Mental Health Consequences of Infectious Disease Outbreaks

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Acknowledgements
This training was developed by Dr. James M. Shultz, and overseen by project manager Karla Vermeulen, Ph.D., Deputy Director of the Institute for Disaster Mental Health at SUNY New Paltz.

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Questions for the Presenter?
A Q&A segment will be included at the end of this training. If you would like to submit a question for the presenter please:

Text it to 845-379-4364
Email it to idmh@newpaltz.edu

We encourage you to submit questions early! Please consult with your Site Coordinator and Facilitator if you need assistance.

Course Objectives:
At the conclusion of this webinar, training participants will be able to:

1. Outline three mechanisms that increase infectious disease risks in a globally networked world.
2. Contrast the transmission of fear, and the expression of fear-related behaviors, during the West Africa Ebola outbreak and the US Ebola "micro-outbreak."
3. Differentiate the psychological stressors for a direct contact transmission disease (e.g. Ebola) versus an airborne respiratory transmission disease (e.g. influenza)
4. Identify three psychological risks or stressors, faced by health professionals, that influence their "willingness to serve" during an infectious disease outbreak.
5. Recommend three preventive or protective actions to diminish the mental health consequences of an infectious disease threat
Mental Health Consequences of Infectious Disease Outbreaks

The Good News on Infectious Diseases: Public Health Achievements of the Twentieth Century

10 Great Public Health Achievements of the Twentieth Century: Control of Infectious Diseases

10 Great Public Health Achievements of the Twentieth Century: Control of Infectious Diseases
10 Great Public Health Achievements of the Twentieth Century: Control of Infectious Diseases

20-25 year increase in life expectancy at birth in one century

Mental Health Consequences of Infectious Disease Outbreaks

Disaster Behavioral Health Concepts

The 10 leading causes of death in the world 2012:
- Ischaemic heart disease
- Stroke
- COPD
- Lower respiratory inf
- Tuberculosis
- Diabetes mellitus
- Road injury
- Hypertension
- Liver cirrhosis
- Nutritional deficiencies
Psychological consequences of infectious disease outbreaks

1. Widespread and pervasive
2. Spectrum of severity
3. Range of duration
4. Disaster-related


In a disaster, the size of the psychological footprint greatly exceeds the size of the medical footprint.

Psychological consequences: widespread and pervasive

Psychological consequences: spectrum of severity

Psychological consequences: range of duration

Infectious Disease Outbreaks

Widespread and pervasive
Spectrum of severity
Range of duration
Disaster-related

Fear and Distress Response
Behavior Change
Psychiatric Illness
Epidemic Impact

Infectious Disease Outbreaks

Epidemic Impact
Forces of Harm
Disease
Losses
Affected Population
Life Changes

Time from Impact
Psychological consequences: type of disaster

Natural Disasters
- Meteorological
- Hydrological
- Climatological
- Geophysical
- Biological

Human-Generated Disasters
- Non-intentional
  - Technological
- Intentional
  - Mass Violence
  - Terrorism

Complex Emergencies/
Humanitarian Crises
Mental Health Consequences of Infectious Disease Outbreaks

4 Psychological consequences: type of disaster

Natural Disasters
- Hurricanes, Storms
- Floods, Mudslides
- Wildfires, Extreme Heat & Cold
- Earthquakes, Volcanoes, Landslides
- Outbreaks, Pandemics

Human-Generated Disasters
- Non-intentional
  - Technological
- Intentional
  - Mass Violence
  - Bioterrorism

Complex Emergencies/Humanitarian Crises

Mental Health Consequences of Infectious Disease Outbreaks

Bill Gates Video Vignette:
The Next Epidemic? We’re Not Ready:
https://www.youtube.com/watch?v=6Af6b_wyiwI

Mental Health Issues in Infectious Disease Outbreaks: The Example of Pandemic Influenza

Pandemic Influenza

An influenza pandemic, or a global outbreak of influenza, occurs when a novel influenza strain emerges that has the following features:

- Highly pathogenic for humans
- Easily transmitted person-to-person
- Genetically unique (no preexisting immunity in the human population)
Influenza transmission risks in a globally networked world

- Increasing global population (5 times larger than during 1918/1919 pandemic)
- Urbanization and crowding
- Overlap of human populations with avian reservoirs and livestock (the pig as a “mixing vessel” for avian and human viruses)
- International commerce / global transport
- International travel
- Mass gathering risks
- Influenza drug resistance

Course objective: Outline three mechanisms that increase infectious disease risks in a globally networked world.

