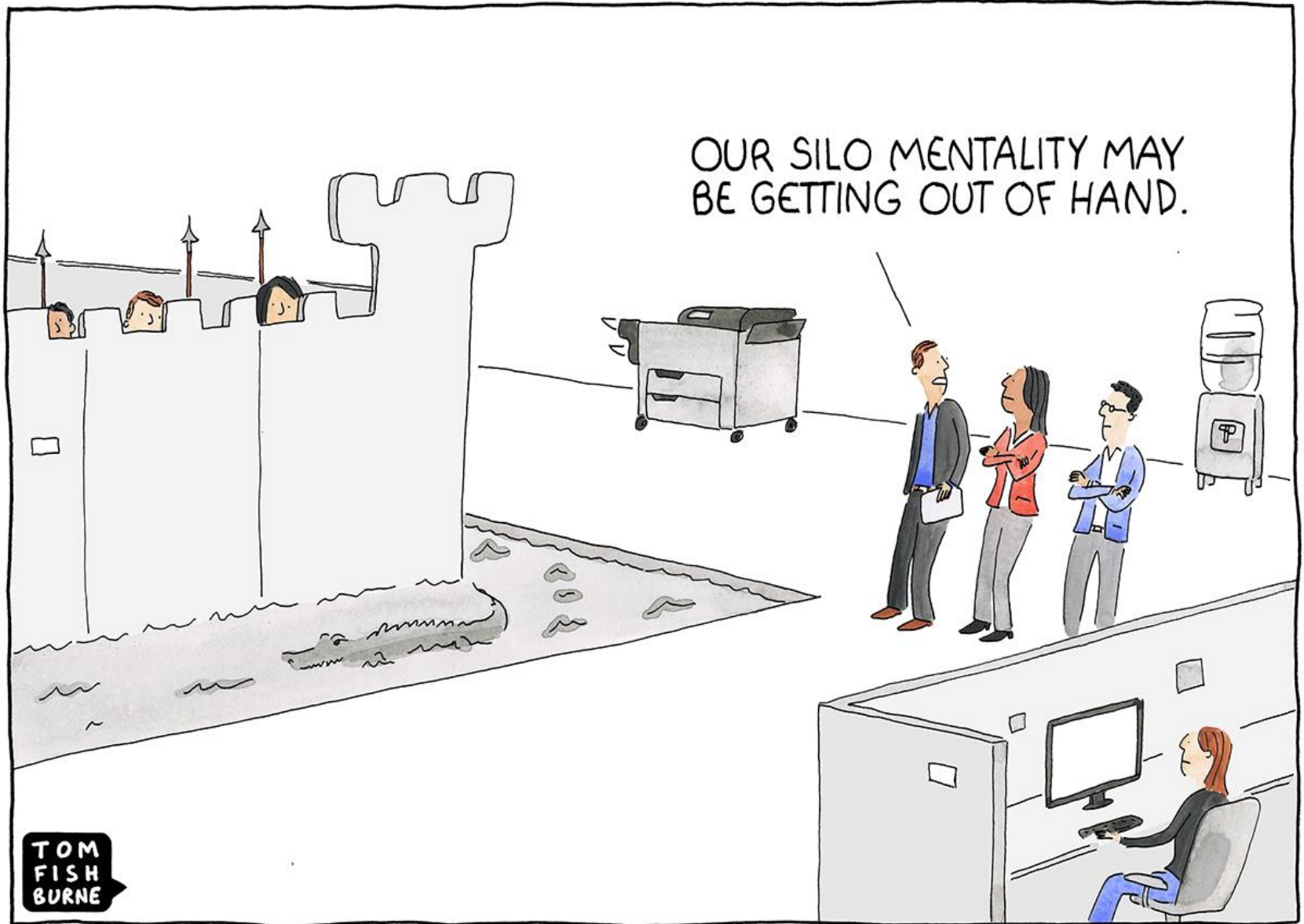
UNMH

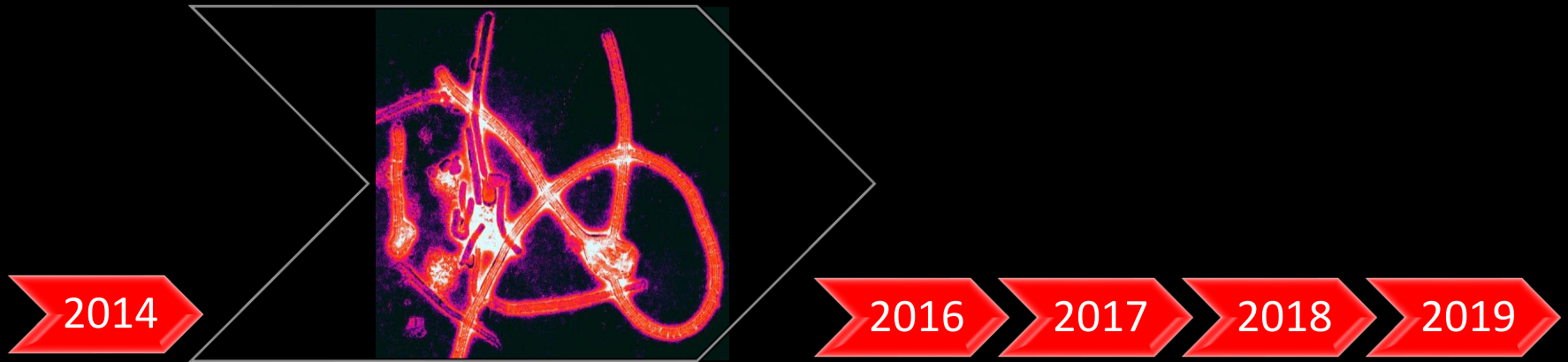
- Hands on donning and doffing training for the patient care team
- PPE checklists created
- Ebola Unit (E-Unit) established on MICU and creation of a mobile wall
- Cleaning and waste disposal procedures created

Volunteer Patient Care Teams

- Presbyterian, UNMH, and AAS began to establish **volunteer** patient care teams.
- Presbyterian and UNMH were able to create robust teams due to positive response from staff. (UNMH 250+ and Pres 70+)
- AAS CCT was able to train 350 field employees

