Ebola Virus Disease update and IHR Emergency Committee

WHO/PAHO/CHA/IR

Virtual Session for National Authorities in the Caribbean Sub-region

08 August 2014

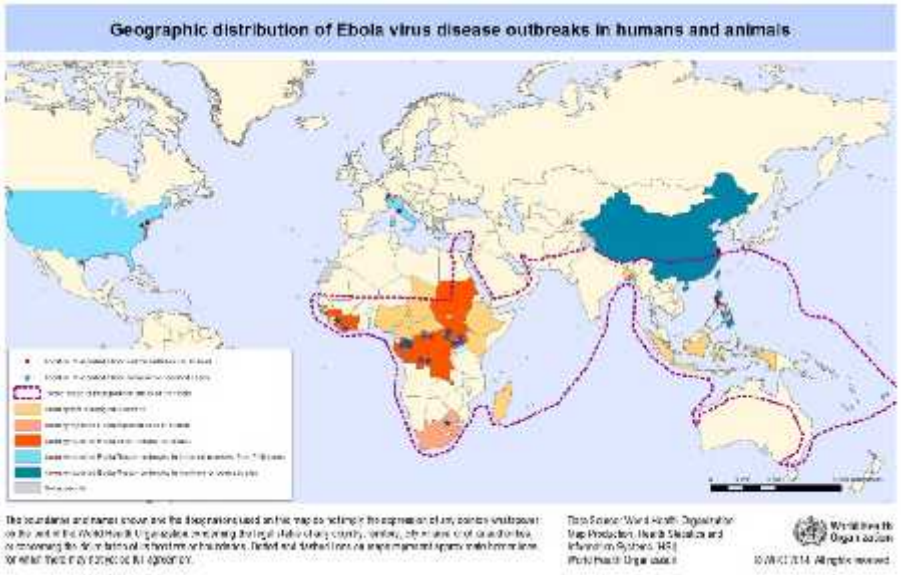
Caribbean Public Health Agency
CARPHA

Pan American Health Organization

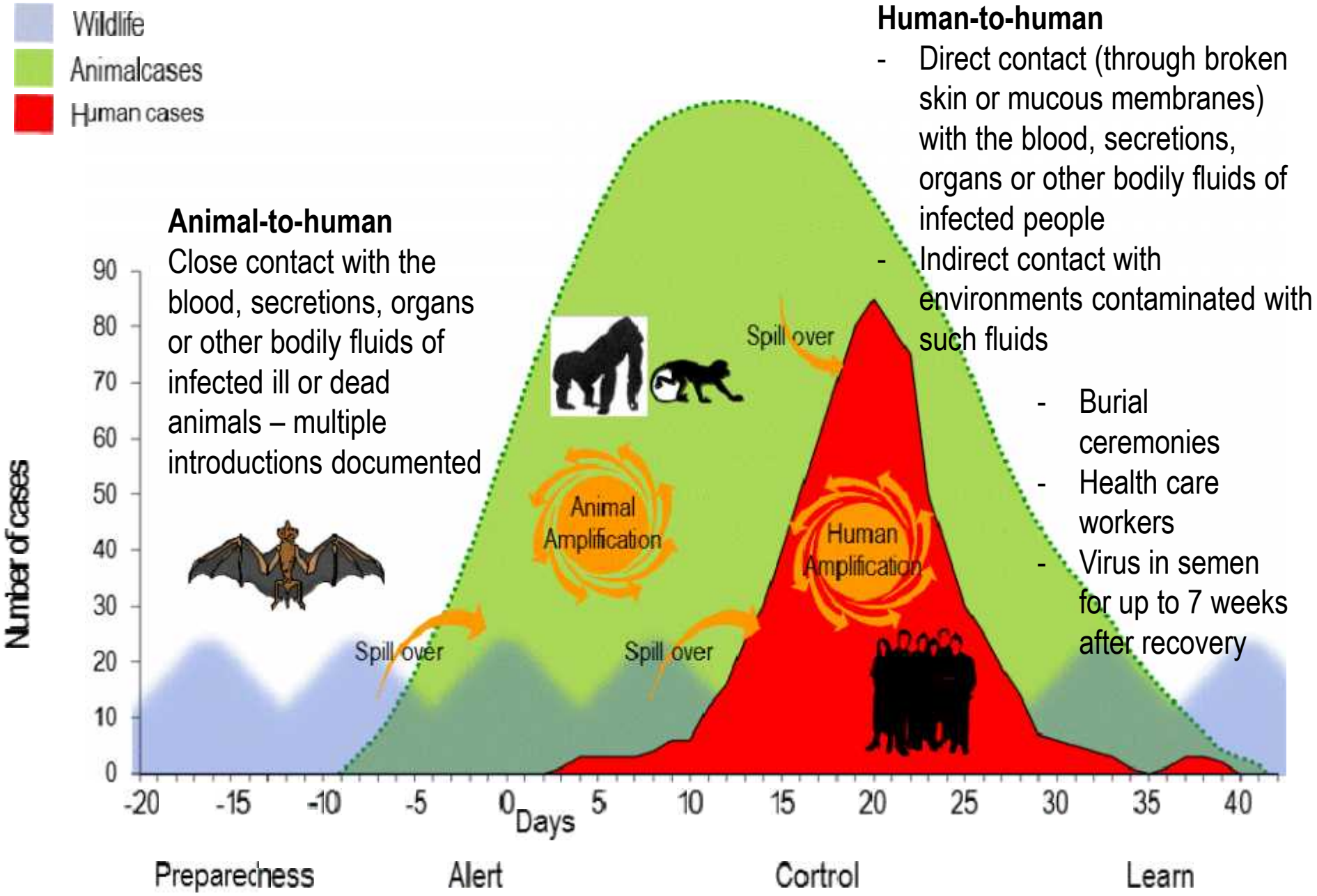
World Health Organization
REGIONAL OFFICE FOR THE Americas

Key facts about Ebola Virus Disease (EVD)