Challenges posed by a future influenza pandemic

- Inevitable: The global spread of pandemic influenza is considered to be certain.
- Unstoppable: The influenza virus may be delayed via measures such as surveillance and containment, quarantine and border closings, but ultimately the virus cannot be stopped.
- Rapid worldwide spread: While pandemics of the previous century encircled the globe in 6-9 months, given increasing urbanization and the speed and volume of international air travel today, the virus can reaching all continents in 1-3 months.
- Universal susceptibility: The entire world population is susceptible to pandemic influenza.
- Multiple waves: Past pandemics have spread globally in two and sometimes three waves of 6-8 weeks’ duration, a course that will further stress the medical system.
- High mortality rates: Death rates are determined by:
  a) number of people who become infected
  b) virulence of the pandemic strain
  c) vulnerability of the affected populations
  d) effectiveness of preventive measures

Challenges posed by a future influenza pandemic

- Overwhelming health care surge: With little or no immunity to a pandemic virus, a substantial percentage of the world’s population will require some form of medical care.
- Inadequate treatments/supplies: The following will be unavailable, or available in insufficient quantity, to meet demands: influenza vaccines, antiviral drugs, hospital beds, ventilators, masks, and all forms of personal protective equipment.
- Rationing of medical treatment: Health officials will face difficult decisions regarding who will receive antiviral drugs and vaccines.
- Economic and social disruption: Travel bans, closings of schools and businesses, and cancellations of events could severely impact communities and citizens.
- Shortages of food: Developed nations have finite stockpiles of foods (less than 2 weeks) due to just-in-time delivery.
- Absenteeism: Illness, care for sick family members and fear of exposure can result in significant worker absenteeism.

Mental Health Consequences of Infectious Disease Outbreaks

Pandemic Influenza-related Psychological Stressors for Citizens by Disaster Phase
Mental Health Consequences of Infectious Disease Outbreaks

First Global Estimates of 2009 H1N1 Pandemic Mortality Released by CDC-Led Collaboration

June 25, 2012 – A study published today in The Lancet Infectious Diseases Online First provides the first global estimates of how many people died as a result of the 2009 H1N1 influenza pandemic. The study, co-authored by 9 members of the CDC Influenza Division, used an improved modeling approach which resulted in an estimated range of 111,700 and 775,400 people who died worldwide from 2009 H1N1 virus infection during the first year of the pandemic. A disproportionate number of deaths occurred in Southeast Asia and Africa, where access to prevention and treatment resources are more likely to be limited. Study authors hope that this work can be used not only to improve how influenza deaths are estimated, but also to improve the public health response during future pandemics in parts of the world that suffer more influenza-related deaths.

These global estimates are more than 13 times higher than the number of laboratory-confirmed deaths reported to the World Health Organization (WHO). WHO has acknowledged for some time that official, lab-confirmed reports are an underestimate of actual number of influenza deaths. Diagnostic specimens are not always collected from people who die with influenza; for others, influenza virus may not be detectable by the time of death. Because of these challenges, modeling is used to estimate the actual burden of disease.

Infectious disease-related psychological stressors by disaster phase

Pre-pandemic - Recognition

- Uncertainty regarding time, place, virulence of influenza
- Uncertainty regarding available treatments
- Unrealistic fears stoked by media reports
- Fear of vulnerability to infection and death
- Fear for health and survival of family members
- Fear regarding unavailability of vaccines, medications
### MH Consequences of Infectious Disease Outbreaks

#### Pandemic – Initiation / Acceleration

- Frenzied attempts to stock or hoard food and essentials
- Immediate and widespread shortages of basic needs
- Fear-driven attempts to obtain prophylaxis / shortages/lack of prophylaxis
- Possible violence in response to shortages and hoarding
- Possible looting and civil disturbance
- Attempts to evacuate to locales perceived as safer
- Concerns about family members with special needs
- Concerns for pet safety

#### Pandemic – Acceleration: Physical 1

- Morbidity and mortality throughout community and social/family networks
- Personal illness
- Caring for ailing loved ones
- Witnessing illness or death of loved ones
- Seeking medical care for self or family members
- Unavailability of health care access or services
- Isolation of self or family members away from loved ones due to illness
- Separation from family, friends and colleagues due to quarantine and social distancing