2014



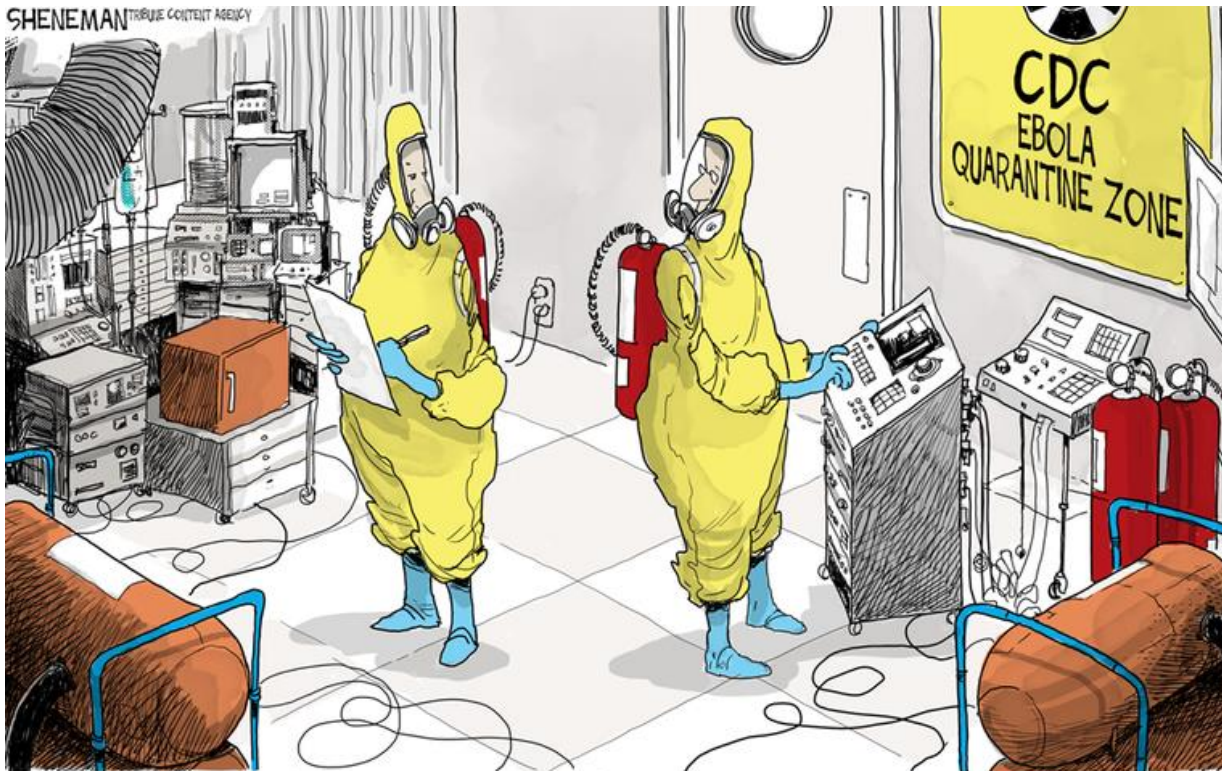


2015

2015

Well Controlled Chaos – Early 2015

- CDC solidified their recommendations
- Training was formalized and no longer in the moment



"I KNOW IT'S OUR JOB TO REASSURE THE PUBLIC, BUT IS ANYONE ELSE GOING TO ACKNOWLEDGE THAT THIS LOOKS LIKE THE BEGINNING OF EVERY ZOMBIE MOVIE EVER?"

EID Screening Tool for 911 Dispatch

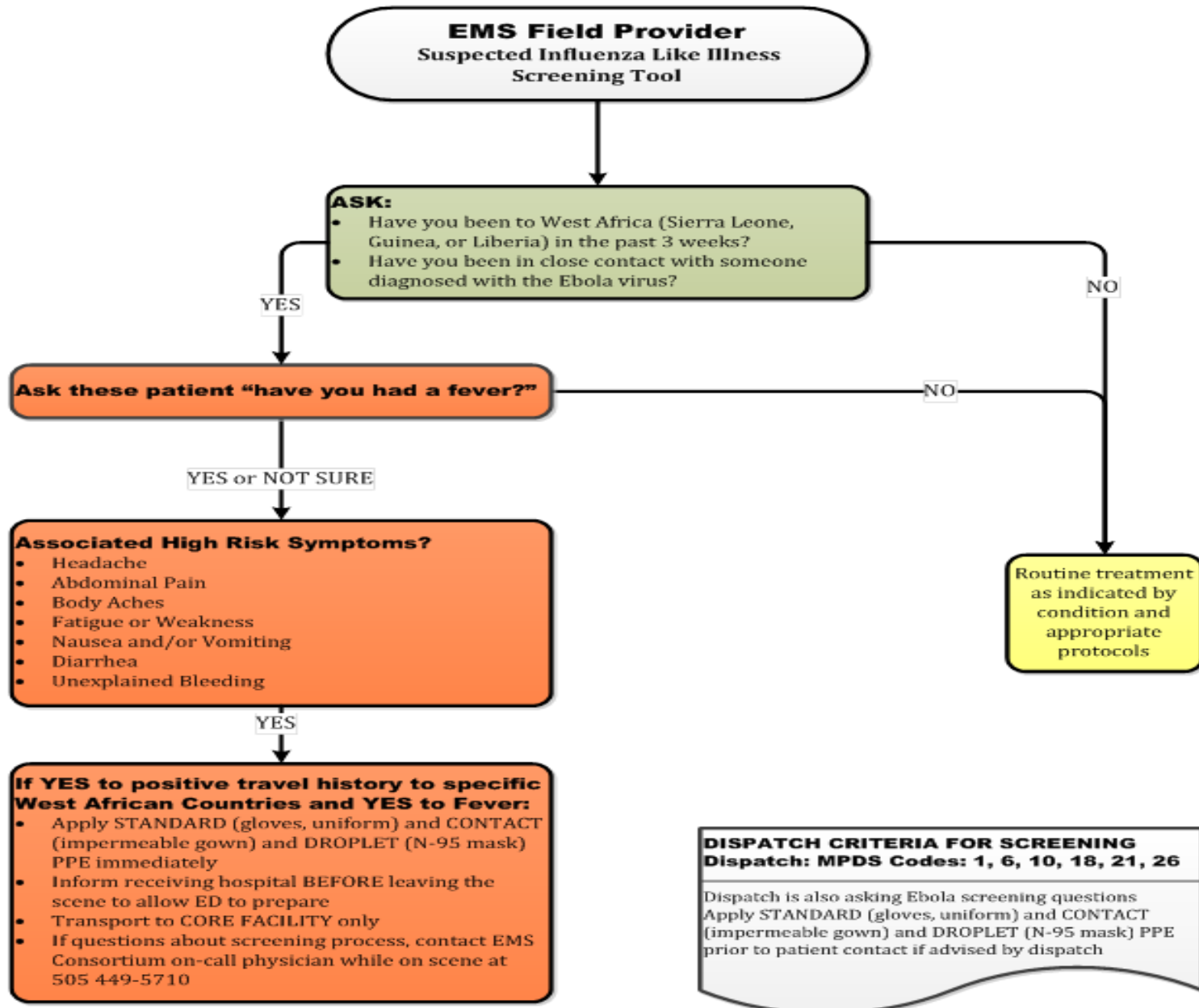
Early 2015 –

- Emerging Infectious Disease Screening tool used

June 2015 –

- Full drill with a *wet* patient completed with NMDOH
- Drill successful → **no staff exposures!**

ILI Screening Tool for EMS



2015

Healthcare Facility Screening Questions

HEALTH ADVISORY: EBOLA

Recently in West Africa?