- Viral haemorrhagic fever caused by *Filoviridae* family (filovirus) → Genus Ebolavirus → 5 species
- Often fatal illness in humans, with case fatality rate of up to 90%
- Outbreaks occur primarily in remote villages in Central and West Africa, near tropical rainforests
- Ebola virus is transmitted to people from wild animals - fruit bats natural host
- Ebola virus spreads in the human population through human-to-human transmission – direct or indirect contact
- Severely ill patients require intensive supportive care - no licensed specific treatment or vaccine is available for use in people or animals



Trasmission of EVD



Animal-to-human

Close contact with the blood, secretions, organs or other bodily fluids of infected ill or dead animals – multiple introductions documented

Human-to-human

- Direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people
- Indirect contact with environments contaminated with such fluids
  - Burial ceremonies
  - Health care workers
  - Virus in semen for up to 7 weeks after recovery

EVD clinical course

-No specific treatment available
  -New drug therapies being evaluated
  -Hyper-immune sera: no evidence
  -WHO ethical review of experimental treatment, week 11 August 2014

-General supportive therapy
  -Fluid replacement
  -Analgesic

-No licensed vaccine available - several tested

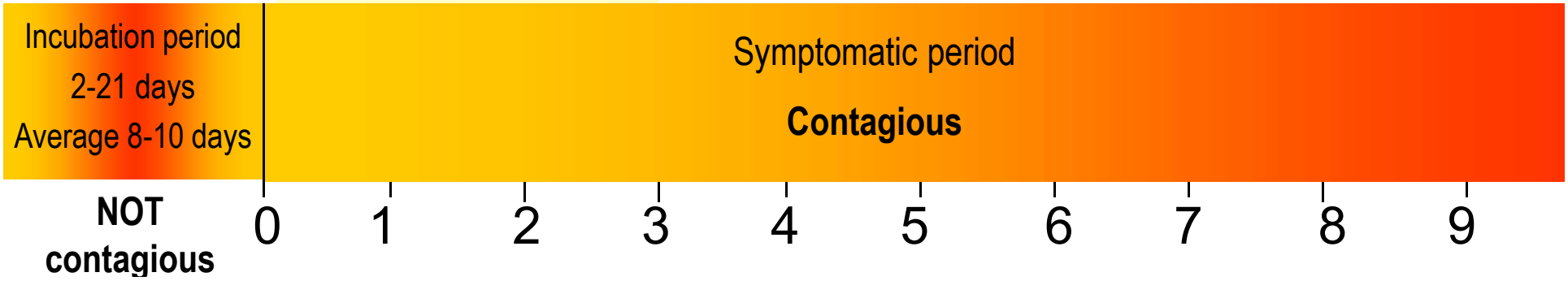
Death
Coma
Delirium
Somnolence
Hiccoughs
Haemorrhage

CFR 50-90%

Diarrhoea
Nausea/vomiting
Dysphagia
Chest and abdominal pain
Conjunctival injection
Rash

Fever
Severe headache
Myalgia
Extreme fatigue
Anorexia

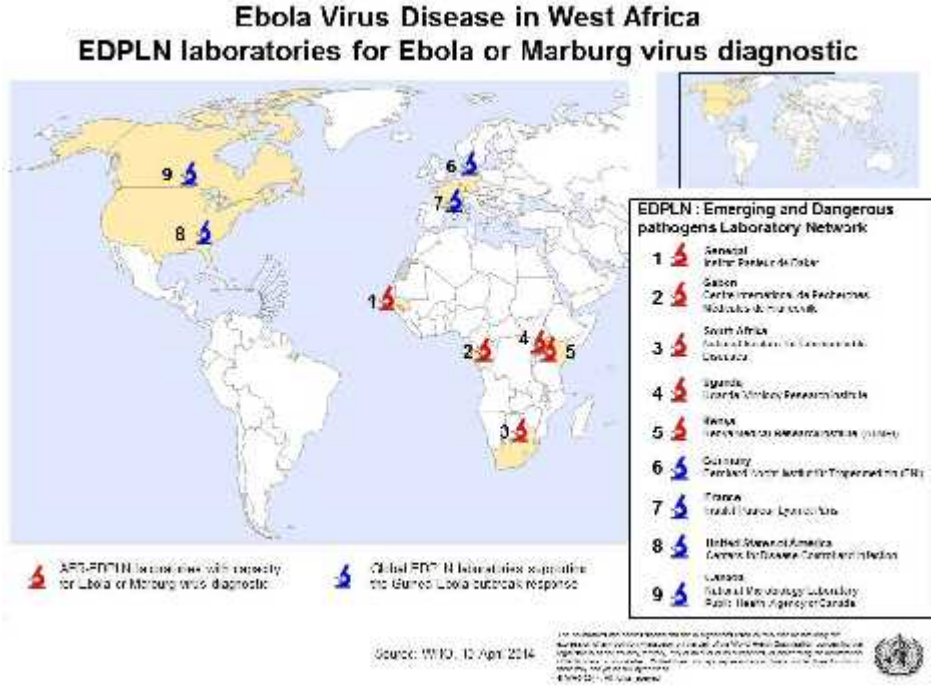
- Low white blood cell
- Low platelet counts
- Elevated liver enzymes



EVD diagnosis

- Differential diagnosis: malaria, typhoid fever, shigellosis, cholera, leptospirosis, plague, rickettsiosis, relapsing fever, meningitis, hepatitis and other viral haemorrhagic fevers

