

# DSHS Grand Rounds



## Logistics

Registration for free continuing education (CE) hours or certificate of attendance through TRAIN at:

<https://tx.train.org>

Streamlined registration  
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1. webinar: <http://extra.dshs.state.tx.us/grandrounds/webinar-noCE.htm>
2. live audience: sign in at the door

For registration questions, please contact Laura Wells, MPH at  
[CE.Service@dshs.state.tx.us](mailto:CE.Service@dshs.state.tx.us)

## Logistics (cont.)

### Slides and recorded webinar available at:

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For those in the auditorium, please come to the microphone to ask your question.

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## Disclosure to the Learner

### Requirement of Learner

Participants requesting continuing education contact hours or a certificate of attendance must register in TRAIN, attend the entire session, and complete the online evaluation within two weeks of the presentation.

### Commercial Support

This educational activity received no commercial support.

### Disclosure of Financial Conflict of Interest

The speakers and planning committee have no relevant financial relationships to disclose.

### Off Label Use

There will be no discussion of off-label use during this presentation.

### Non-Endorsement Statement

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## Introductions



Kirk Cole  
Interim DSHS Commissioner  
is pleased to introduce our  
DSHS Grand Rounds speakers

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## The Texas Ebola Experience



**Wendy** Chung, MD, Chief Epidemiologist, Dallas  
County Health Department



Grace Kubin, PhD, Director Laboratory Services,  
DSHS



Jeff Hoogheem, Deputy Director, Community  
Preparedness, DSHS

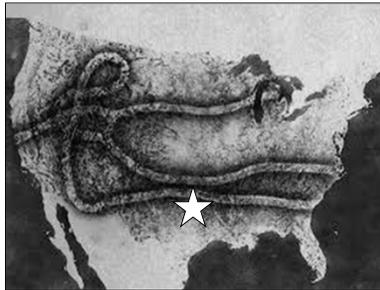
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## Learning Objectives

Participants will be able to:

1. Discuss the series of events that took place in mobilizing response resources.
2. Identify two public health system strengths discovered during the response effort.
3. Identify two public health system challenges faced during the response effort.

## Ebola in Dallas, 2014: *Local Public Health Epidemiology Perspectives*



Wendy Chung, MD, Dallas County Health and Human Services  
Texas Department of State Health Services Grand Rounds  
April 8, 2015

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## Ebola Virus

- Viral hemorrhagic fever pathogen



- Filovirus: Enveloped RNA virus
- Ebolavirus genera: Ebola (EBOV), Sudan, Tai Forest, Bundibugyo, and Reston
- Zoonotic – fruit bats natural reservoir

- 1st discovered 1976; >20 Ebola and Marburg outbreaks since then, mostly in equatorial Africa
- Aggregated case-fatality rate 78% (range 43-90%)
- Infection by contact of infected body fluids with skin, mucosal surfaces, or parenteral injection
- Treatment primarily supportive & symptomatic

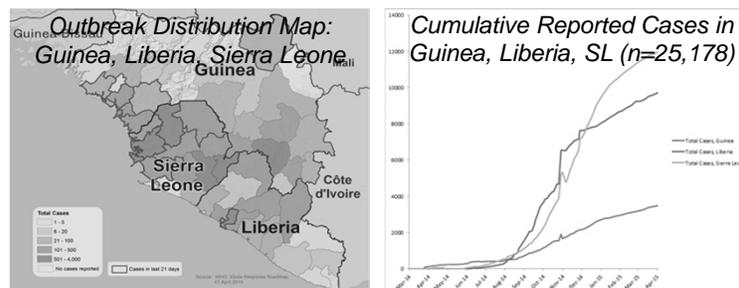
Feldmann. Lancet 2011; Del Rio. Ann Intern Med 2014

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## Features of Current Epidemic

- Current EBOV outbreak largest in history, first detected March 2014, in southern Guinea
- Countries previously unaffected by Ebola
- Urban areas affected—potential for air travel

Baize S. NEJM 2014



[www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/distribution-map.html](http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/distribution-map.html) [Accessed April 4, 2015]

[www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/cumulative-cases-graphs.html](http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/cumulative-cases-graphs.html) [Accessed April 4, 2015]

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## The Constant Public Health Commute

Guidelines  
(Science)



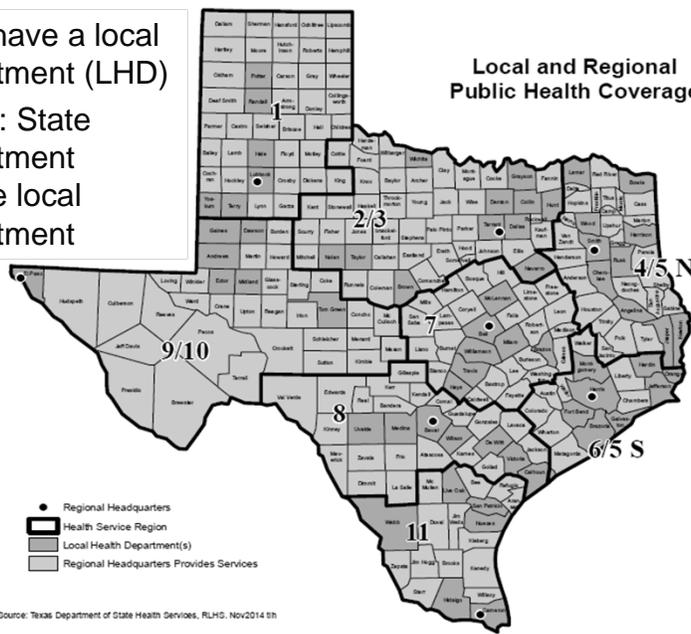
Frontlines  
(Implementation)

