Exit Screening in Ebola Affected Countries and Entry Screening Experience in the U.S.

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International Health Regulations (2005) at Points of Entry (or Departure)

Emerging / re-emerging infectious diseases 1996 to 2005

- Legionnaire’s Disease
- Influenza H7N7
- E. coli O157
- Multidrug resistant Salmonella
- E. coli non-O157
- Typhoid
- Malaria
- SARS
- S. aureus
- West Nile Fever
- Echinococcosis
- West Nile Virus
- Lassa fever
- Yellow fever
- Buruli ulcer
- Ebola
- Marburg
- Cholera
- Dengue haemorrhagic fever
- Hendra virus
- Nipah Virus
- Reston Virus
- Influenza (H5N1)
- Human Monkeypox
- Cholera 0139
- RVF/VHF
- O’nyong-nyong fever
- Ross River virus
- Equine morbillivirus
- Diphtheria
- Human

Preparedness & Response
Operations
Epidemiology, Surveillance & Research
Partnerships
International Health Regulations (2005)

- A legally binding international agreement between WHO and its 194 member states
- Focus on Public Health Emergency of International Concern (PHEIC)
International Health Regulations (2005)

Assessment tool for core capacity requirements at designated airports, ports and ground crossings

October 2009

World Health Organization

Standard Operating Procedures: Air, Maritime, Land, Isolation, Travel Restrictions; Animal Importation
On August 8, 2014 WHO declared the current Ebola outbreak a Public Health Emergency of International Concern (PHEIC). PHEIC declaration underscored the need for a coordinated international response to contain the spread of Ebola.

For countries with Ebola transmission, recommendations were made to conduct exit screening of all persons at international airports, seaports and major ground crossings for “unexplained febrile illness consistent with Ebola infection.”

Fifth meeting of the Emergency Committee convened April 9, 2015. Conclusion:

- Continued need for exit screening in three affected countries
- Must be maintained for at least 42 days after the last case has twice tested negative for EVD
- Countries are encouraged to maintain exit screening until human-to-human transmission has stopped in the entire subregion
Outbreak Challenges In West Africa

- Overburdened public health and healthcare systems
- High population mobility
- Porous borders
West African Border
Exit Screening

• Rationale
  • Reduce likelihood of international spread of Ebola
  • Successful exit screening at the source lessens need for entry screening
  • Boost confidence of travelers, airline crew, and airline management
  • Deterrent to travelers feeling ill or with risk factors

• Invitation
  • WHO, CDC and other global partners invited by the ministries of health of Guinea, Liberia, and Sierra Leone to assist in developing and implementing exit screening procedures

• Implementation
  • In August, CDC sent teams to Sierra Leone, Guinea, Liberia and Nigeria
Exit Screening, con’t

• Includes a health questionnaire (symptoms and exposure) and temperature check
• Successful exit screening requires input and collaboration between airports, airlines, and ministries of health and transportation.
• Major stakeholders may be state specific such as a ministry of foreign affairs.
• Technical assistance to develop exit screening and travel restrictions includes:
  - Assessing capacity of Ebola-affected countries and airports to do exit screening
  - Assisting with development of exit screening protocols
  - Developing tools such as posters, screening forms, and job aids
  - Training staff on exit screening protocols and appropriate Personal Protective Equipment (PPE) use
  - Training in-country staff to provide future trainings
Messaging in Countries with Ebola

AVIS SANITAIRE: EBOLA
Ebola se propage par contact direct avec le sang ou les fluides corporels (notamment la salive ou l’urine) d’une personne infectée.

Comptez-vous quitter la Guinée?

Surveillez les symptômes éventuels de fièvre, de maux de tête et de courbatures dans les 3 prochaines semaines.

Si vous tombez malade, appelez un médecin.

Dites au médecin que vous avez séjourné dans un pays touché par Ebola.
Exit Screening

Are You Going to the Airport?

Do NOT Travel if You Feel Sick

- Fever
- Diarrhea
- Headache
- Vomiting
- Stomach Pain
- Muscle Pain

Travelers and Airport Employees ONLY

Only travelers with tickets and airport employees will be allowed at the airport.