If you get sick, call a doctor.



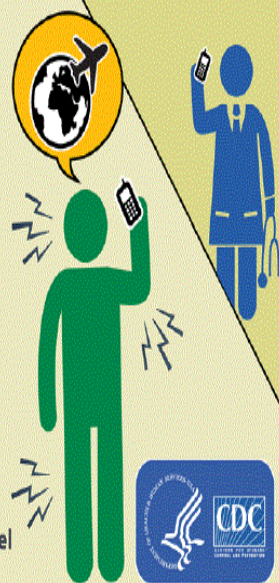

Tell the doctor where you traveled.

Watch for fever, headaches, and body aches in the next 3 weeks.

3 WEEKS

Sun	Mon	Tue	Wed	Thu	Fr	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

For more information: visit www.cdc.gov/travel or call 800-CDC-INFO.

Ebola Virus Disease (EVD)

Algorithm for Evaluation of the Returned Traveler



For 24/7 consultation, contact the NC DPH Communicable Disease Branch at: (919) 733-3419

FEVER (subjective or $\geq 101.5^{\circ}\text{F}$ or 38.6°C) or compatible EVD symptoms* in patient who has traveled to an Ebola-affected area** in the 21 days before illness onset

* headache, weakness, muscle pain, vomiting, diarrhea, abdominal pain or hemorrhage

NO

Report asymptomatic patients with high- or low-risk exposures (see below) in the past 21 days to the health department

YES

1. Isolate patient in single room with a private bathroom and with the door to hallway closed
2. Implement standard, contact, and droplet precautions (gown, facemask, eye protection, and gloves)
3. Notify the hospital Infection Control Program and other appropriate staff
4. Evaluate for any risk exposures for EVD
5. IMMEDIATELY report to the health department

HIGH-RISK EXPOSURE

Percutaneous (e.g., needle stick) or mucous membrane contact with blood or body fluids from an EVD patient

OR

Direct skin contact with, or exposure to blood or body fluids of, an EVD patient

OR

Processing blood or body fluids from an EVD patient without appropriate personal protective equipment (PPE) or biosafety precautions

OR

Direct contact with a dead body (including during funeral rites) in an Ebola affected area** without appropriate PPE

LOW-RISK EXPOSURE

Household members of an EVD patient and others who had brief direct contact (e.g., shaking hands) with an EVD patient without appropriate PPE

OR

Healthcare personnel in facilities with confirmed or probable EVD patients who have been in the care area for a prolonged period of time while not wearing recommended PPE

NO KNOWN EXPOSURE

Residence in or travel to affected areas** without HIGH- or LOW-risk exposure

Review Case with Health Department Including:

- Severity of illness
- Laboratory findings (e.g., platelet counts)
- Alternative diagnoses

EVD suspected

TESTING IS INDICATED

The health department will arrange specimen transport and testing at a Public Health Laboratory and CDC

The health department, in consultation with CDC, will provide guidance to the hospital on all aspects of patient care and management



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

EVD not suspected

TESTING IS NOT INDICATED

If patient requires in-hospital management:

Decisions regarding infection control precautions should be based on the patient's clinical situation and in consultation with hospital infection control and the health department

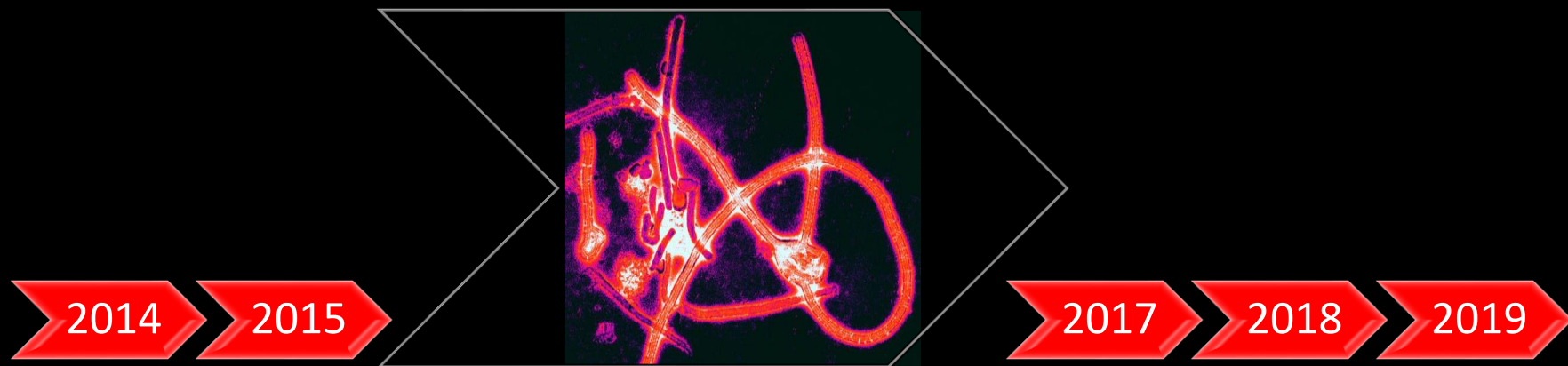
If patient's symptoms progress or change, re-assess need for testing with the health department

If patient does not require in-hospital management

Alert the health department before discharge to arrange appropriate discharge instructions and to determine if the patient should self-monitor for illness

Self-monitoring includes taking their temperature twice a day for 21 days after their last exposure to an Ebola patient