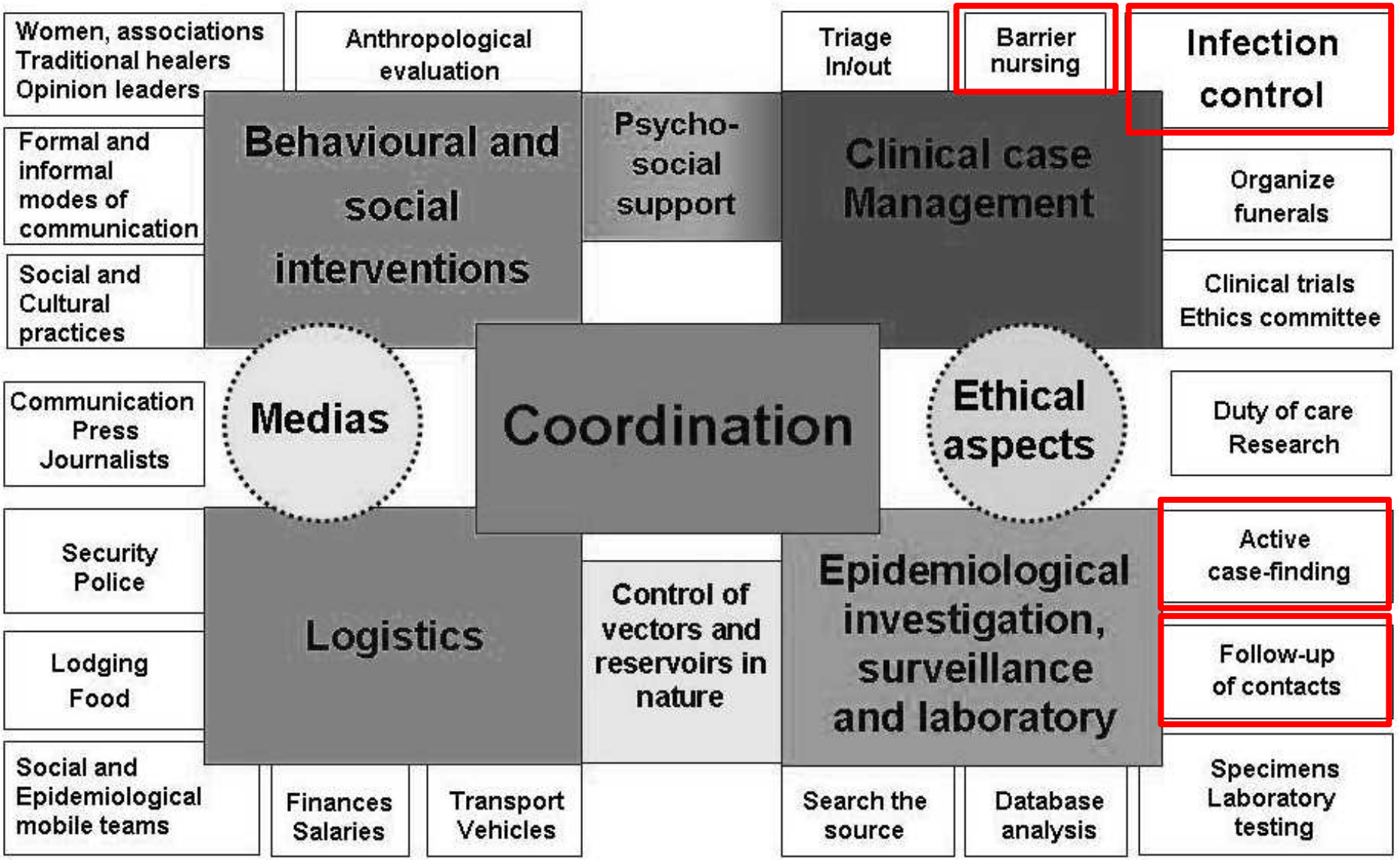
- EVD diagnosis:
  - antibody-capture enzyme-linked immunosorbent assay (ELISA)
  - antigen detection tests
  - serum neutralization test
  - reverse transcriptase polymerase chain reaction (RT-PCR) assay
  - electron microscopy
  - virus isolation by cell culture



Samples from patients are an extreme biohazard risk; testing should be conducted under maximum biological containment conditions

Control of EVD

Rigorous



Prevention and control

Community

- Raising awareness of the risk factors for Ebola virus infection and protective measures
- Wildlife-to-human transmission: gloves, protective clothing, animal products thoroughly cooked before consumption
- Human-to-human transmission in the community: avoid close physical contact with Ebola patients (gloves and personal protective equipment when taking care of ill patients at home; regular hand washing after visiting patients/taking care of patients at home)
- Informing affected communities about the nature of the disease and about outbreak containment measures, including burial

Health care settings

- It is not always possible to identify patients with EBV early because initial symptoms may be non-specific → health-care workers apply standard precautions consistently with all patients - regardless of their diagnosis
- Health-care workers caring for patients with potential or confirmed Ebola virus should apply, in addition to standard precautions, other infection control measures to avoid any exposure to the patient's blood and body fluids and direct unprotected contact with the possibly contaminated environment
- Laboratory workers are also at risk. Samples taken from suspected human and animal Ebola cases for diagnosis should be handled by trained staff and processed in suitably equipped laboratories.