#### Pandemic – Acceleration: Physical 2

- Potential income loss due to absence from work
- Economic collapse or acute shortages of food, water, electricity, or other essential services
- Health care workers/systems overloaded
- Extreme shortages of essential needs
- Experiencing hunger and physical discomfort
- Violence in the community
- Disruption of communications

#### Infectious disease-related psychological stressors by disaster phase

- Official alerts and warnings of pandemic threats
- Ominous media coverage of pandemic movement and reports of early cases
- Lack of information about what to do
- Rumors, misconceptions, conspiracy theories
- Stress associated with warning notices describing closures, quarantines, restrictions, rationing
- Adjusting to social isolation or other imposed restrictions
Pandemic – Acceleration: Psychological 1

- Fear of contagion
- Fear of death of self or loved ones
- Fear of contracting illness while caring for sick loved ones
- Fear of infecting a loved one
- Guilt regarding being the source of illness for a loved one
- Inability to intervene to prevent illness or death of loved ones
- Witnessing extreme or grotesque disease symptoms
- Bereavement and grief from loss of loved ones

Pandemic – Acceleration: Psychological 2

- Psychological trauma due to encounters with disease and death on a mass scale
- Extreme fear and possible panic due to scarcity of medical care and essential supplies
- Psychological trauma due to quarantine and social distancing
- Shock, numbness, confusion, or disbelief; extreme sadness, grief, anger, or guilt; exhaustion; frustration
- Sense of ineffectiveness and powerlessness
- Difficulty maintaining self-care activities
- Concern about children and other family members
- Domestic pressures caused by school closures, disruptions in day care, or family illness

Pandemic – Acceleration: Psychological 3

- Role ambivalence regarding work and home commitments
- Concern about receiving vaccines and/or antiviral drugs before other persons
- Loss of faith in health institutions, employers, or government leaders
- Belief that medical resources are not fairly distributed
- Effects of morbidity and deaths among children
- Restrictions on civil liberties that are perceived to be inequitable
- Infection control procedures that limit personal contact
- Frustration with lack of information about the event and available resources

Pandemic – Deceleration: Psychological 1

- Multiple losses
- Personal and population-wide bereavement
- Fear of recurrent waves of the pandemic returning
- Recuperation from illness
- Long-term medical complications
- Continued scarcity of basic necessities (food, water)
- Massive economic disruptions
Infectious disease-related psychological stressors by disaster phase

**Pandemic – Deceleration: Psychological 2**

- Loss/disruption of job, financial hardship
- Delays in reopening schools, daycare centers
- Ongoing stress on health care infrastructure
- Changes in social support due to death and illness
- Dealing with orphaned children
- Dealing with dependent family members who have lost their caretaker

**Course Objective:**
Identify three psychological risks or stressors, faced by health professionals, that influence their "willingness to serve" during an infectious disease outbreak.

Infectious Disease-related Psychological Stressors for Responders

**Stressors and Psychological Risk Factors for Pandemic Responders 1**

- Elevated to extreme risk for infection, illness and death
- Enforced separation from family and loved ones
- Ongoing and seemingly unending duration of work shifts
- Inability to be home to support ailing, dying or bereaved loved ones
- Fear of spreading infection from exposure at work to loved ones at home
- Witnessing illness on a mass scale
- Witnessing persons suffering with extreme and grotesque symptoms

**Stressors and Psychological Risk Factors for Pandemic Responders 2**

- Dealing with overwhelming surge of patients
- Inability to save lives despite maximal effort
- Experience of death on a mass scale
- Observing population-wide bereavement
- Dealing with chronic shortages of supplies, vaccines, treatments, facilities
- Overwork and fatigue
- Witnessing illness and death of colleagues
Stressors and Psychological Risk Factors for Pandemic Responders 3

- Working in PPE
- Working under conditions of workforce quarantine
- Dealing with extreme reactions and possible panic
- Threats of violence from persons seeking scarce or limited services
- Lack of communications
- Ongoing, unabated risks of exposure
- Long hours over long weeks of the pandemic

Stressors and Psychological Risk Factors for Pandemic Responders 4

- Dealing with human remains of the deceased
- Inability to take care of personal business and support family members
- Grief and bereavement from loss of family members, colleagues, friends
- Dealing with distressed family members
- Witnessing illness and death of children
- Dealing with orphaned children
- Lack of reinforcements and replacements due to impact everywhere
- No safe haven or respite where responders can be free from threat

Behavioral Health Support for Professional Responders during an Infectious Disease Outbreak

Course Objective:
Recommend three preventive or protective actions to diminish the mental health consequences of an infectious disease threat.