- Dynamic processes are expected
- Familiar aspects are encountered
- Unfamiliar twists are inevitable, and result in refinements to both guidelines and implementation approaches

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## Texas: 254 Counties, population 27 million

- 62 counties have a local health department (LHD)
- 192 counties: State health department serves as the local health department



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## Dallas County, Texas

- County population 2.5 million
- ~19 malaria diagnoses annually; 47% from W. Africa
- ACS survey estimates of foreign-born population, 2012:

	Texas	Harris	Dallas
W. Africa	61,249	22,197	9,446
Nigeria	47,358	18,275	5,562
Sierra Leone	1,824	457	666
Liberia	2,809	1,137	657



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US Census Bureau, FactFinder, American Community Survey data

## County Health Department Epidemiology Division: July – Sept 2014

- 8 epidemiologists (0.32 per 100,000 population)  
2012 MMWR 61(12):205
- Disseminated > 17 guideline documents, advisories from CDC and professional societies to area infection control practitioners and >7,500 area physicians
- Creation of testing decision tools and questionnaires to assist clinicians evaluating possible patients with Ebola
- Participation in planning meetings with area major hospital systems

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## Timeline: Case #1

- Sept 20: 45 yo M arrives from Monrovia, Liberia
- Sept 24: Develops headache, fever, abd pain
- Sept 25: Presents to ED for symptoms and discharged several hours later
- Sept 28: Returns to ED Sunday with new diarrhea, persistent fever, abdominal pain; patient placed in standard, droplet, contact precautions. CDC, DCHHS and Texas DSHS informed of patient. Contact tracing initiated by hospital and DCHHS.

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*MMWR Nov 14, 2014, Early Release Vol 63*

## Timeline: Case #1 (cont.)

- Sept 29: Lab specimens shipped to CDC and DSHS for testing. Patient transferred to MICU.
- Sept 30: Ebola confirmed in Case #1. CDC Epi-Aid Team arrives in Dallas to provide assistance.
- Oct 4: Hospital waste removal begins after US DOT permits issued. Case #1's household contacts transferred to undisclosed location.
- Oct 4: Finalized list of 48 "high" or "some" risk contacts for daily direct active monitoring.
- Oct 8: Case #1 dies.

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## Timeline: Cases #2 & #3

- Oct 11: Nurse (Case #2) diagnosed with Ebola
- Oct 12-16: All HCP contacts with “no known exposure” transitioned to direct active monitoring
- Oct 15: Nurse (Case #3) diagnosed with Ebola; transported to Emory bio-containment unit
- Oct 16: Case #2 transported to NIH Hospital; Texas issues movement restrictions for all HCP who had ever entered room of Case #1

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## Timeline: Cases #2 & #3 (cont.)

- Oct 20: CDC updates Ebola guidelines with respect to training, supervision, and use of PPE
- Oct 15–21: Contacts of Case #3 on Ohio flights from 10/10, 10/13 identified; 154 from Region 2/3
- Oct 24 & 28: Case #2 & #3 discharged, respectively
- Nov 7: Monitoring of periods for all 177 contacts completed

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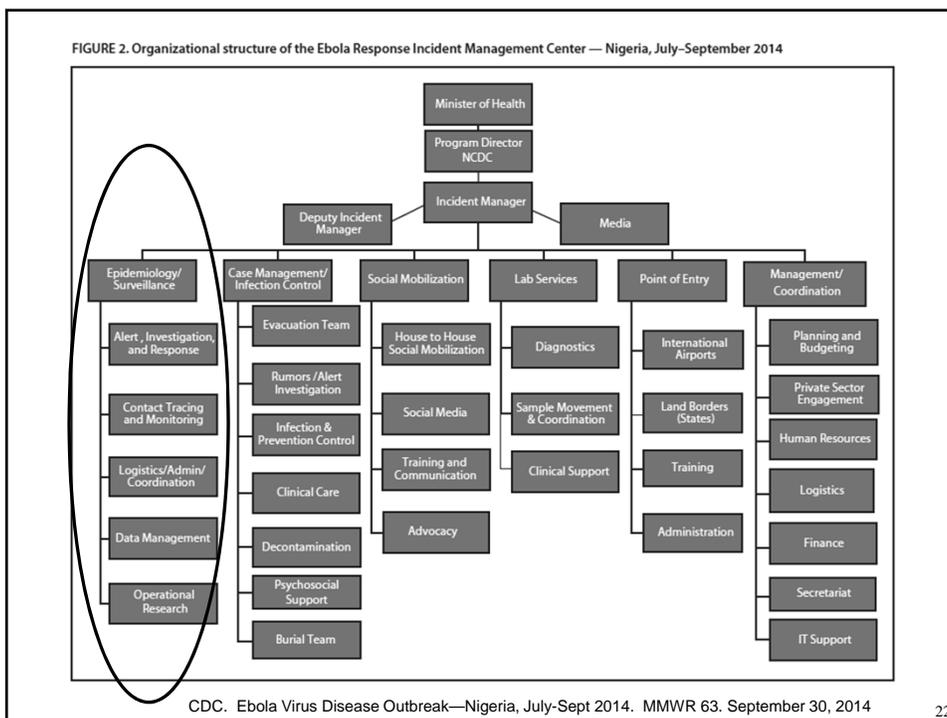
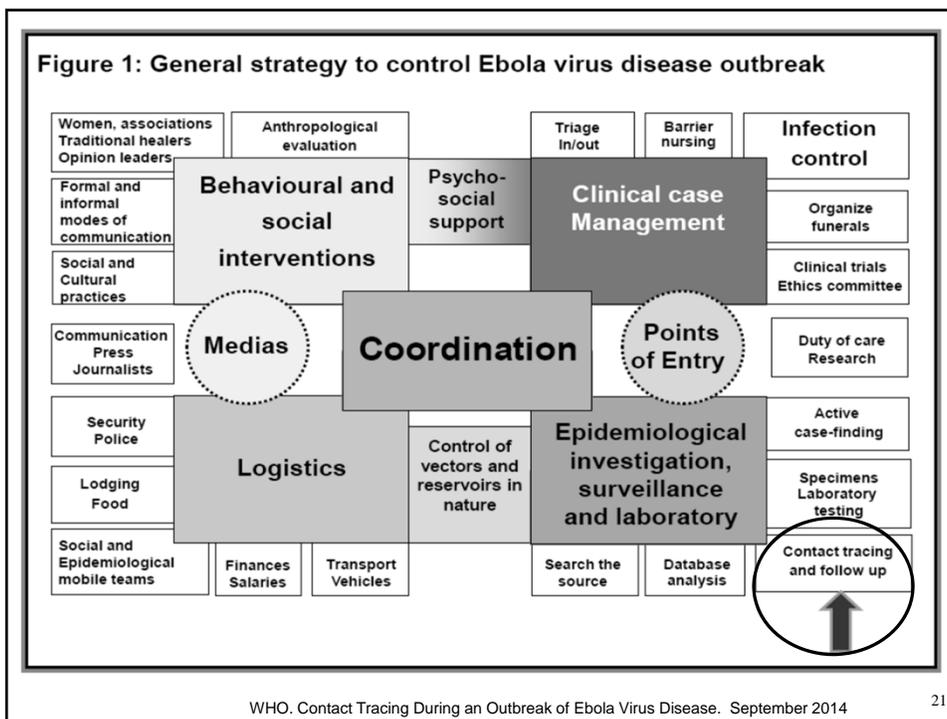
*MMWR Nov 14, 2014, Early Release Vol 63*