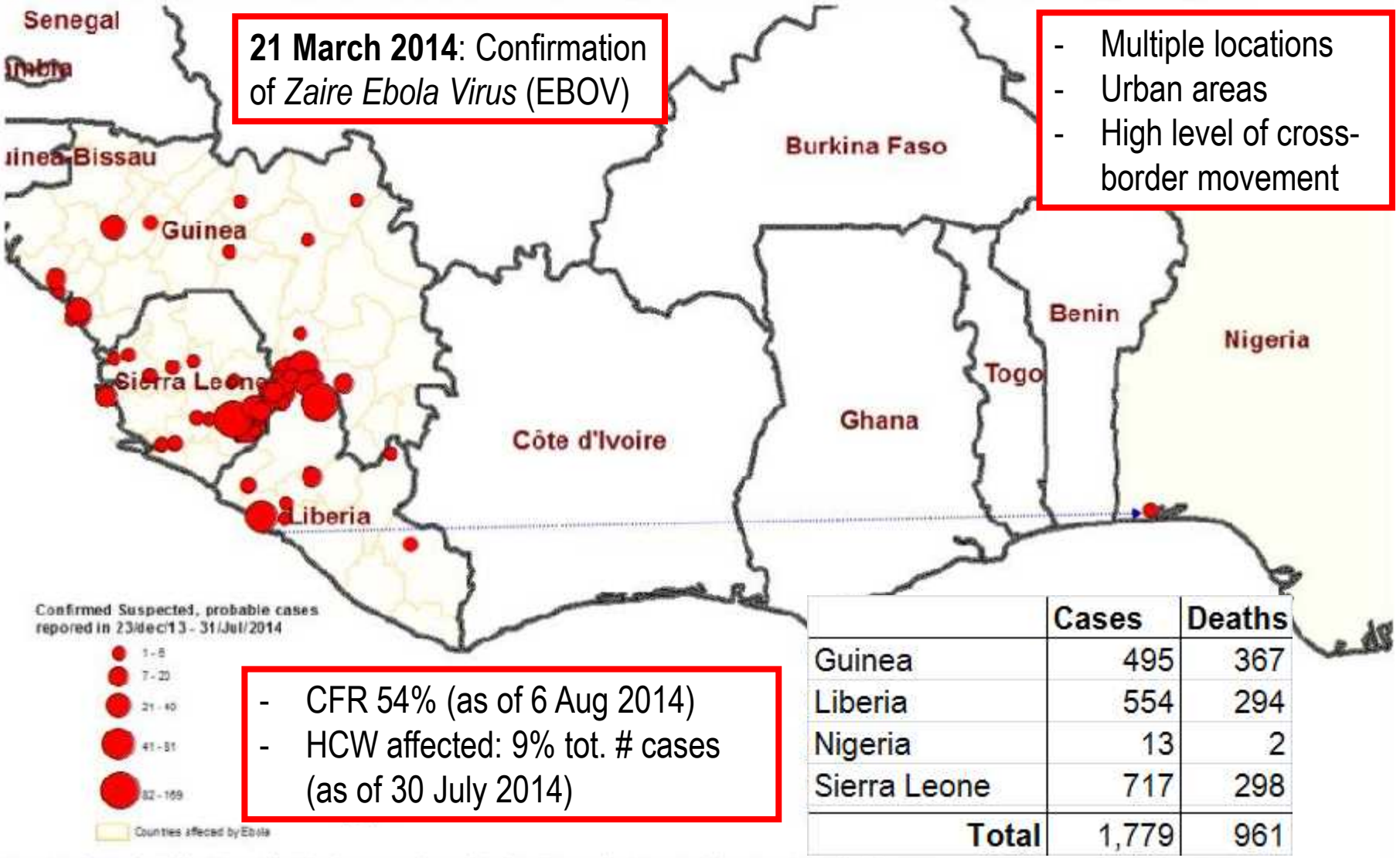
Ebola Virus Disease (EVD) in West Africa (Situation as of 30 July 2014)

World Health Organization Africa

Confirmed, Probable and suspected cases of Ebola reported from Guinea, Sierra Leone, Liberia and Nigeria

21 March 2014: Confirmation of *Zaire Ebola Virus* (EBOV)

- Multiple locations
- Urban areas
- High level of cross-border movement



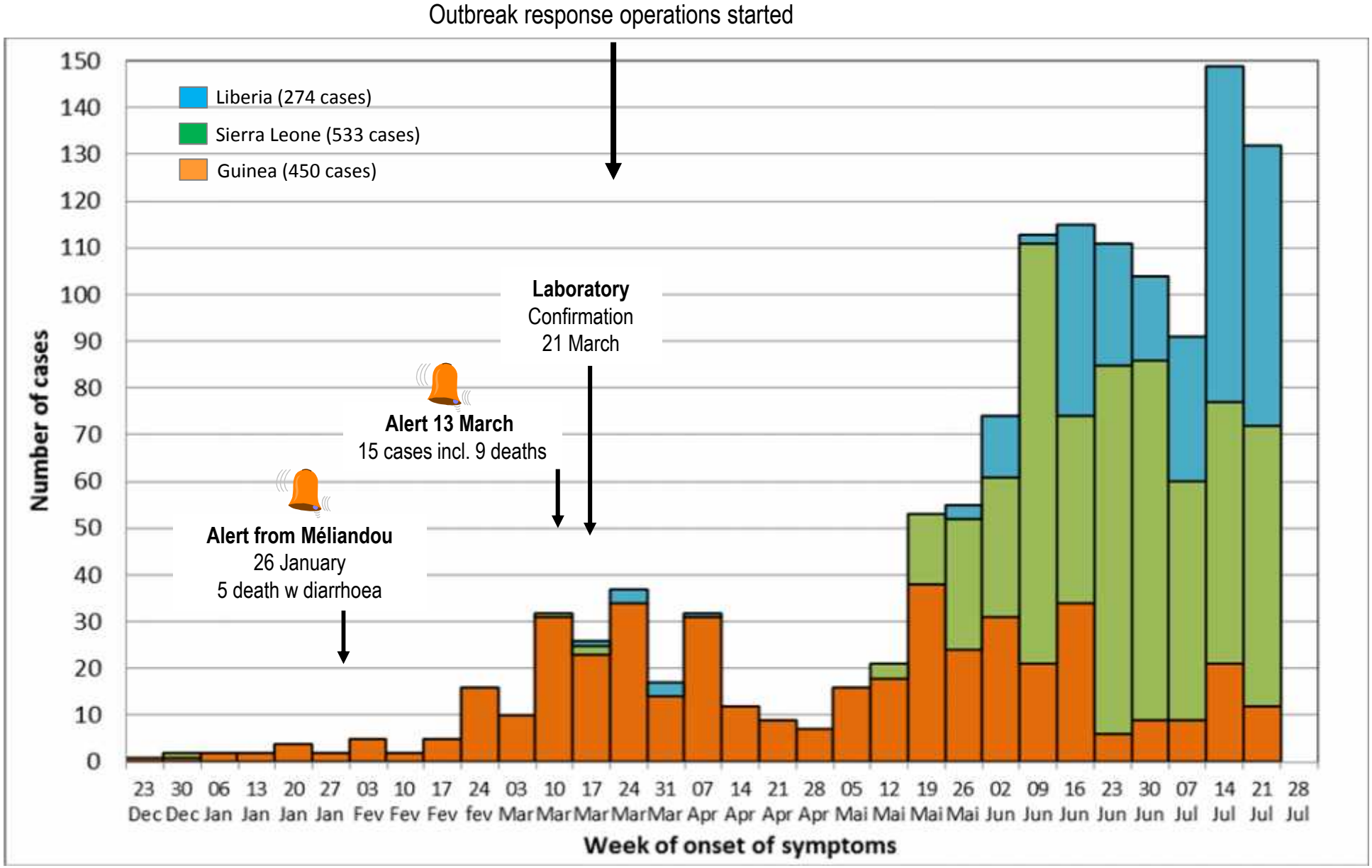
- CFR 54% (as of 6 Aug 2014)
- HCW affected: 9% tot. # cases (as of 30 July 2014)