** CDC Website to check current affected areas: www.cdc.gov/vhf/ebola



2016

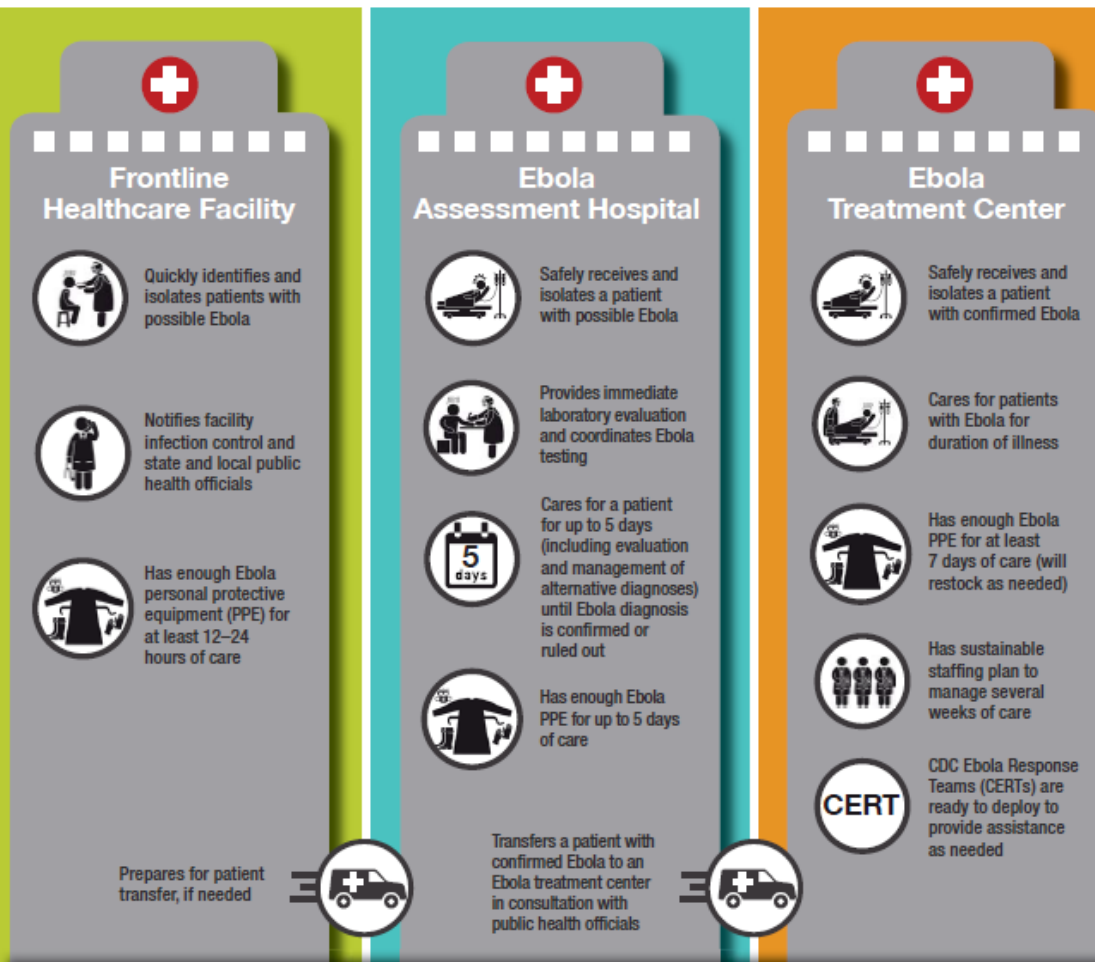
2016

Preparing U.S. Hospitals for Ebola



CDC has developed a strategy to help healthcare facilities and state health officials prepare for patients with possible or confirmed Ebola. This strategy identifies which hospitals will provide different levels of care for patients being assessed and treated for Ebola.

What level of care does your healthcare facility provide?



All of the hospitals will be prepared to do the following:

Ensure staff are appropriately trained and have documented competency in safe PPE practices



Have systems in place to safely manage waste disposal, cleaning and disinfection



Adhere to infection control protocols

In some cases, a hospital should be prepared to serve in more than one role. Hospitals may serve simultaneously as an Ebola assessment hospital and an Ebola treatment center. Patients may be transferred between facilities based on the state's plan.



Frontline Healthcare Facility



Quickly identifies and isolates patients with possible Ebola



Notifies facility infection control and state and local public health officials



Has enough Ebola personal protective equipment (PPE) for at least 12–24 hours of care

Prepares for patient transfer, if needed



FRONTLINE FACILITY

ROLE and KEY POINTS

1. Rapid Identification

- ☐ Travel history
- ☐ Exposure history
- ☐ Signs/Symptoms
 - Fever, bleeding, vomiting, diarrhea

2. Immediate Isolation and don PPE

- ☐ Patient – put on mask during triage
- ☐ Staff – put on mask

3. Immediate Notification

- ☐ Hospital/facility Infection Control
- ☐ Appropriate facility staff
- ☐ NM DOH – 505.827.0006

CDC. (2018). Interim guidance for preparing frontline healthcare facilities for patients under investigation (PUI) for Ebola Virus Disease: (EVD) . Assessed

<https://www.cdc.gov/vhf/ebola/healthcare-us/preparing/frontline-healthcare-facilities.html>



Frontline Healthcare Facility



Quickly identifies and isolates patients with possible Ebola



Notifies facility infection control and state and local public health officials



Has enough Ebola personal protective equipment (PPE) for at least 12–24 hours of care

Prepares for patient transfer, if needed



FRONTLINE FACILITY

ROLE and KEY POINTS

4. Be prepared to care for patient for up to **24 hours**.
5. Prepare patient to transfer to a nearby Assessment Facility until testing confirms case.
6. Prepare patient for transfer to the CDC/NMDOH determined Treatment Facility.

CDC. (2018). Interim guidance for preparing frontline healthcare facilities for patients under investigation (PUI) for Ebola Virus Disease: (EVD) . Assessed <https://www.cdc.gov/vhf/ebola/healthcare-us/preparing/frontline-healthcare-facilities.html>



Ebola Assessment Hospital



Safely receives and isolates a patient with possible Ebola



Provides immediate laboratory evaluation and coordinates Ebola testing



Cares for a patient for up to 5 days (including evaluation and management of alternative diagnoses) until Ebola diagnosis is confirmed or ruled out



Has enough Ebola PPE for up to 5 days of care

Transfers a patient with confirmed Ebola to an Ebola treatment center in consultation with public health officials

ASSESSMENT FACILITY

ROLE and KEY POINTS

1. Agreement between Hospital Administration and NM DOH
2. Rapid Identification
 - ☐ Travel history
 - ☐ Exposure history
 - ☐ Signs/Symptoms
 - Fever, bleeding, vomiting, diarrhea,
3. Immediate Isolation and don PPE
 - ☐ Patient – put on mask during triage
 - ☐ Staff – put on mask



Ebola Assessment Hospital



Safely receives and isolates a patient with possible Ebola



Provides immediate laboratory evaluation and coordinates Ebola testing



Cares for a patient for up to 5 days (including evaluation and management of alternative diagnoses) until Ebola diagnosis is confirmed or ruled out



Has enough Ebola PPE for up to 5 days of care

Transfers a patient with confirmed Ebola to an Ebola treatment center in consultation with public health officials

ASSESSMENT FACILITY

ROLE and KEY POINTS

4. Immediate Notification

- ☐ Hospital/facility Infection Control
- ☐ Appropriate facility staff
- ☐ NM DOH – **505.827.0006**

5. Be prepared to care for patient for up to **96 hours**

6. Prepare the patient to transfer to an identified Treatment Facility.

- ☐ Transfer decisions are determined by the CDC, NM DOH, and referring and accepting physicians based on the patient's acuity level.