## Contact Tracing:

*Old concepts, new setting, new nuances...*

- Tracing and identification
- Interviewing for risk stratification
- Monitoring procedures
- Movement restrictions
- Impact of media and social stigma
- Non-clinical needs of contacts



## Contact Identification & Tracing

- Healthcare personnel (HCP) contacts: Thorough identification of possibly exposed HCPs (*e.g. location tracking badges, manager shift records, medical charts*)
- Non-HCP contacts: Locating individual experiencing homelessness; persons without correct address/phone information; persons refusing to be interviewed
- Non-contacts: Rumors of alleged “contacts”; emergency on-call phone line inundated

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## Contact Monitoring

- Resource-intensive nature of Direct Active Monitoring (1 in-person visit + 1 phone call daily)
- Initially for 48 “high” and “some” risk contacts, expanded to all contacts after HCP diagnoses
- Coordination among multiple agencies: Hospital; Dallas, Tarrant, Collin, Denton Counties; Texas DSHS; CDC field team
- Enforcement plans: welfare checks, control orders

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## Data Systems

- Entire data team located on-site at hospital
- CDC data support essential, including server to enable multiple-user data entry and access
- Need for data systems which can be easily configured for new variables (*e.g. ongoing exposures of HCP*) during an evolving response
- NYC: *“Data management for worker monitoring initially required more than 12 full-time staff members of DOHMH and HHC...”*

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MMWR April 3, 2015; 64(12):321-323

## Needs of Contacts

- 6/7 households of 20 community contacts required financial support for rent, utilities, household items
- Many contacts placed on leave from work
- Majority of HCP contacts experienced anxiety about possibly becoming ill or infecting family
- Access to medical care for minor illnesses
- Importance of engagement of wide range of community partners (businesses, schools, charitable foundations, faith based organizations, mental health) to ready resources prior to events

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MMWR Feb 13, 2015; 64(5):122-3



## Media

*“The cycle of fear and stigma, amped up by the media, will continue to spiral, even though there’s little doubt that the epidemic will be contained in the US, which has the staff, space, and systems.” Paul Farmer, Ebola Diary. Oct 23, 2014*



- Contacts not under control orders reported being effectively quarantined in their homes by media waiting outside their doors

## Contacts & Social Stigma

- Non-contact household members of contacts were asked/required to stay home from work
- Childcare providers refused to care for children of contacts
- Schools asked children of contacts to stay home; district-wide closures were being considered
- 9 Texas school districts spent \$117,000 for precautionary cleaning (AP, Jan 20, 2015)



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## Essential Public Health Support: CDC

- Contact tracing & monitoring: locating contacts, interviews, risk classification, daily surveillance, data management
- Enabled DCHHS LRN capacity for Ebola PCR testing
- Design of triage unit for evaluating symptomatic contacts
- Subject matter expertise in clinical management of cases; clinical support to clinicians evaluating ill contacts
- Technical consultations with 5 Dallas hospitals to assist in planning for possible additional Ebola patients
- Training of 160 HCPs on PPE use and infection control practices for Ebola

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*MMWR Nov 14, 2014, Early Release Vol 63*

## Essential Public Health Support: Texas DSHS

- Established a multi-jurisdictional EMS transportation plan for possible Ebola patients
- Developed plan for safely handling and transporting waste and Ebola patient remains
- Communication and coordination with 3 additional county health departments for contact monitoring
- Assisted with handling of the pet dog of patient with Ebola
- On-site legal and communications staff important assets during rapidly evolving response
- Laboratory testing