Everyone Will Wash Hands and be Screened

Please wash your hands. Please wait to get your temperature checked.

Public Health Messaging for Airport Screening
Exit Screening in Action
Reporting Tools

- Reporting tools for cabin crew and pilots
  - Online
  - Responsive design for mobiles and tablets
- RING cards
- Slides on how to use these
Working in Countries with Ebola

Sierra Leone

Guinea

Nigeria

Liberia
U.S. Experience with Exit Screening from Affected Countries

- In a 3 month timeframe (August-October, 2014), approximately 80,000 travelers from the 3 affected countries were screened.
- Approximately 12,000 of these travelers came to the U.S.
- It is estimated that less than 0.06% of total travelers into the U.S. arrive from the 3 countries.

Brown et al., Airport Exit and Entry Screening for Ebola- August – November 10, 2014. MMWR. 2014, 63(49);1163-1167.
Exit Screening Success

• Since exit screening has started, no person with symptomatic Ebola has boarded a flight.
U.S. Population & Travelers

~ 310 million population
~ 40 million foreign-born
> 300 official ports of entry

<table>
<thead>
<tr>
<th>Mode</th>
<th>Millions</th>
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<tr>
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<tr>
<td>Sea</td>
<td>26</td>
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<tr>
<td>Land</td>
<td>237</td>
</tr>
<tr>
<td>Total</td>
<td>341</td>
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Airport Coverage – North America

Slide from Don Burke, JHU MIDAS
Part 34
Medical Examination of Aliens

• Includes list of communicable diseases of public health significance
• Includes requirements for the medical screenings of aliens

Part 70/71
Foreign and Interstate Quarantine Regulations

42 CFR

• Authorizes DGMQ to medically examine, and release persons arriving into the United States and traveling between states who are suspected of carrying one of the nine communicable diseases identified in the Presidential Executive Order

• Includes restrictions on the importation of animals (e.g., cats, dogs, ferrets, turtles, non-human primates, rats) and animal products
U.S. POE and CDC Quarantine Stations

CDC Quarantine Station (n=20)
U.S. Port of Entry (n=327)
<table>
<thead>
<tr>
<th>Ports of Entry</th>
<th>Quarantine Stations</th>
<th>CBP Staff*</th>
<th>TSA Staff**</th>
<th>CDC Staff</th>
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<td></td>
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<td>&gt;300</td>
<td>20</td>
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<td>50,000</td>
<td>~ 100</td>
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</tbody>
</table>

Border Tools & Activities to Prevent Introduction of Communicable Diseases

- Isolation (and quarantine) orders
- Travel restrictions
- Contact investigations
- Health promotion activities including Travel Health Alert Notices
- Passive or enhanced screening
- Training, Planning, Exercising
Broad Objectives for Entry Screening

• Identify on arrival those travelers who may be ill with Ebola or who might have been exposed to Ebola
• Ensure symptomatic travelers are directed to medical care, if needed
• Provide travelers with information on reporting fever and other symptoms to public health authorities
• Rapidly provide travelers’ contact information to public health authorities
Entry Screening in the U.S.

- Five airports that average 125 travelers per day
Entry Screening

- Layered approach
- On October, 2014, after the first case of Ebola was identified in the U.S., enhanced entry screening began at 5 ports in the U.S.
  - All travelers on itineraries originating in affected country diverted to one of these airports
  - Airports selected based on travel volume: received an estimated 94% of travelers arriving from Guinea, Liberia, and Sierra Leone
  - No direct flights from affected region to the U.S.
- With 2-21 day incubation, not all people with Ebola will be detected before they leave a country with an Ebola outbreak
- Allowed for traveler education and linkages to state and local partners to facilitate health monitoring and referrals.
Entry Screening in the U.S.
Public Health Messaging

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.

For more information: visit www.cdc.gov/travel or call 800-CDC-INFO.
Ring Cards at Point of Entry

**RECOGNIZE**
- Ill traveler (see back of card).

**ISOLATE**
- Separate the ill traveler from others to the extent possible.
- Use appropriate personal protective equipment such as face mask, gloves, and face shield or goggles if you have direct contact (within one meter) with the ill traveler.