	Cases	Deaths
Guinea	495	367
Liberia	554	294
Nigeria	13	2
Sierra Leone	717	298
Total	1,779	961

Geographic distribution of Ebola cases by sub district and areas with ongoing Ebola transmission, as of 30 July 2014

Disease Surveillance and Response Programme, Disease Prevention and Control Cluster, Regional Office for Africa
afrgooutbreakafro@who.int

Ebola outbreak in Guinea, Liberia and Sierra Leone
Cases by week of onset, December 2013 - 31 July 2014

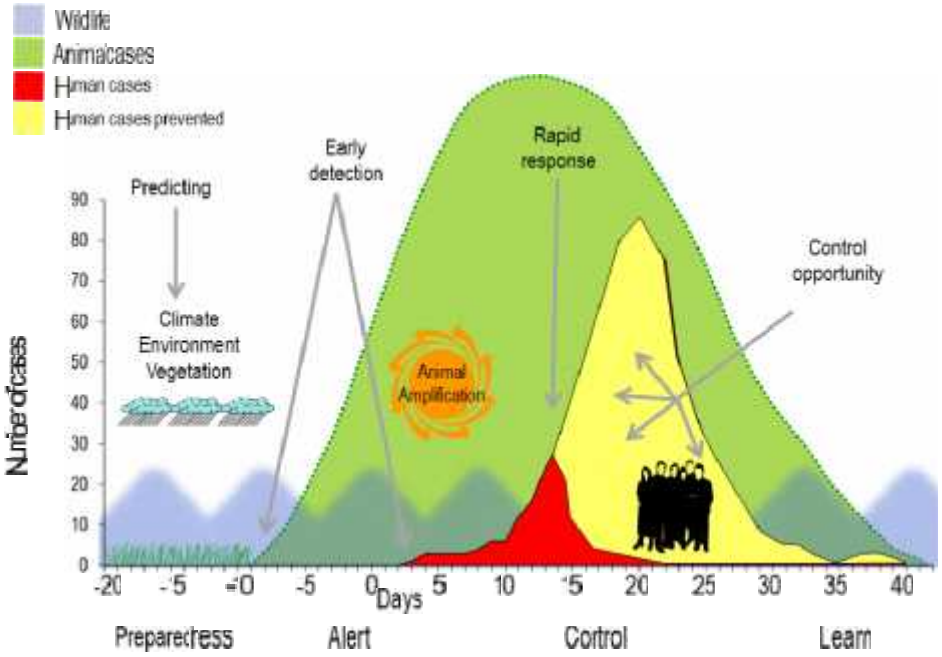


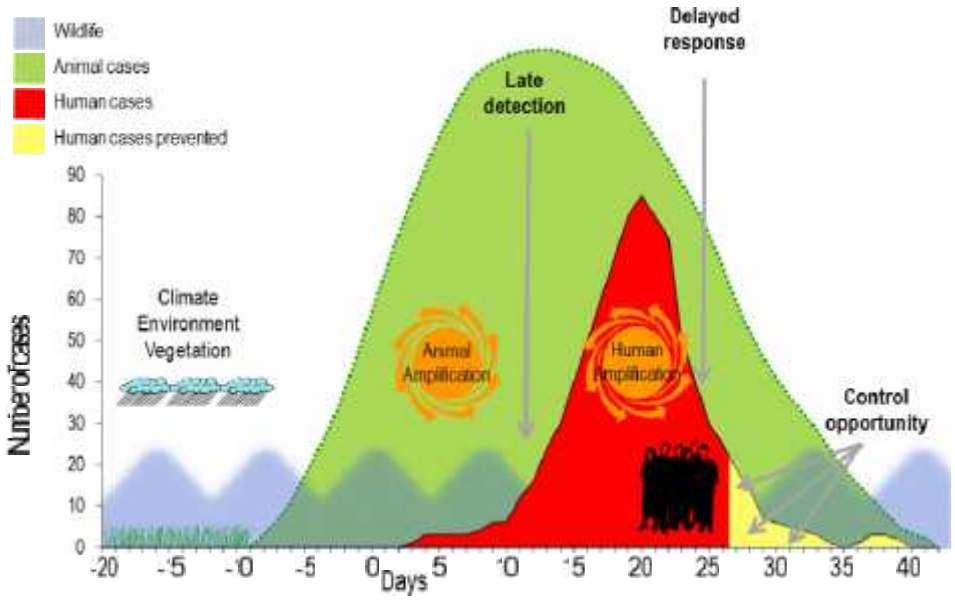
- Outbreak is moving faster than efforts to control it…consequences can be catastrophic - lost lives, socioeconomic disruption, high risk of spread to other countries