Pre-pandemic period

- Plan for a long response (one year or more)
- Train all staff on disaster behavioral health issues: self-care, psychological first aid, resiliency
- Facilitate staff to develop family disaster and communications plans
- Prepare educational materials on psychosocial issues for pandemic responders
- Prepare educational materials regarding common reactions, stressors, citizen behaviors
- Train staff on special populations issues in a pandemic
- Institutionalize psychosocial support services for employees who respond during the pandemic
### Behavioral health support for outbreak and pandemic responders

#### Pre-pandemic period
- Develop and implement workforce resilience programs
- Augment employee assistance programs
- Train staff on the use of personal protective equipment (PPE)
- Provide psychological and social support services for employees and their families
- Address stigmatization issues that might occur for responders who work with influenza cases
- Inform employees continuously about the national and local status of the pandemic
- Use behavioral health expertise to develop public health messages

#### Pandemic period
- **Deliver psychosocial support services:**
  - Deploy stress control/resilience teams
  - Monitor employee health and well-being
  - Use buddy systems and teams
  - Activate staff rest and recuperation sites
  - Distribute supportive educational material
  - Activate confidential telephone support lines staffed by behavioral health professionals

### Behavioral health support for outbreak and pandemic responders

#### Pre-pandemic period
- Provide community response partners with training on psychosocial issues
- Provide occupational health guidance on psychosocial issues related to the pandemic
- Inform response partners about anticipated reactions to public health measures such as quarantine
- Share information across agencies (public health, schools, business, government agencies)
- Devise strategies for responders who have child-care and elder-care responsibilities
- Train hospital staff and community behavioral health providers on pandemic psychosocial issues

#### Pandemic period
- **Deliver psychosocial support services:**
  - Activate services for families of employees in the field
  - Provide cell phones and other communications to maintain contact with loved ones
  - Provide information via websites or hotlines
  - Provide access to expert advice regarding disease control measures and self care
  - Provide behavioral health services as needed
Post-pandemic period

- Interview responders and family members to assess lessons learned
- Provide ongoing access to post-emergency psychosocial support services
- Conduct an ongoing evaluation of the after-effects of the pandemic on health, morale, productivity
- Screen and identify persons with significant psychological distress
- Monitor workforce for signs of chronic or severe psychological distress
- Assist in reintegration for workers who were deployed or isolated from work and family

Facilitated Exercise Scenario 1
Health Care Worker Impact

Dr. Laura Evans
Providing medical care to confirmed or potential EVD cases in well-resourced hospital environment

Subject matter expert video (9:19)
https://ensemble.itec.suny.edu/Watch/a2LDc9r6

2013-2016 West Africa
Ebola Virus Disease (EVD) Pandemic

Course objective:
Differentiate the psychological stressors for a direct contact transmission disease (e.g., Ebola) versus an airborne respiratory transmission disease (e.g., influenza)
**2013-2016 West Africa EVD Outbreak**

**Epidemiological Indicators**

- **EVD cases**: highest number of cases (28,652 cases through March 2016)
- **EVD deaths**: highest number of deaths (11,325 deaths through March 2016)
- **EVD survivors**: highest number of survivors (estimate: 17,300 survivors)
- **Duration**: longest EVD outbreak in history (28 months: Dec 2013 – Mar 2016)
- **Geographic footprint**: Largest geographic range – only EVD pandemic
- **Geographic footprint**: New territory – the first outbreak for all 10 nations
- **Urban spread**: first EVD outbreak to spread intensively in urban centers
- **International spread via air travel**