**NOTIFY**
- Your supervisor or follow your port's procedures to request a medical evaluation or assistance.

**GIVE SUPPORT**
- Follow instructions from the port or public health authority.

**RECOGNIZE ILL TRAVELER**
- Look for or ask about Ebola symptoms.
- An ill traveler may be denied boarding.
- Alert your supervisor about any traveler who has:
  - FEVER of greater than 38.6°C (including history of feeling feverish)
  - ONE or more of the following conditions:
    - Severe headache
    - Muscle pain
    - Vomiting
    - Diarrhea
    - Stomach pain
    - Unexplained bruising or bleeding

*WHO/CDC definition of Ebola
MAY 2014
CARE Kit
Introduction and Health Advisory

EBOLA CARE KIT
Welcome to the United States

Whether you are returning home or just visiting, we hope you enjoy your time in the United States. We know that you just came from a country with an Ebola outbreak and that this can cause worry and fear. We want to make sure that you know what to do now. We also want to make sure you know what to do to protect your health and the health of those who are close to you.

This is the Check and Report Ebola (CARE) Kit. The kit has information about Ebola. It also contains tools to help you do daily health checks for the next 21 days. Your daily health check will include a temperature check and a symptom check.

You will find these 6 items in your CARE Kit:

1. Digital thermometer
   A thermometer is in your kit so that you can take your temperature every morning and every night for 21 days.

2. Directions for your digital thermometer
   (Title: Take your Temperature Two Times a Day, Morning and Night)
   Explains how to:
   - take your temperature using the thermometer in your kit, and
   - record your thermometer reading

3. EBOLA CARE Kit Health Advisory
   The health advisory is a quick tool to remind you to check your temperature and do health checks 2 times each day for 21 days. This tool also reminds you to call if you have symptoms.

4. Symptom Card and Symptom Log
   The Symptom Log asks you to do a health check each day. Then, write down the date, your temperature, and any symptoms you may have. You should do this health check 2 times a day, for 21 days after your arrival into the United States.

5. A Check and Report Ebola (CARE) Card
   This is a list of telephone numbers for state health departments across the United States. The list is given so you may contact the state health department in the state you are in to report any symptoms.

6. List of State Health Department Telephone Numbers
   This is a list of telephone numbers for state health departments across the United States. The list is given so you may contact the state health department in the state you are in to report any symptoms.

Once 21 days have passed, if you have no symptoms or fever, you are no longer at risk of Ebola.

Health Advisory: EBOLA

Ebola spreads through direct contact with the blood or body fluids (such as spit or pee) of a person who is sick with Ebola symptoms.

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

If you get sick, stay at home, then call the State Health Department or call CDC: 1-800-232-4636.

If you have a medical emergency, call 911.

CDC 2014
CARE Kit
21-Day Symptom Card and Log

The Ebola CARE Kit 21-day Symptom Card and Log.
CARE Kit
Thermometer and Instructions for Use

A digital thermometer is included in the Ebola CARE Kit. Travelers who develop a temperature of 100.4 degrees fahrenheit (38 degrees Celsius) or higher, should call their state health department.

Take your temperature two times a day, morning and night.

1. Turn the thermometer on. It will show an “F” on the screen when it is ready.
2. Hold the tip under your tongue for 90 seconds until it beeps.
3. Read the temperature.
4. Write your temperature on the Symptom Log you got in your CARE Kit.
5. You can clean your thermometer with soap and water.

- This thermometer is for YOU ONLY.
- Please DO NOT SHARE it.
- KEEP it for yourself for the next 21 days.
- DO NOT take your temperature right after eating or drinking.

If your temperature is 100.4°F / 38°C or above or if you have any of the symptoms on your Symptom Card, stay at home. Follow what you were told by the public health worker who contacted you.

If you are unable to reach someone immediately, call:
- the state health department or
- CDC 1-800-232-4636.

If you have a medical emergency, call 911.
CARE Kit Wallet Card

Your 21 Day Health Check
You were given this card because you recently traveled from a country affected by Ebola.
1) Please call the State Health Department.
2) Each day for the next 21 days, please check:
   - Is your temperature 100.4°F or 38°C or higher?
   - Do you have any of the symptoms listed on the CARE Kit Symptom Card?