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*MMWR Nov 14, 2014, Early Release Vol 63*

## Additional Local Response Activities

- DCHHS Public Information Officer development of educational materials and local community distribution by health educators
- DCHHS establishment of MRC-staffed Call Center M-F 8:00 am-6:00 pm for resident concerns
- DCHHS processing of hospital PPE requests
- Physicians from County Medical Society provided numerous presentations for schools, community centers, and town hall meetings

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## National Entry Screening Program for Ebola (1)

- All travelers to US from affected areas routed through 5 airports (ATL, EWR, IAD, JFK, ORD) for enhanced entry screening by CDC/CBP/State
- Identification of potentially exposed travelers
- Ensure medical care as needed; instruction to report fever, symptoms to public health authorities
- Provision of contact information to public health authorities for active or direct active monitoring

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MMWR Dec 12, 2014, 63 (49):1163-1167

## National Entry Screening Program for Ebola (2)

- Provided with booklet about Ebola monitoring, temperature log, thermometer, cell phone, list of state/local health department contacts



MMWR Dec 12, 2014, 63 (49):1163-1167

Annals of Internal Medicine

| IDEAS AND OPINIONS

## Ebola Fever: Reconciling Ebola Planning With Ebola Risk in U.S. Hospitals

Michael Klompas, MD, MPH; Daniel J. Diekema, MD; Neil O. Fishman, MD; and Deborah S. Yokoe, MD

Annals of Internal Medicine

| IDEAS AND OPINIONS

## Protecting Health Care Workers From Ebola: Personal Protective Equipment Is Critical but Is Not Enough

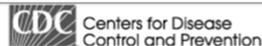
William A. Fischer II, MD; Noreen A. Hynes, MD, MPH; and Trish M. Perl, MD, MSc

## Personal Protective Equipment for Filovirus Epidemics: A Call for Better Evidence

Armand G. Sprecher,<sup>1</sup> An Caluwaerts,<sup>1</sup> Mike Draper,<sup>2</sup> Heinz Feldmann,<sup>3</sup> Clifford P. Frey,<sup>4</sup> Renée H. Funk,<sup>5</sup> Gary Kobinger,<sup>6</sup> James W. Le Duc,<sup>7</sup> Christina Spiropoulou,<sup>8</sup> and Warren Jon Williams<sup>9</sup>

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Klompas M. *Ann Intern Med* 2014; Fischer W. *Ann Intern Med* 2014; Sprecher A. *JID* March 2015



This guidance is current as of  
October 20, 2014

Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On (Donning) and Removing (Doffing)

- All HCPs should have received repeated training and demonstrated competency ...specifically in donning/doffing proper PPE
- HCPs should have no skin exposed (full body coverage to reduce risk of self-contamination)
- Oversight by an onsite manager at all times, and each step of PPE donning/doffing must be supervised by a trained observer

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<http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html>

# PPE Donning/Doffing Scripts

## Doffing Script Sheet

*Before exiting patient room, use alcohol wipe to wipe down apron and arms.*

1. Coach: Sanitize gloves, apron and arms with alcohol/wipe
2. Coach: Pull down the top of the apron to break the neck tie. Roll top of apron away from your body. Now pull forward to break the waist tie. Fold apron so that outside is folded inward. Place the apron in the red bag
3. Coach: Sanitize gloves with alcohol/wipe
4. Coach: Stabilize yourself on a firm surface. Remove one outer bootie and place it in the red bag don't touch the sole of your bootie
5. Coach: Sanitize gloves with alcohol/wipe
6. Coach: Remove the second outer bootie and place it in the red bag
7. Coach: Sanitize gloves with alcohol/wipe
8. Coach: Loosen PAPR buckle. Move the belt/blower/hose around your shoulder to the front and hold it in front of you (Doffing coach will hold a red bag to receive the PAPR).
9. Coach: Using your other hand, grasp the top of your hood and pull it off from back to front.
10. Coach: Place the PAPR in the red bag that I am holding. Disconnect the hose from the hood. (Doffing coach will hold a red bag to receive the PAPR)
11. Coach: Throw away the hood
12. Coach: Sanitize gloves with alcohol/wipe
13. Coach: Remove the outer pair of gloves and place it in the red bag
14. Coach: Sanitize gloves with alcohol/wipe
15. Coach: Using a wipe, wipe down the zipper of the coverall
16. Coach: Sanitize gloves with alcohol/wipe
17. Coach: Look in the mirror and find the blue crash cart tab. Completely unzip the coverall.
18. Coach: Grasp the back of the coverall and pull off coverall from both shoulders. Pull your arms out of the sleeve
19. Coach: Sanitize gloves with alcohol/wipe
20. Coach: Slide your hands down the front of your legs to push the coverall down towards feet. Be careful not to touch the outside of the coverall
21. Coach: Pull your legs out of the coverall (You can use your right foot to step on the back of the left bootie to hold it in place to help your left foot out)
22. Coach: Step back and off the coverall

*Sample Courtesy Drs. Pierre Rollin, Mary Choi*

## IDEAS AND OPINIONS

## Annals of Internal Medicine

### Caring for Patients With Ebola: A Challenge in Any Care Facility

Mark G. Kortepeter, MD, MPH; Philip W. Smith, MD; Angela Hewlett, MD; and Theodore J. Cieslak, MD

#### Challenges in Managing Patients who have Suspected or Confirmed Ebola Virus Infection at the National Institutes of Health