**2013-2016 West Africa Ebola Outbreak**

<table>
<thead>
<tr>
<th>Nation</th>
<th>Ebola Cases</th>
<th>Ebola Deaths</th>
<th>Case Fatality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea</td>
<td>3804</td>
<td>2536</td>
<td>66.6%</td>
</tr>
<tr>
<td>Liberia</td>
<td>10675</td>
<td>4809</td>
<td>45.1%</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>14122</td>
<td>3955</td>
<td>28.1%</td>
</tr>
<tr>
<td>Total Intense Transmission Nations</td>
<td>28601</td>
<td>11300</td>
<td>39.5%</td>
</tr>
<tr>
<td>Mali</td>
<td>8</td>
<td>6</td>
<td>75.0%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>20</td>
<td>8</td>
<td>40.0%</td>
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<tr>
<td>Senegal</td>
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<td>0</td>
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</tr>
<tr>
<td>Italy</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Spain</td>
<td>1</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>United States</td>
<td>4</td>
<td>1</td>
<td>25.0%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>28637</td>
<td>11315</td>
<td>39.5%</td>
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</tbody>
</table>

Outbreak surveillance data from WHO Ebola Situation Report, 12.30.15
**2014/2015 West Africa Ebola Outbreak**

### Table

<table>
<thead>
<tr>
<th>Nation</th>
<th>HCW EVD Cases</th>
<th>HCW EVD Deaths</th>
<th>Case Fatality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea</td>
<td>196</td>
<td>100</td>
<td>51.5%</td>
</tr>
<tr>
<td>Liberia</td>
<td>378</td>
<td>192</td>
<td>50.8%</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>307</td>
<td>221</td>
<td>72.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>881</strong></td>
<td><strong>513</strong></td>
<td><strong>58.2%</strong></td>
</tr>
<tr>
<td>Mali</td>
<td>0</td>
<td>0</td>
<td>NA</td>
</tr>
<tr>
<td>Nigeria</td>
<td>11</td>
<td>5</td>
<td>45.5%</td>
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<tr>
<td>Senegal</td>
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<td>Italy</td>
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<td>0</td>
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<td>Spain</td>
<td>1</td>
<td>0</td>
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<tr>
<td>United Kingdom</td>
<td>1</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>United States</td>
<td>3</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>898</strong></td>
<td><strong>518</strong></td>
<td><strong>57.7%</strong></td>
</tr>
</tbody>
</table>

Outbreak surveillance data for Healthcare Workers, 11.04.15

**Epidemic Curve of EVD Cases: 2013-2016 West Africa EVD Outbreak**

**World Health Organization EVD Surveillance Maps: 10/29/14 and 10/28/15**
### 2013-2016 Ebola Virus Disease Pandemic: Behavioral and Fear-Driven Risks

#### Fear-arousing aspects of the disease agent

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Fear of the Ebola virus</td>
</tr>
<tr>
<td>2</td>
<td>Fear of the viral reservoir (fruit bats, small game animals)</td>
</tr>
<tr>
<td>3</td>
<td>Fear of illness symptoms</td>
</tr>
<tr>
<td>4</td>
<td>Superstitious beliefs about Ebola</td>
</tr>
</tbody>
</table>

#### Fear-arousing aspects of acute illness for the patients with EVD

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>Pain, discomfort, debility, frightening symptoms</td>
</tr>
<tr>
<td>6</td>
<td>Realistic fear of death</td>
</tr>
<tr>
<td>7</td>
<td>Witnessing suffering and death of EVD patients in close proximity</td>
</tr>
<tr>
<td>8</td>
<td>Receiving care from HCWs in PPE</td>
</tr>
<tr>
<td>9</td>
<td>Care under isolation conditions</td>
</tr>
<tr>
<td>10</td>
<td>Inability to have supportive family at the bedside</td>
</tr>
</tbody>
</table>
Behavioral and Fear-Driven Risks in the West Africa Ebola Outbreak

**Fear-arousing aspects of acute illness for the patients with EVD**

11. Avoidance of care in medical facilities
12. Selective avoidance of treatment in Ebola Treatment Units (ETUs)
13. Infectious patients escaping or fleeing from ETUs
14. Family members secretly harboring relatives with EVD at home
15. Family members providing unprotected in-home EVD care

Discrimination and fear based behaviors directed towards EVD survivors

16. Mistaken belief that EVD survivors are infectious
17. Stigma, rejection, shunning of EVD survivors and their family members
18. Shunning of EVD orphans
19. Blaming survivors for spreading EVD
20. Job loss, employment discrimination, inability to resume occupation
21. Inability to return home, instances of property destruction