- Affecting a large number of HCW

- Urgent priority for decisive action at national and international levels

- Constant mutation and adaptation of virus





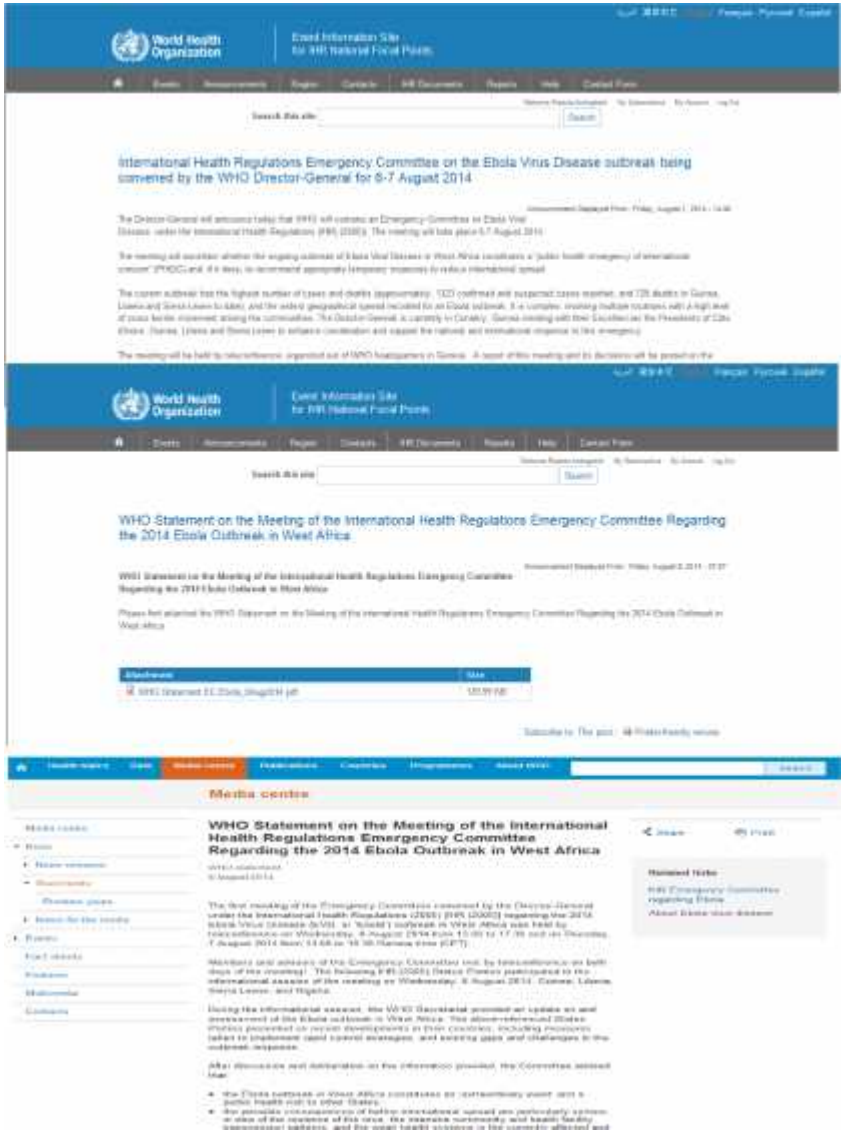
- It is not just a medical or public health problem: it is a social problem - deep-seated beliefs and cultural practices as cause of further spread and barrier to containment

- Chains of transmission have moved underground - hiding of cases defeats and security threat to response teams

IHR Emergency Committee regarding the 2014 Ebola Outbreak in West Africa 6-7 August 2014

- Public Health Emergency of International Concern (PHEIC) determined by WHO Director General

- Temporary Recommendations
  - States with Ebola transmission
  - States with a potential or confirmed Ebola Case, and unaffected States with land borders with affected States
  - **<u>All States</u> → currently applying to the Americas**



Temporary Recommendations
All States

- There should be no general ban on international travel or trade; restrictions outlined in these recommendations regarding the travel of EVD cases and contacts should be implemented.
- States should provide travelers to Ebola affected and at-risk areas with relevant information on risks, measures to minimize those risks, and advice for managing a potential exposure.
- States should be prepared to detect, investigate, and manage Ebola cases; this should include assured access to a qualified diagnostic laboratory for EVD and, where appropriate, the capacity to manage travelers originating from known Ebola-infected areas who arrive at international airports or major land crossing points with unexplained febrile illness.
- The general public should be provided with accurate and relevant information on the Ebola outbreak and measures to reduce the risk of exposure.
- States should be prepared to facilitate the evacuation and repatriation of nationals (e.g. health workers) who have been exposed to Ebola.

- Most probable scenario for the introduction of the Ebola virus in the Region is by air travel

- Objective of ongoing public health efforts and preparedness activities:
- To contain and prevent establishment of local transmission following the introduction of EVD in a previously EVD-free country

Pan American Health Organization
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Americas

Ebola virus disease (EVD), Implications of Introduction in the Americas

6 August 2014

Given the current situation of Ebola virus disease (EVD) in West Africa, the Pan American Health Organization / World Health Organization (PAHO/WHO) advises its Member States to remain vigilant for potential introduction of EVD in the Americas, to raise the awareness and knowledge of health care providers and to strengthen the implementation of standard precautions for infection prevention and control in health care facilities at all levels.

1. Ebola virus disease (EVD) – Key facts

Ebola virus disease (EVD), formerly known as Ebola haemorrhagic fever), is a severe, often fatal illness, with a case fatality rate of up to 90%. There are no licensed specific treatments or vaccines available for use in people or animals.

Genus Ebolavirus is 1 of 3 members of the Filoviridae family (filovirus), along with genus Marburgvirus and genus Cuevavirus. Genus Ebolavirus comprises 5 distinct species: Bundibugyo ebolavirus (BDBV), Zaire ebolavirus (EBOV), Reston ebolavirus (RESTV), Sudan ebolavirus (SUDV) and Taï Forest ebolavirus (TAFV).

The incubation period of Ebola virus disease (EVD) varies from 2 to 21 days, with an observed average of 8 to 10 days. Following the introduction of Ebola virus in the human population through animal-to-human transmission, person-to-person transmission by direct contact bodily fluids/secretions of infected persons is considered the principal mode of transmission. Indirect contact with environment and fomites soiled with contaminated bodily fluids (e.g. needles) may also occur. Airborne transmission has not been documented during previous EVD outbreaks.