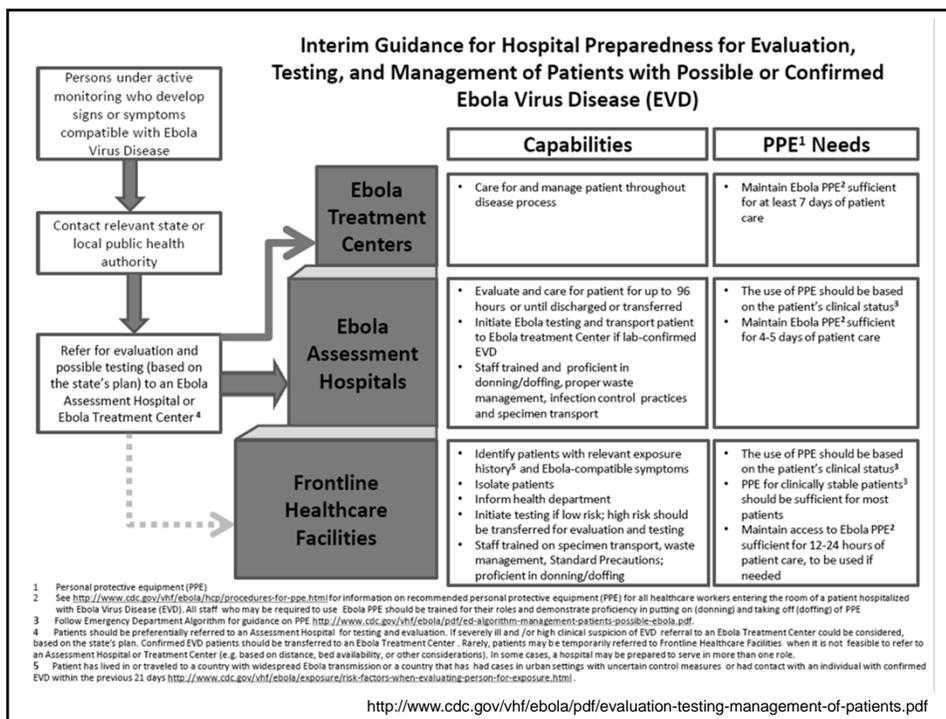
Tara N. Palmore, MD;<sup>1</sup> Kevin Barrett, RN, BSN;<sup>2</sup> Angela Michelin, BS, MT, MPH;<sup>1</sup> Amanda Ramsburg, RN, BSN;<sup>1</sup> Laura M. Lee, BSN, MS;<sup>3</sup> Richard T. Davey, Jr., MD;<sup>4</sup> David K. Henderson, MD<sup>3</sup>

#### Lessons Learned From Hospital Ebola Preparation

Daniel J. Morgan, MD;<sup>1,2</sup> Barbara Braun, PhD;<sup>3</sup> Aaron M. Milstone, MD;<sup>4</sup> Deverick Anderson, MD;<sup>5</sup> Ebbing Lautenbach, MD;<sup>6</sup> Nasia Safdar, MD;<sup>7</sup> Marci Drees, MD;<sup>8</sup> Jennifer Meddings, MD;<sup>9</sup> Darren R. Linkin, MD;<sup>6</sup> Lindsay D. Croft, MS;<sup>2</sup> Lisa Pineles, MA;<sup>2</sup> Daniel J. Diekema, MD;<sup>10</sup> Anthony D. Harris, MD<sup>2</sup>

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Kortepeter M. Ann Intern Med Jan 2015; Palmore T. ICHE April 2015; Morgan D. ICHE April 2015



## Designated Ebola–Treatment Hospitals

### Announced 12/2/2014; 55 as of 2/18/2015

Ebola (Ebola Virus Disease)

**Ebola (Ebola Virus Disease)**

About Ebola

2014 West Africa Outbreak

Outbreaks

Signs and Symptoms

Transmission

Risk of Exposure

Prevention

Diagnosis

Treatment

U.S. Healthcare Workers and Settings

Non-U.S. Healthcare Settings

### Current Ebola Treatment Centers

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**The 55 hospitals with Ebola treatment centers as of 2/18/2015 are:**

- Maricopa Integrated Health Systems; Phoenix, Arizona
- University of Arizona Health Network; Tucson, Arizona
- Kaiser Los Angeles Medical Center; Los Angeles, California
- Kaiser Oakland Medical Center; Oakland, California
- Kaiser South Sacramento Medical Center; Sacramento, California
- University of California Davis Medical Center; Sacramento, California
- University of California Irvine Medical Center; Orange, California
- University of California Los Angeles Medical Center; Los Angeles, California
- University of California San Diego Medical Center; San Diego, California
- University of California San Francisco Medical Center; San Francisco, California
- Children's Hospital Colorado; Aurora, Colorado
- Denver Health Medical Center; Denver, Colorado
- Emory University Hospital; Atlanta, Georgia
- Grady Memorial Hospital; Atlanta, Georgia

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<http://www.cdc.gov/vhf/ebola/hcp/current-treatment-centers.html>

## Summary

- Collaborative strengths of federal, state, and local public health systems essential throughout this response
- No secondary cases from community exposure
- Additional Ebola introductions into US remain possible while epidemic in West Africa continues
- Experience in Dallas is informing improvements in national preparedness and response capacity for communicable diseases such as Ebola

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Thank You

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## DSHS Grand Rounds

### The Texas Ebola Experience: Lessons Learned

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April 8, 2015

Grace Kubin, Ph.D.