Ebola Treatment Center



Safely receives and isolates a patient with confirmed Ebola



Cares for patients with Ebola for duration of illness



Has enough Ebola PPE for at least 7 days of care (will restock as needed)



Has sustainable staffing plan to manage several weeks of care



CDC Ebola Response Teams (CERTs) are ready to deploy to provide assistance as needed

TREATMENT FACILITY

ROLE and KEY POINTS

1. Agreement between Hospital Administration and NM DOH
 - ☐ CDC determination following a site visit from a multidisciplinary team
2. Decision to receive patient with EVD informed by discussions with NMDOH and referring physician, and depends on acuity of patient.
3. Safety receives and isolates patient



Ebola Treatment Center



Safely receives and isolates a patient with confirmed Ebola



Cares for patients with Ebola for duration of illness



Has enough Ebola PPE for at least 7 days of care (will restock as needed)



Has sustainable staffing plan to manage several weeks of care



CERT

CDC Ebola Response Teams (CERTs) are ready to deploy to provide assistance as needed

TREATMENT FACILITY

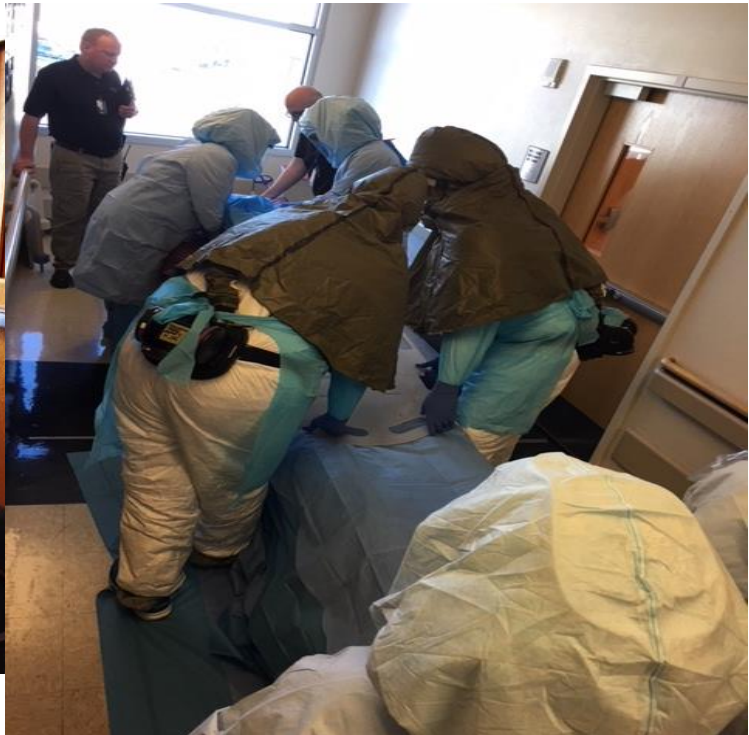
ROLE and KEY POINTS

4. Prepared to provide comprehensive care to individuals diagnosed with EVD for the duration of a patient's illness.
5. Enough PPE to provide 7 days of care and ability to restock as needed.
6. Appropriately trained and staffed care team to manage several weeks of care.

2016

First Full Scale Regional Exercise – October

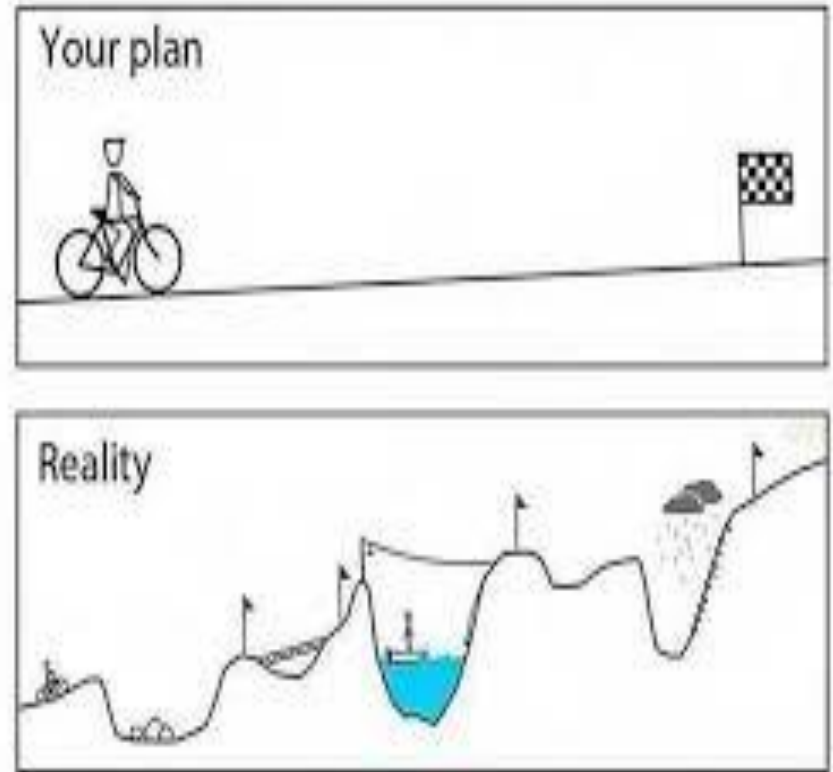
- UNMH and AAS conducted regional drill using a mannequin as a *wet* patient.