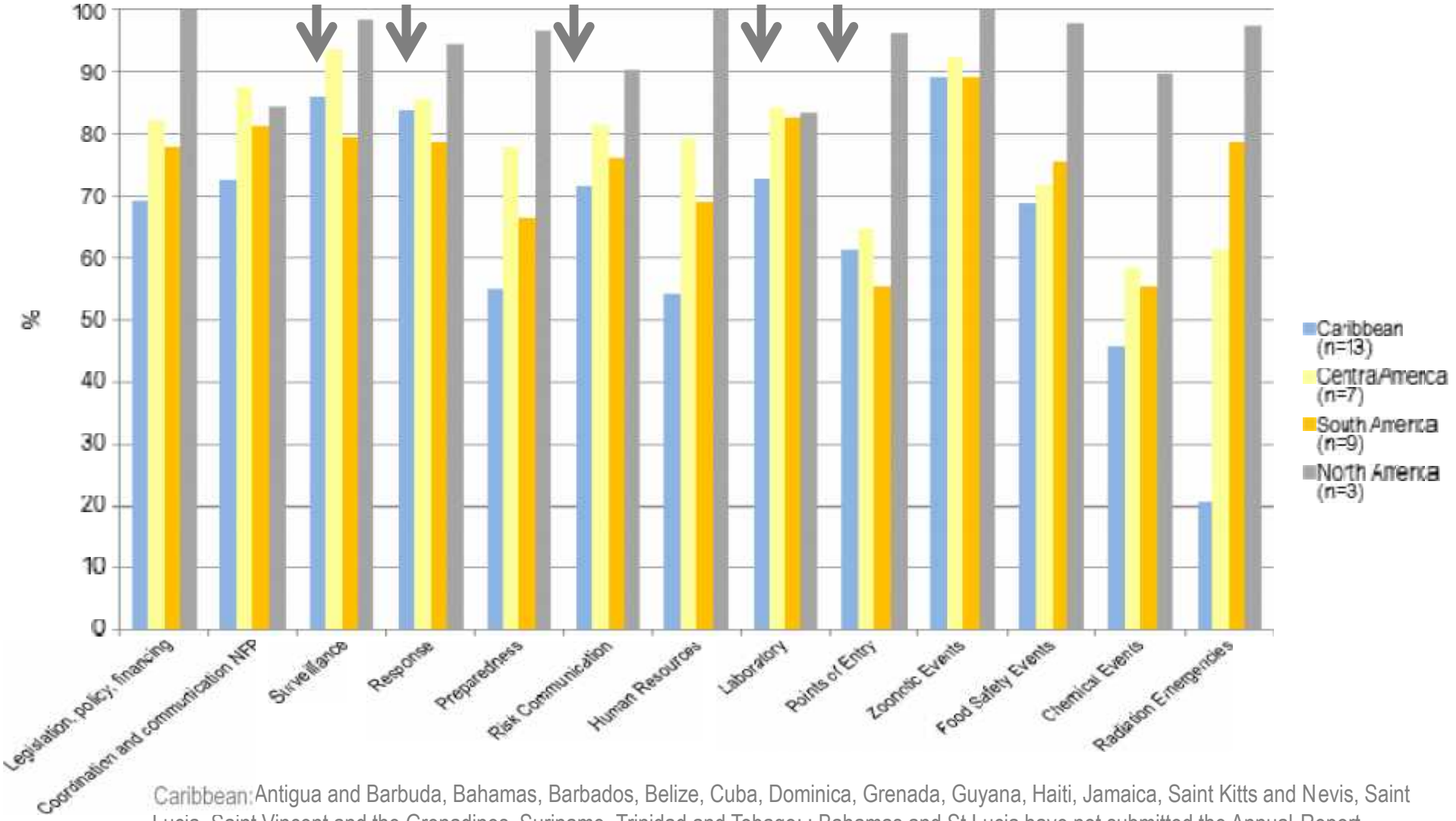
There is no risk of transmission during the incubation period.

The most common symptoms experienced by persons infected with the virus are the sudden onset of fever, intense weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhea, rash, impaired kidney and liver function, and at advanced stage, both internal and external bleeding. Laboratory findings include low white blood cells and platelet counts and elevated liver enzymes.

Additional information available at:
http://www.paho.org/hq/index.php?option=com_content&view=article&id=9815&Itemid=41063&lang=en

Status (%) of national core capacities

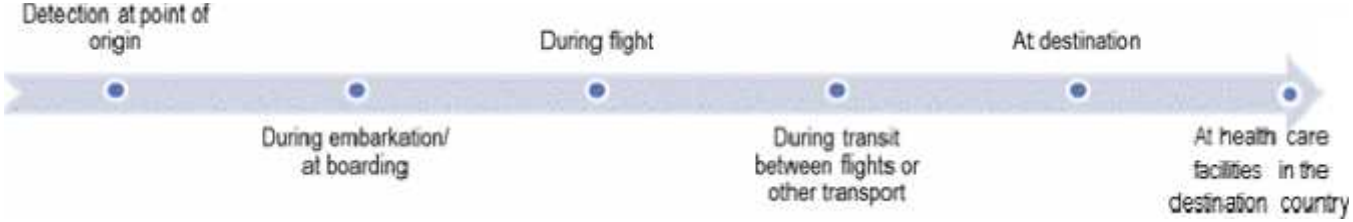
by sub-region in the Americas, States Parties Annual Reports to 67 World Health Assembly, 2014 (n=33*)



Caribbean: Antigua and Barbuda, Bahamas, Barbados, Belize, Cuba, Dominica, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago; ; Bahamas and St Lucia have not submitted the Annual Report
Central America: Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Panama
South America: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela
North America: Canada, Mexico, United States
*Annual Report submitted by Peru not yet included in the analysis

Surveillance

Detection of case with symptoms compatible with EVD



States should be prepared to detect, investigate, and manage Ebola cases; this should include assured access to a qualified diagnostic laboratory for EVD and, where appropriate, the capacity to manage travelers originating from known Ebola-infected areas who arrive at international airports or major land crossing points with unexplained febrile illness.