Death, burial practices carrying high risk for serial transmission

22. High case-fatality rate
23. Family members preparing bodies of the deceased for burial
24. Families conducting secret funerals/burials
25. Disposing of infectious cadavers in public settings
Behavioral and Fear-Driven Risks in the West Africa Ebola Outbreak

Health care workers (HCWs): Individual/institutional fear based behaviors

- High rates of EVD infections and deaths among HCWs
- HCWs taking extended sick leave
- HCWs abandoning the profession
- Hospital staff shortages due to HCW illness, death, desertion
- Healthcare facilities closures
- International agencies withdrawing HCW personnel

Personal protective equipment (PPE) and HCW risks

- HCWs caring for EVD patients without access to PPE
- HCWs improperly donning, doffing, and operating in PPE
- HCWs failing to observe proper infection control procedures

Difficulties communicating with patients while in PPE

- Difficulties conveying compassionate/empathy while in PPE
- Physical/psychological stress working in PPE in high temperatures

Blame and violence directed toward HCWs

- Blame directed toward HCWs for creating the epidemic and harming patients
- Violent, sometimes fatal, attacks perpetrated against HCWs
- Stigma directed toward HCWs, including shunning by family members
- Imposition of unwarranted restrictions on volunteer HCWs returning home to developed nations
### Behavioral and Fear-Driven Risks in the West Africa Ebola Outbreak

#### Harsh and fear-provoking security measures

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>Nighttime curfews</td>
</tr>
<tr>
<td>43</td>
<td>Community quarantines</td>
</tr>
<tr>
<td>44</td>
<td>International quarantines</td>
</tr>
<tr>
<td>45</td>
<td>States of emergency and military rule</td>
</tr>
<tr>
<td>46</td>
<td>Violent retaliation for refusing to comply with community quarantines</td>
</tr>
</tbody>
</table>

#### Community, regional, international cascades of stressors

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>47</td>
<td>Economic crises and declining GDPs</td>
</tr>
<tr>
<td>48</td>
<td>Faltering agricultural production</td>
</tr>
<tr>
<td>49</td>
<td>Food shortages, hunger, and rationing</td>
</tr>
<tr>
<td>50</td>
<td>Sealed national borders around the “intensive transmission” countries</td>
</tr>
<tr>
<td>51</td>
<td>Regional travel restrictions</td>
</tr>
<tr>
<td>52</td>
<td>Suspended international flights into and out of West Africa</td>
</tr>
<tr>
<td>53</td>
<td>International visa restrictions and travel bans</td>
</tr>
<tr>
<td>54</td>
<td>International stigma and discrimination toward citizens from intense transmission countries – and from West Africa generally</td>
</tr>
<tr>
<td>55</td>
<td>Broadcast media stories using fear messaging to generate viewership</td>
</tr>
<tr>
<td>56</td>
<td>High volume of fear-provoking messages on social media</td>
</tr>
</tbody>
</table>
Behavioral and Fear-Driven Risks in the West Africa Ebola Outbreak

Psychosexual health of EVD survivors

57 Decreased libido reported by Ebola survivors – both men and women
58 Uncertainty regarding when semen/vaginal secretions become negative for virus
59 Lack of clarity regarding safer sex recommendations for EVD survivors
60 EVD positive baby born to EVD negative mother
61 Survivors feel they are treated like lab specimens
62 Lack of MHPSS support for psychosexual health issues

Mental Health Consequences of Infectious Disease Outbreaks

Fear and Fear-related Behaviors (FRBs)
### Fear-Related Behaviors (FRBs) and Consequences

1. **Accelerating the spread of Ebola virus and EVD illness**
   - FRB1: Providing Ebola care in home settings
   - FRB2: Conducting unsafe body cleansing and burial practices
   - FRB3: Fleeing from home communities/migrating to new setting
2. **Impeding the utilization of life-saving Ebola treatment units**
   - FRB4: Avoiding or foregoing available, life-saving Ebola treatment
   - FRB5: Health care workers defecting from hazardous duty
3. **Curtailing medical services for non-Ebola conditions**
   - FRB6: Avoiding life-saving treatment for non-Ebola conditions
4. **Increasing risks for psychological distress and psychiatric disorders**
   - FRB7: Stigmatizing Ebola survivors and EVD family members
   - FRB8: Blaming, attacking, and stigmatizing health workers
5. **Amplifying the downstream cascades of social and societal issues**
   - FRB9: Stigmatizing/isolating the intensive transmission nations