Opportunities & Lessons from First Exercise

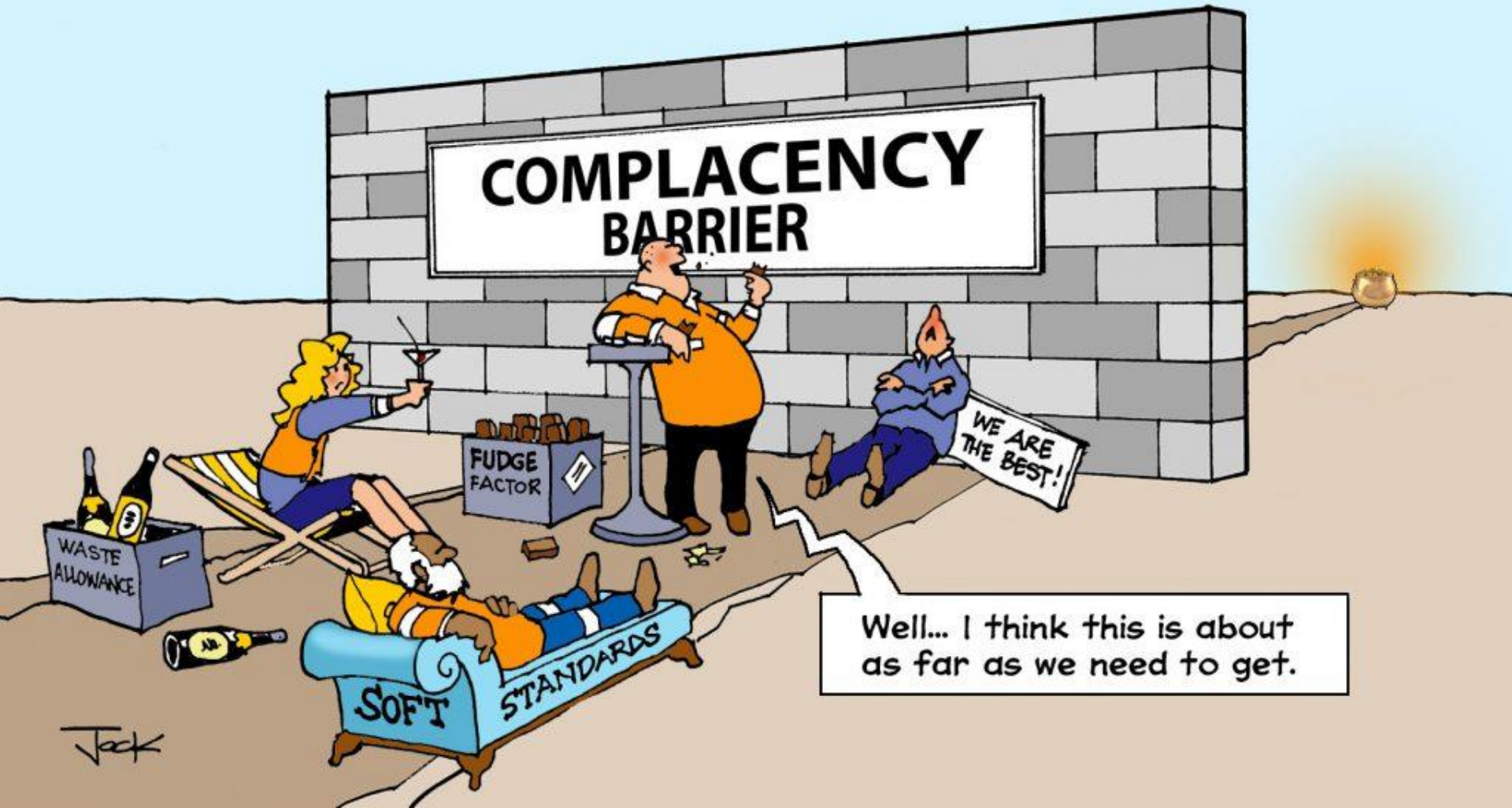
Discoveries

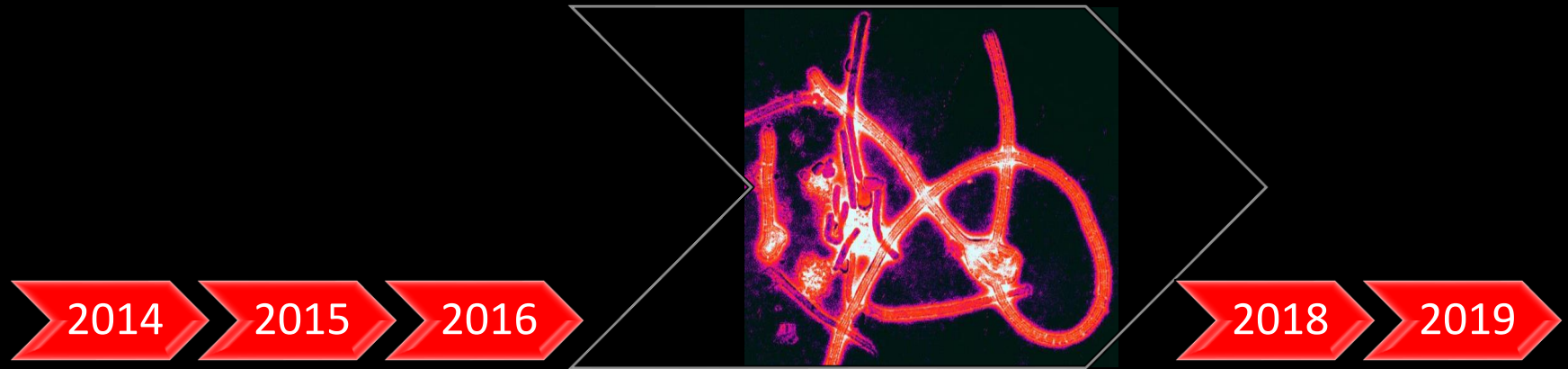
1. We had to communicate and work together.
2. The importance of drills was clearly demonstrated by the previous responses to potential patients



2016

And then...





2017

The ARCH-P

In the early 2000s, Healthcare Coalitions were implemented following the 9/11 and anthrax events to improve preparedness and response capabilities to mass casualties events.



The ARCH-P



The healthcare coalitions have evolved to support community and regional healthcare organizations for an All-hazards emergency preparedness, response and recovery efforts.

New ARCH-P Focus

- Tabletop exercises for HID patients
- Group presentation by Assessment Facility Infection Preventionists, EMS Representatives, and Emergency Managers
- Realized need for Highly Infectious Disease Subcommittee

Ebola >>> HID



ANTICIPATING EMERGING INFECTIOUS DISEASE EPIDEMICS



2017

The ARCH-P Highly Infectious Disease Subcommittee



Under the umbrella of ARCH-P, the Highly Infectious Disease Subcommittee was created to focus on infectious disease preparedness, response and recovery.

Subcommittee Scope:

- Encourage and support collaboration among the healthcare facilities (EMS, Frontline, and Assessment facilities) within the ARCH-P Coalition
- Support optimal healthcare delivery to all New Mexico populations in the event of a single patient presentation or the influx of patients with a suspected highly infectious disease.



2018

2018

Drills



2018

Presbyterian



2018

Presbyterian



2018

UNMH



2018

Presbyterian



- Patient masked during triage within one minute of HID recognition.
- Patient placed in DECON/Isolation room within 8 minutes of HID recognition.



Overarching Lessons

Communication –

- Clear and concise information needs to be provided to dispatch and receiving patient.
 - More patient details suggested
- EMS and Nursing staff debrief/hand-off before or after moving patient from Ambulance to Decon
 - Multiple flow processes based on timing

Overarching Lessons

Entry/Exit Pathways –

- External privacy curtains
- One external entry/exit point – contaminated with patient entry and removal of gurney
- CDC/ NMDOH recommends single flow (clean dirty)
- EMS re-enter Decon for doffing support
 - Considerations

Overarching Lessons

EMS Doffing support –

- Trained observer –
 - Just in time review of EMS doffing instructions
- EMS staff waited for communication of each step before proceeding to touch and remove PPE
- Team work and support between EMS staff

Bacterial Meningitis Factsheet (*Haemophilus influenzae* type B (Hib))

Bacteria:

- *Haemophilus species*
- Gram negative coccobacilli, encapsulated

Geographic origin/Risk groups:

- Global, especially resource-poor areas
- Age groups: <5 years of age, almost all rates of disease

Transmission and Exposure:

- Exchange or direct contact with respiratory secretions
- Exposure to individuals with asymptomatic carriage
- Humans are the only host

Incubation period:

- 2 – 4 days

Signs and Symptoms:

- Meningitis - Abrupt onset of fever, irritability, and with bulging fontanelle in infants or progressive stupor or coma is common
- Mortality rate 5%, 6% survivors have significant disability of some type.