- Alive or dead
- Clinical manifestations
- Exposure history
- Travel history
- Any unusual health event – Health Care Workers

Contact tracing - 21 days from date of last exposure!!!

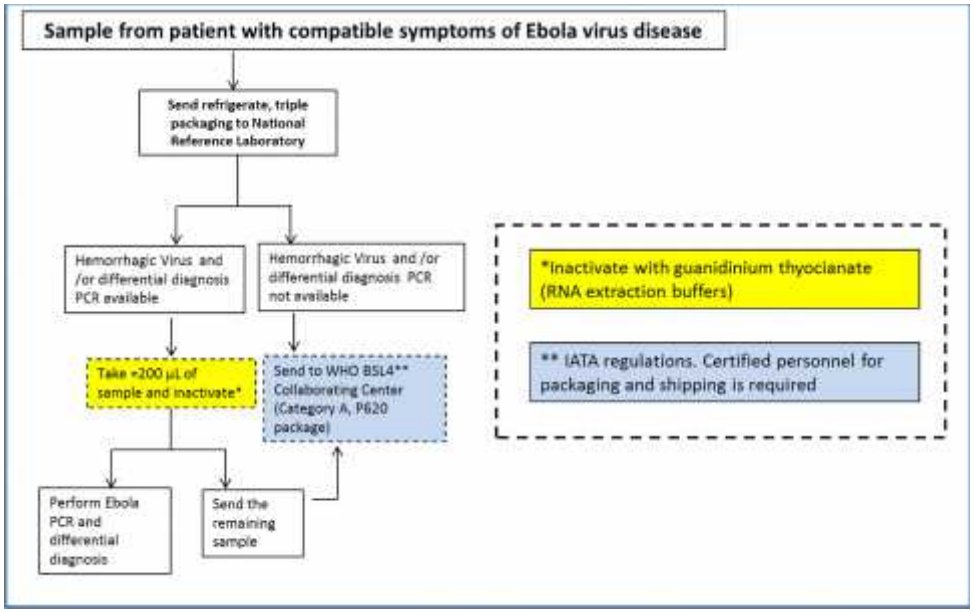
- Identification of contacts of individuals, alive or dead, with clinical and epidemiology history compatible with EVD and confirmed EVD cases
- Contacts of patient with illness compatible with EVD on an aircraft: on aircraft (RAGIDA): fellow passengers, crew, passengers in transit
- Health personnel involved in the direct care of a patient under investigation for EVD or of a confirmed case of EVD
- Laboratory personnel
- Contacts who developed symptoms compatible with EVD must be referred to the isolation ward in a designated hospital

Laboratory diagnostic

- Ebola virus is classified as a Risk Group 4 pathogen, and therefore requires being handled in an equivalent level of biosafety (BSL-4)

- Shipment of samples

- Final confirmation of Ebola virus infection:
  - Centers for Disease Control and Prevention (CDC), US
  - Public Health Agency of Canada (PHAC), Canada



Case management

- Health services: designated hospital/s
- Patient referral

Clinical Management

- Criteria for terminating patient isolation
- Special Considerations

Infection Prevention and Control

1. Standard Precautions

- Hand hygiene
- Safe handling and disposal of sharp instruments
- Use of PPE according to the risk assessment
- Safe cleaning and disinfection of spills, environment, and reusable equipment

3 Cleaning in the hospital and of households of patients symptomatic of EVD

4 Waste management in the hospital setting

5 Infection control in aircraft

6 Safe disposal of dead bodies

2. Contact precautions

- Restriction of the number of staff dedicated to patient care
- Limited number of visits
- Keeping log books to register staff caring for the patient as well as visitors
- Use of PPE by both health care personnel and visitors
- Washing hands
- Use of surgical masks, goggles
- Safe removal of PPE before leaving the isolation area
- Designation of dedicated staff for monitoring the correct use of PPE
- Use of disposable PPE is generally recommended

Raising awareness and communication

- Health professionals
- Other sectors
- General Population

The general public should be provided with accurate and relevant information on the Ebola outbreak and measures to reduce the risk of exposure.

- Informing travelers

There should be no general ban on international travel or trade; restrictions outlined in these recommendations regarding the travel of EVD cases and contacts should be implemented.

States should provide travelers to Ebola affected and at-risk areas with relevant information on risks, measures to minimize those risks, and advice for managing a potential exposure.

- Informing expat communities

States should be prepared to facilitate the evacuation and repatriation of nationals (e.g. health workers) who have been exposed to Ebola.

- Media

CARPHA Risk Assessment

-The current outbreak of Ebola virus disease is in West Africa.

-There have not been any cases of Ebola in the Caribbean

-Overall risk assessment for the Caribbean region remains “low”.

-CARPHA will continue to monitor the situation

-The level of risk may change as new information becomes available.

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What is CARPHAs role?

- Monitor the event
- Coordinate and collaborate with regional and global partners
- CARPHA EVD Incident Management Team and Emergency Response Operations Centre
- Support preparedness of Member States
- Support response of Member States
- Provide guidance for Member States
- Identify and disseminate information
- CARPHA is NOT suitably equipped to test laboratory specimens

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Conclusions

-Examine/update preparedness plans + BCPs

-Sensitise healthcare workers – public + private

-Travel history to areas with reported cases

-IPC at all times

-Identify treatment centres/isolation rooms/wards

-Carry out social mobilization

-Enhance surveillance systems

-Resources – contact tracing, PPE, people

-Communication – engage with the media, communities, academia

-Report suspect cases to CARPHA and PAHO/WHO

-**Do not** send samples to CARPHA laboratory – call first!

-Recognise the national benefits and regional health security need for meeting IHR core capacity requirements – Port health

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Thank you

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