### The Roles of Fear and Fear-Related Behaviors

- Fear created fear. Fear propagated fear. Fear amplified fear.
- Fear distorted risk perceptions.
- Fear increased risk behaviors.
- Fear increased Ebola virus transmission, cases of illness, and deaths.
- Fear jeopardized health care worker safety.
- Fear generated interpersonal violence.
- Fear manifested as stigma and discrimination.
- Fear messaging in the media generated anxiety and distress.
- Fear was manipulated for political purposes.
- Fear was widespread, expectable, understandable and in some cases was channeled to decrease risk.
Facilitated Exercise Scenario 2
Quarantined Air Traveler

Mental Health Consequences of Infectious Disease Outbreaks

Lou Ann Lance
Supporting health professionals in home quarantine following Ebola response in West Africa
Subject matter expert video (5:50)
https://ensemble.itec.suny.edu/Watch/x4S6PmNc

2014 U.S. Ebola Outbreak

Course objective:
Contrast the transmission of fear, and the expression of fear-related behaviors, during the West Africa Ebola outbreak and the US Ebola “micro-outbreak.”

2013-2016 West Africa EVD Outbreak

Mental Health Consequences of Infectious Disease Outbreaks
Mr. Thomas Duncan, Liberian national, Diagnosed 9.30.14, Died 10.8.14

Texas Presbyterian Hospital, Dallas, Texas. Mr. Duncan seen 9.24.15 and admitted 9.28.15

“We are deeply sorry…”

Texas Presbyterian Hospital CEO following EVD infection of 2 nurses

A LETTER TO OUR COMMUNITY

As those of us who live in North Texas know all too well, recent weeks have brought a new menace to our doorstep: the Ebola virus. As an institution whose daily mission is to care for people and their families, we are devastated that our patient Thomas Eric Duncan lost his struggle with Ebola, and that Nina Pham and Amber Vinson, members of our hospital family who courageously cared for Mr. Duncan, now battle the virus as well.

I am grateful to our team of caregivers for their dedication, compassion and tireless work in caring for these individuals and every patient who enters our doors. At the same time, I know that, as an institution, we made mistakes in handling this very difficult challenge.

When we initially treated Mr. Duncan, we examined him thoroughly and performed numerous tests, but the fact that Mr. Duncan had traveled to Africa was not communicated effectively among the care team, though it was in his medical chart. On that visit to the Emergency Department, we did not correctly diagnose his symptoms as those of Ebola. For this, we are deeply sorry.

Texas Presbyterian Hospital letter following EVD infection of 2 nurses
CDC Director Thomas Friedan press conference on U.S. EVD cases

Texas Presbyterian Hospital nurse Nina Pham – infected and ill with EVD

Texas Presbyterian Hospital attempting to redirect blame for EVD infection

Texas Senator Ted Cruz directs blame toward U.S. open travel policies
Texas Senator Ted Cruz’s PAC on halting flights from “infected countries”

Contrasting Washington Post headlines before and after U.S. EVD cases

MH Consequences of Infectious Disease Outbreaks
**October 2014 Google searches and Twitter messages on Ebola**

**2014 U.S. Ebola Outbreak – Modeling Contagion of Fear**

Figures show temporal trends on Twitter and Google about Ebola and influenza (flu) before, during, and after Ebola cases in the USA, September to November, 2014.

*Numbers are relative to the highest number of searches done on Google for Ebola on Oct 16.*
Course Objectives:
At the conclusion of this webinar, training participants will be able to:

1. Outline three mechanisms that increase infectious disease risks in a globally networked world.
2. Contrast the transmission of fear, and the expression of fear-related behaviors, during the West Africa Ebola outbreak and the US Ebola “micro-outbreak.”
3. Differentiate the psychological stressors for a direct contact transmission disease (e.g., Ebola) versus an airborne respiratory transmission disease (e.g., influenza).
4. Identify three psychological risks or stressors, faced by health professionals, that influence their “willingness to serve” during an infectious disease outbreak.
5. Recommend three preventive or protective actions to diminish the mental health consequences of an infectious disease threat.