Diagnosis:

- Cerebrospinal fluid (CSF) cultures with Gram stain
- Alternate testing method includes serology

Treatment:

- Treat with effective antibiotics. It is important to start early.
- Supportive care for airway, low blood pressure, and seizures.

Prevention:

- *Haemophilus* (Hib) Vaccination available for all children
- Recommended for all children
- Respiratory/Droplet precautions for Hib
- Diligent hand hygiene practices and

Resources:

Chachere, C. A., CLS (ASCP), RN, CIC, & H. (2018). *Microbes* (4th ed.). Washington D.C.: Association of Public Health Laboratories (APIC).

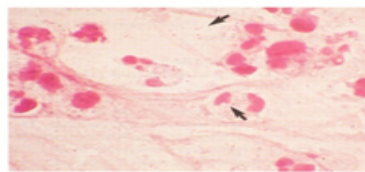


Figure 15-4
Direct smear of *Haemophilus influenzae* in cerebrospinal fluid.

Ebola Virus Disease (EVD) Factsheet

Virus:

- genus *Ebolavirus*, family Filoviridae
- Six species of viruses: Ebola virus (*Zaire ebolavirus*); Sudan virus (*Sudan ebolavirus*); Tai Forest virus (*Tai Forest ebolavirus*, formerly *Cote d'Ivoire ebolavirus*); Bundibugyo virus (*Bundibugyo ebolavirus*); Reston virus (*Reston ebolavirus*); and *Bombali virus* (*Bombali ebolavirus*)



Geographic origin:

- Africa: Democratic Republic of the Congo (DRC), Gabon, Guinea, Ivory Coast, Liberia, Republic of the Congo (ROC), Sierra Leone, Sudan, Uganda
- As of August 1, 2018 – North Kivu and Ituri provinces of the Democratic Republic of Congo (DRC), 10th outbreak since EVD was identified in 1970s.
 - As on December 26, 2018, total of 591 EVD cases (543 confirmed and 48 probable cases) with 357 deaths (60% case fatality ratio).

Transmission and Exposure:

- Zoonotic transmission from infected fruit bats or nonhuman primates
- Handling and consumption of wild animals infected with EVD.
- Human-to-human transmission via contact with blood, body fluids and semen from a male who recovered from EVD.
- Contact transmission through contaminated items/objects (clothes, bedding, needles, syringes, etc.)
- An individual is only contagious when symptoms are present
- Individuals most at risk: Healthcare providers, family members and friends with close contact with EVD patients, individuals assisting with the deceased.

Incubation period: 2 – 21 days, average 8 – 10 days

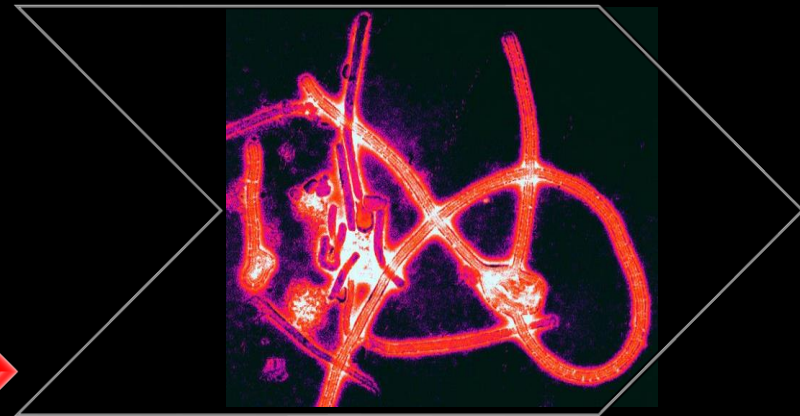
Signs and Symptoms:

- Fever, headache, fatigue, muscle pain, weakness, diarrhea, vomiting, stomach pain, and unexplained bleeding or bruising.

Diagnosis:

- Suspect EVD in persons who have traveled to and from endemic areas and present with symptoms suggestive of EVD; Isolate patient.
- Confirmation through laboratory testing will be guided by NM DOH and NMDOH Scientific Laboratory Division or another identified reference laboratory.

Treatment:



2019
and beyond

Current and Future Plans

NMDOH Coalition contract requirements for each Coalition must have a HID Subcommittee:

- Exercise requirements each year
- MOU for PPE Cache
- Managed Inventory system for PPE viewable by all
- 911 answering points and EMS participation

2019

Managed Inventory system for PPE viewable by all

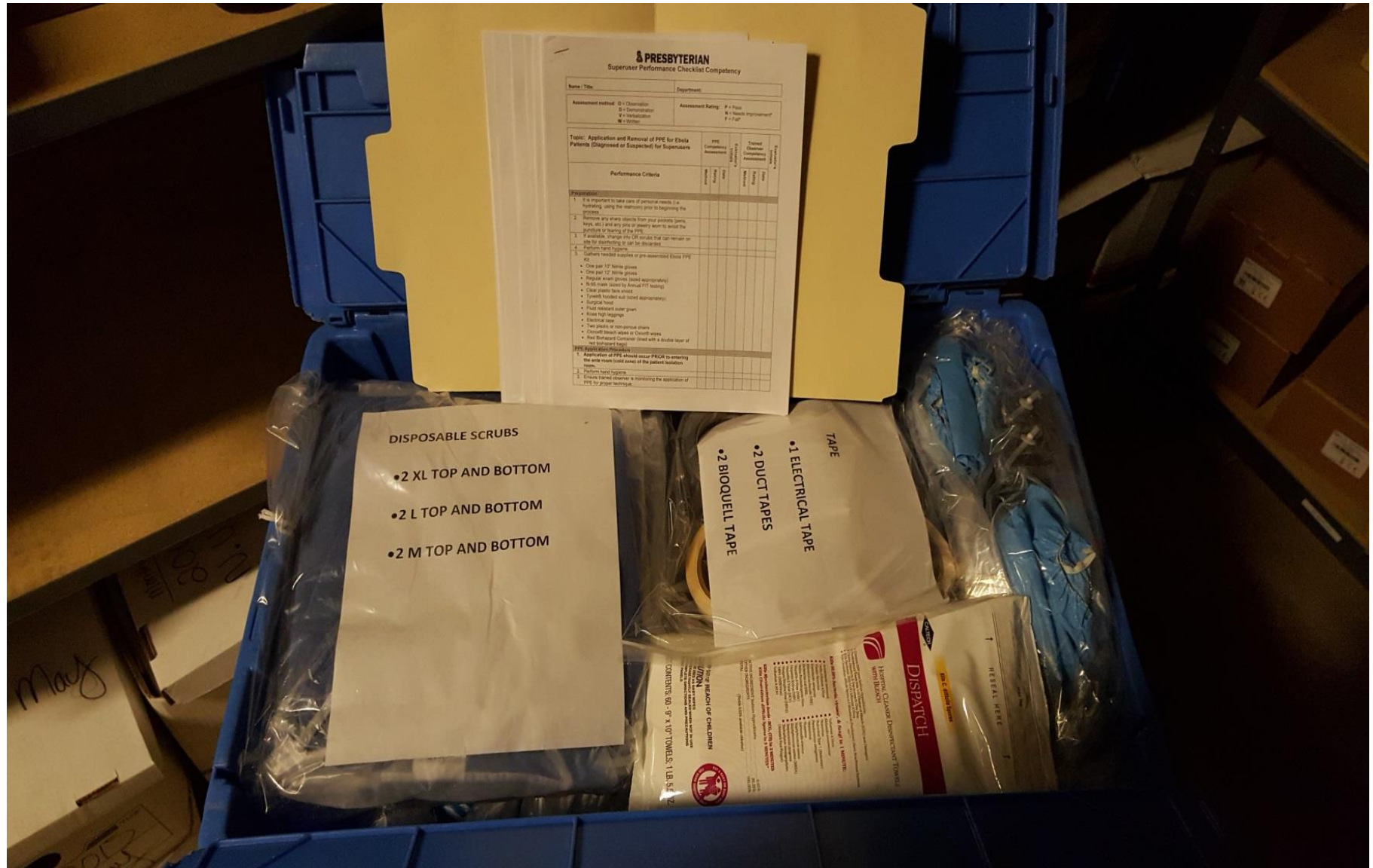
Facility Name	PPE Category	Inventory Item Name	Facility Item Number	Manufacturer	Manufacturer's #	Vendor	Expirat... Date	Unit of Measure (#/package)	# Days In Stock at Facility
UNMH	Foot Covering/Shoes	COVER BOOT XL	20642	KIMB	69672	OMV		BX	