Director, Laboratory Services Section



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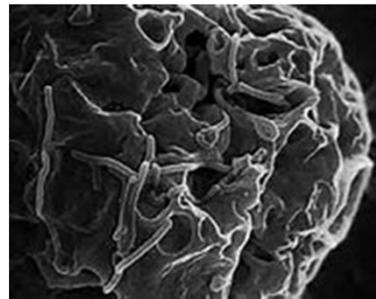


## Overview

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- CDC LRN
- Preparations and Testing
- Packaging and Shipping
- Key Relationships



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## Laboratory Response Network (LRN) For Bioterrorism

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Highest level characterization (Federal)

Molecular assays, reference capacity, confirmation, and transport

Rule-out and forward organisms

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## Texas Laboratory Response Network

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- Reference laboratories for FBI and local law enforcement for biothreat specimens
- Train hospital personnel in procedures to refer biothreat specimens to local LRN
- All LRNs use same procedures and equipment
- Partner with 1st responders, law enforcement, military

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## Getting Ready for Ebola

- Department of Defense Ebola Zaire Polymerase Chain Reaction (PCR) test – EUA approved
- Developed communication procedure and approval algorithm with epidemiologists
- Performed laboratory risk assessment for testing of Ebola specimens



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## Training, Training, Training



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## The First Real Sample

- Excellent coordination between DSHS and CDC
- Specimens arrived at DSHS and CDC via FedEx at about the same time
- Test results for the DSHS test and the CDC test were ready almost at the same time
- **AND THE RESULTS MATCHED!**



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## More Testing

- Subsequent specimens arrived at unusual hours requiring 24/7 operations
- Developed a mini surge plan to help with specimens arriving at all times
- Two more specimens would arrive at DSHS that would be the first and second cases of Ebola Zaire acquired in the US



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## Packaging & Shipping

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- Ebola suspect specimens had to be packaged as an infectious substance affecting humans
  - Category A – UN 2814
  - Shipped cold (4 C)
- Some commercial carriers would not ship Ebola suspect specimens
- Relationships developed from other response activities helped with timely specimen delivery to DSHS



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## Coordination Was the Key

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- Planning with our epidemiologists and development of an algorithm for requesting testing
- Coordination with CDC
- Working with the DSHS State Medical Operations Center staff
- Using the network Texas LRN laboratories



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Thank You



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**Texas Ebola Experience**  
**◆ Response Activities ◆**

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Jeffrey Hoogheem  
Texas Department of State Health Services

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## Introduction

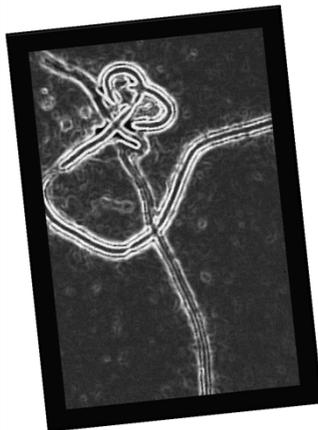
- The 2014 Ebola incident was historic and unlike anything we have faced before
- Many of the challenges were not unique to Dallas or the state of Texas
- Strategies and practices were implemented that can be used in other states and in other situations



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## Goals

- Present challenging situations which occurred during the 2014 response
- Discuss strategies that were implemented to overcome challenges
- Highlight unique aspects of the response
- Showcase the success stories and practices that could be used in future responses



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# 911 Call Taker Protocol

- Assist 911 call takers if contacted by:
  - Monitored (known) Ebola Contact
  - Individual Complaining of Ebola Symptoms
- Algorithm for handling Ebola related calls
  - Symptoms?
  - Travel History?
  - Contact with Ebola Patient?
  - Actively monitored?
  - Notify first responders of patient status prior to dispatch
- Allowed 911 to handle large number of calls related to Ebola

# 911 Call Taker Protocol



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

DAVID L. LAKEY, M.D.  
COLLEGESSORNER

P.O. Box 149347  
Austin, Texas 78714-9347  
1-800-965-1111  
TTY: 1-800-735-2889  
www.dhs.state.tx.us

October 10, 2014  
Revision 001

## 911 Call Taker (PSAP) Phone Screening Guide

There are 48 individuals identified as Ebola contact cases being monitored by Dallas County Health and Human Services (DCHHS). The following protocols are recommended for 911 Call Takers (PSAP) employees in the event that they are contacted by a monitored (KNOWN CONTACT) or individual complaining of Ebola symptoms (UNKNOWN CONTACT).

### KNOWN CONTACT with possible symptoms CALLS 911.

[For the group of 48 that are currently under observation. These individuals have been instructed to contact Dallas County Health Department if they begin to show any signs or symptoms of Ebola and may have already notified the Epidemiologist on-call.]

- Individual reporting fever or symptoms of Ebola should immediately be screened by the call taker utilizing the "Communications" algorithm.

> Should the caller answer "Yes" to the fever AND one of the contact questions, notify first responders of a possible "Patient Under Investigation of Ebola exposure" and provide the Dallas County Health and Human Services Epidemiologist On-Call Phone number to first responders if requested: (214) 677-7899

### UNKNOWN CONTACT with possible Ebola symptoms CALLS 911.

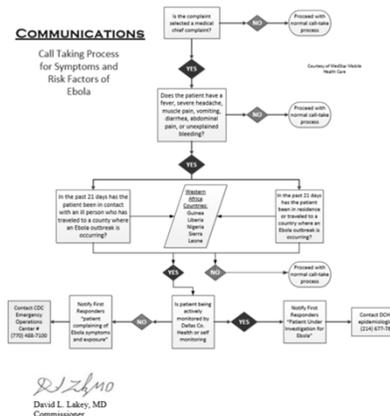
- Individual reporting fever or symptoms of Ebola should immediately be screened by the call taker utilizing the "Communications" algorithm.