If you develop a fever or other symptoms, please call the State Health Department.

A list of State Health Departments is in your C.A.R.E. Kit.
If you cannot reach your health department, please call CDC-INFO

If you are having a medical emergency, call 911

Ebola CARE Kit wallet cards with symptom guidance and contact information.
Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Ebola Virus Exposure

Summary of Recent Changes

1. Minor revisions were made December 24, 2014, to clarify the recommendations regarding people who enter patient care areas of Ebola treatment units but do not provide direct patient care (such as observers) and healthcare workers in any (including non-Ebola) healthcare settings. Language was also added to clarify that the low (but not zero) classification for brief proximity to a person with Ebola does not apply to Ebola patient care areas.
2. The guidance was updated November 28, 2014, to incorporate language about countries with cases in urban settings with uncertain control measures.
3. This guidance was updated November 16, 2014, to reflect the following:
   a. All healthcare workers who engaged in direct patient care in any healthcare setting in
Chapter I – General provisions

Article 23 Health measures on arrival and departure

2. On the basis of evidence of a public health risk obtained through the measures provided in paragraph 1 of this Article, or through other means, States Parties may apply additional health measures, in accordance with these Regulations, in particular, with regard to a suspect or affected traveller, on a case-by-case basis, the least intrusive and invasive medical examination that would achieve the public health objective of preventing the international spread of disease.

Statement on the 4th meeting of the IHR Emergency Committee regarding the 2014 Ebola outbreak in West Africa

WHO statement
21 January 2015

Recommendations for all countries

The Committee reaffirmed the need to avoid unnecessary interference with international travel and trade, as specified in Article 2 of the IHR 2005. The Committee noted that more than 40 countries have implemented additional measures, such as quarantine of returning travellers and refusal of entry. Such
Number of travelers (N = 1,986*) arriving from Guinea, Liberia, and Sierra Leone who were screened for Ebola at U.S. airports, by state and county of destination October 11 – November 10, 2014

Most common destinations
- New York 19%
- Maryland 12%
- Pennsylvania 11%
- Georgia 9%
- Virginia 7%

Source: CDC. MMWR / December 9, 2014 / Vol. 63

* Seven travelers were in transit and did not stay in the United States.
U.S. Experience with Entry Screening from Affected Countries

• Approximately 85% were adults ≥18 years and 3% had worked in a health care facility or laboratory

• Since entry screening has started, no traveler has been identified as high risk at port of entry.
Preventing Ebola by Screening Travelers

During EXIT and ENTRY screening of travelers, officials:

- ASK about exposure
- LOOK for signs of illness
- CHECK temperature

**West Africa**

EXIT screening

All travelers leaving Guinea, Liberia, and Sierra Leone will be screened before getting on their flight.

- High risk exposure → NOT OK to travel
- Some or low risk exposure with signs or symptoms of Ebola → NOT OK to travel
- Some or low risk exposure with NO signs or symptoms of Ebola → OK to travel

**United States**

ENTRY screening

Travelers coming to the US from countries with Ebola outbreaks (such as Guinea, Liberia, and Sierra Leone) fly into one of the following airports for entry screening: New York’s JFK, Newark, Washington-Dulles, Chicago O’Hare, and Atlanta.

- Signs or symptoms of Ebola → Medical evaluation
- High risk exposure with NO signs or symptoms of Ebola → NOT OK to travel
- Some* or low risk exposure with NO signs or symptoms of Ebola → OK to travel

*Denotes: Some travelers falling under the "some risk" category may be allowed to continue to their final destination; once travelers are in their final destination, states may choose to apply travel/movement restrictions.

More information about screening and monitoring travelers can be found at: www.cdc.gov/Health/Ebola/ebola-screening-factsheet.html

Definitions of high, some, and low risk exposure can be found at: www.cdc.gov/Health/Ebola/pdf/Ebola-guidance-for-travelers.pdf

March 25, 2014

CDC
For the most current information, visit

http://www.cdc.gov/vhf/ebola/airports/index.html

http://www.cdc.gov/vhf/ebola/index.html
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or
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For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.