- Facility Name
- PPE Category
- Inventory Item Name
- Facility Item Number
- Manufacturer
- Manufacturer's #
- Vendor
- Expiration Date
- Unit of Measure
(#/package)
- # Days In Stock at
Facility
- Difficulty Obtaining
- Person Completing
Notes
- Date Completed

2019

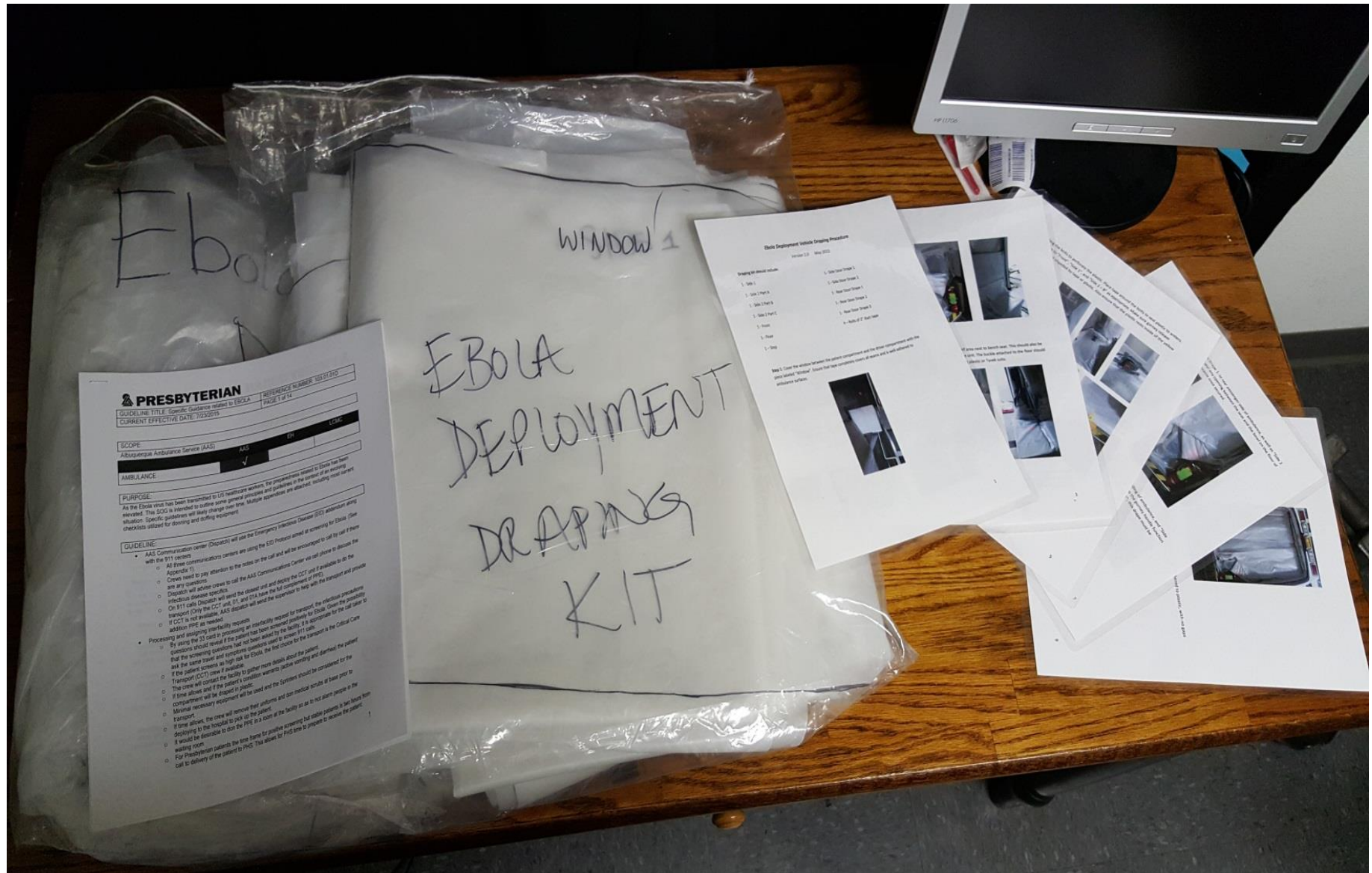
HID Ambulance

Current EMS HID Kits



2019

Ambulance Draping Kits







Going forward...



Join Us!

If you are in the Albuquerque area

OR

Reach out! We will be happy to help
you set up your own HID
Subcommittee within your coalition

Speaker Contact Information

Kelly Gabriele, NRP, FP-C

Deputy Chief of Specialized Services
Albuquerque Ambulance Service

kgabriele@phs.org

Angela Hernandez, MPH, MT (ASCP)

Infection Preventionist
Presbyterian – Central Delivery System

ahernande14@phs.org

Jessie Pinello, CIC

Infection Preventionist
University of New Mexico Hospitals

jpinello@salud.unm.edu

Claudia Tchiloyans, BSN, MHA(c), RN, CIC

Manager of Infection Prevention & Control
University of New Mexico Hospitals

ctchiloyans@salud.unm.edu

Questions?