> Should the caller answer "Yes" to the fever AND one of the contact questions, notify first responders of a possible "Patient Complaining of Ebola symptoms and exposure" and provide the CDC Emergency Operations Center number to the first responders if requested: (770)485-7100

October 10, 2014  
Revision 001  
Page 2

## COMMUNICATIONS

Call Taking Process  
for Symptoms and  
Risk Factors of  
Ebola



*DL*  
David L. Lakey, MD  
Commissioner

# EMS Practices Protocol

- Assist EMS in responding to suspected Ebola patients
- Addressed on-scene safety
  - PPE
  - Handling patient
  - Possible patient behaviors
  - Cautions regarding bodily fluids
- Patient Assessment
- Transport

# EMS Practices Protocol



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

P.O. Box 148247  
Austin, Texas 78714-2427  
1-800-855-7111  
TTY: 1-800-735-2889  
www.dshs.texas.gov

DAVID L. LAKEY, M.D.  
COMMISSIONER

October 9, 2014

## EMS Practices on Possible Ebola Exposure Patients

### Address scenes safely:

If Public Safety Access Point (PSAP) call takers advise or initial patient contact suggest that the patient is suspected of having Ebola, Emergency Medical Services (EMS) personnel should don appropriate Personal Protection Equipment (PPE) for suspected cases of Ebola before entering the scene. Appropriate includes:

- Gloves
- Gown (fluid resistant or impermeable)
- Eye protection (goggles or face shield that fully covers the front and sides of the face)
- Facemask
- Additional PPE might be required in certain situations (e.g., large amounts of blood and body fluids present in the environment), including but not limited to double gloving, N-95 Face mask, disposable shoe covers, and leg coverings.

- Keep the patient separated from other persons as much as possible.
- Minimize EMS staff exposure.
- Use caution when approaching a patient with Ebola. Illness can cause delirium, with erratic behavior that can place EMS personnel at risk of infection, (e.g., falling or staggering).
- If blood, body fluids, secretions, or excretions from a patient with suspected Ebola come into direct contact with the EMS provider's skin or mucous membranes, then the EMS provider should immediately stop working. They should wash the affected skin surfaces with soap and water and report exposure to an occupational health provider or supervisor for follow-up.

### Patient Assessment and Transport:

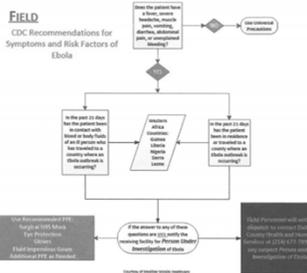
- All patients should be assessed for symptoms of Ebola (Fever, with additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage). If the patient has symptoms of Ebola, then ask the patient about risk factors within the past 3 weeks before the onset of symptoms, including:
  - In the past 21 days, has the patient had contact with blood or body fluids of a patient known to have or suspected to have Ebola.
  - Residence in—or travel to—a West African country such as: Guinea, Nigeria, Sierra Leone and Liberia where an Ebola outbreak is occurring or Direct handling of bats or nonhuman primates from disease-endemic areas.
- Based on the presence of symptoms and risk factors, put on or continue to wear appropriate PPE and follow the scene safety guidelines for suspected case of Ebola.
- If there are no risk factors, proceed with standard EMS care.

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If the Patient meets Criteria for Patient Under Investigation for Ebola exposure, contact Dallas County Health and Human Services at (214) 677-7899 and transport to recommended facility. Notify receiving facility as soon as possible to give adequate time for facility preparation.

"SEE ATTACHED ALGORITHM"



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# Hospital Protocol

- Protocols if a contact case presents at hospital or emergency treatment facility
- Procedures for:
  - Known Contact (monitored)
  - Unknown
- Screening criteria
- Travel History
- Coordination with Dallas County

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# Hospital Protocol



**TEXAS DEPARTMENT OF STATE HEALTH SERVICES**

P.O. Box 143347  
Austin, Texas 78714-3347  
1-800-685-7111  
TTY: 1-800-735-2989  
www.dshs.texas.gov

October 9, 2014

**HOSPITAL AND EMERGENCY TREATMENT CENTER  
PRACTICES FOR TRANSPORT OF EBOLA PATIENTS**

There are 48 individuals identified as Ebola contact cases being monitored by Dallas County Health and Human Services. The following protocols are recommended in the event that a contact case presents to a hospital or emergency treatment facility, or if a patient that is not a known contact presents. The practices below have been coordinated with information provided to EMS, dispatch agencies, and emergency medical directors.

Texas Health Presbyterian Dallas has agreed to accept patients ages 14 and older. Children's Medical Center Dallas has agreed to take pediatric patients ages 0 – 14.

**KNOWN CONTACT** presents with possible symptoms:  
(For the group of 48 that are currently under observation: These individuals have been instructed to contact Dallas County Health Department if they begin to show any signs or symptoms of Ebola)

- Individual reporting / presenting fever or symptoms: Immediately contact Dallas County Health and Human Services at: (214) 877-7899. Follow the DCHHS Epidemiologist recommendations to determine necessity for further treatment or transport.

**UNKNOWN CALLER** presents with possible Ebola symptoms:

- Administer screening questions found below.
- If the patient meets the fever requirement and any one of the two questions, then the patient should be considered as a Person Under Investigation. Immediately contact Dallas County Health and Human Services at: (214) 877-7899. Follow the DCHHS Epidemiologist recommendations to determine necessity for further treatment or transport.
- If patient does not meet screening questions criteria, follow normal triage and treatment protocols.

\*\*\*The DCHHS Epidemiologist will arrange transport of the patient if needed.\*\*\*

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**SCREENING QUESTIONS**

Does the patient have a fever >38.6 C or 101.5 F AND

1. In the past 21 days has the patient been in contact with blood or body fluids of a patient known to have or suspected to have Ebola?
2. In the past 21 days been in residence or travel to a West African country where Ebola outbreak is occurring or direct handling of bats or nonhuman primates from a disease-endemic area? Countries include:
  - a. Guinea
  - b. Liberia
  - c. Nigeria
  - d. Sierra Leone

  
 David L. Lahey, MD  
 Commissioner

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## Mortality Planning/Protocol

- Planning for potential death of initial case
  - Planning
  - Post Mortem Protocols
- Identifying a funeral director to process remains
- Control Order for cremation
- Coordination between DSHS, CDC & TCEQ
- Coordination between Dallas Presbyterian Hospital, Dallas County Sherriff's Office and Crematory

## Post Mortem Checklist

Post-Mortem Checklist for EVD Infected Human Remains

Events	Responsible for Notification	Comments
<b>Phase I</b>		
Patient expires		
Notification of death of case (NOK)	Hospital	Event triggers NOK, medical notification before entering other NOK
DSHS Control Order received notification	Hospital	
Dallas County Judge receives notification	Hospital	
City Mayor receives notification	DSHS Commissioner	
State notification	(A) DSHS Management (B) Crematory	DSHS Commissioner
<b>Phase II</b>		
Confirm NOK, connected	Dallas County Judge	
Dallas County Medical Examiner receives notification	Dallas County Judge	Or after hours on duty backlog
Dallas County Health and Human Services Director receives notification	Dallas County Judge	
Dallas County Office of Homeland Security receives notification	Dallas County Judge	Emergency Officer
Confirm ME issuance of cremation waiver	Dallas County Judge Staff	
Delivery of signed DSHS Control Order to Hospital	DSHS Commissioner Staff	
Mortuary Service receives notification	DSHS Staff	Provide necessary services with NOK information
Notification to law enforcement for escort	Dallas County Judge	To escort mortuary services vehicle from the hospital to crematorium
Delivery of signed Control Order to Mortuary Services	Hospital	
Mortuary Services post-mortem procedures	Mortuary Services	<ul style="list-style-type: none"> <li>• Mortuary Services follow CDC guidance for handling body</li> <li>• Movement of body from hospital (issued by LE)</li> <li>• Follow CDC guidance for transport of body</li> </ul>
1. Body transported		
2. Body transported from hospital		
3. Body transported		
4. Notification at start and completion of cremation to DSHS Commissioner		
5. Disposition of ashes		
Notification to Mortuary Services of NOK, date for disposition of ashes	Hospital	If unable to determine at this time, Mortuary Services will follow up with NOK
<b>Phase III</b>		
Develop and finalize Press Release statement		Coordination of agencies
<ul style="list-style-type: none"> <li>• Hospital Press Release</li> <li>• Notifications</li> <li>• (A) Oig (B) PRs</li> <li>• Dissemination of statement and Press Release</li> </ul>	DSHS Dallas (city) Dallas County DSHS Commissioner Dallas County Judge	

## Waste Management - Initial

- Not a public health area of expertise
- Cleaning the apartment
  - How to clean
  - Identifying waste
- Packaging waste
  - Procedures
  - Supplies & equipment
- Transportation
  - DOT Permit Category A Infectious Substance
- Destruction
  - Incineration & ash



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## Risk Communication

- High media and public interest
- After hours system and Ebola calls
- Little knowledge about Ebola Virus Disease (EVD)
- Response partners interest in Ebola Preparedness
  - Springboard into discussion about infection control
- Risk (likelihood vs. severity)
- Media images vs. guidance



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## Situational Awareness

- Response operations in Dallas
- Rapidly changing
- State Medical Operations Center (SMOC)
  - Response Operations
  - Programmatic Operations
- Emergency Management
  - State Operations Center (SOC)
  - Disaster District Committee (DDC)
- WebEOC



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## Pets & Ebola

- Pet issues in recent disasters
- Poorly understood Ebola risk
- Protocols non-existent
- Outcry - Spanish nurse's dog
- Dallas Nurse's small dog
  - Transported to Hensley Field, Decommissioned Naval Air Station
  - 21 day quarantine
  - Texas A&M vet providers
- Recommendation: Those monitored for EVD should avoid pets



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## Conclusion

- Ebola posed unique challenges
  - For Dallas
  - For Texas
  - For any and all communities
- Procedures and practices implemented during this incident can inform future responses
- What we knew about Ebola Virus Disease going into October 2014 still remains true today
- Core public health practices were effective in controlling the spread of Ebola Virus in the U.S.

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## Questions and Answers



David Guber, MBA  
Assistant Commissioner  
Division for Regional  
and Local Health  
Services, DSHS

Remote sites can send in questions by typing in the *GoToWebinar* chat box or email [GrandRounds@dshs.state.tx.us](mailto:GrandRounds@dshs.state.tx.us).

For those in the auditorium, please come to the microphone to ask your question.

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A presentation slide with a black background. On the left, the date 'April 15' is written vertically in white. The main title 'Ethical Issues in New Medical Technologies and Emerging Infectious Diseases' is in white text. Below the title, the presenter's name 'Presenter: Nathan Allen, MD, FACEP, Baylor College of Medicine' is listed. On the right side of the slide, there is a grayscale photograph of a doctor in a white coat with a stethoscope, holding a small, glowing, futuristic medical device.