Update for Virginia Hospitals on the Ebola Outbreak in the Democratic Republic of the Congo

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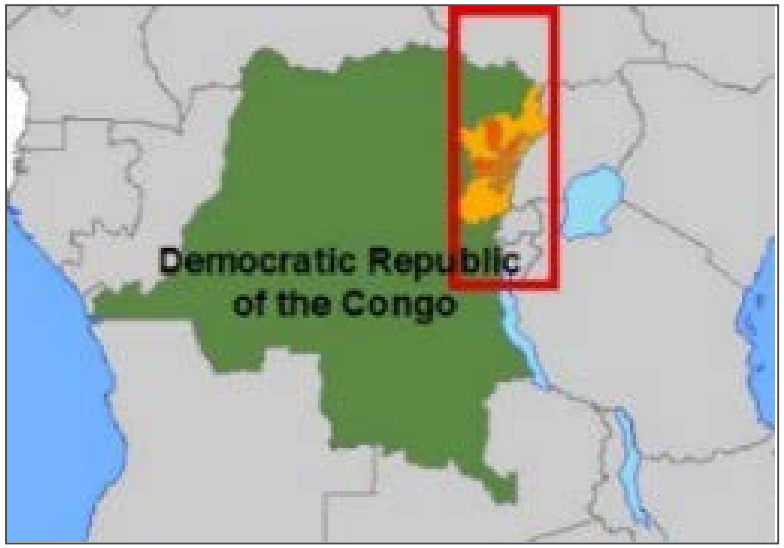
Ebola Outbreak in DRC



- **Risk in DRC = very high**
- **Risk among countries bordering DRC affected areas = very high**
- **Risk at global level = low**

Image source: Google and CDC, https://www.cdc.gov/vhf/ebola/outbreaks/drc/east-drc-map.html

Comparison of Ebola Outbreaks

Location	Cases	Deaths
DRC	2,753*	1,843*
West Africa	*28,652*	*11,325*

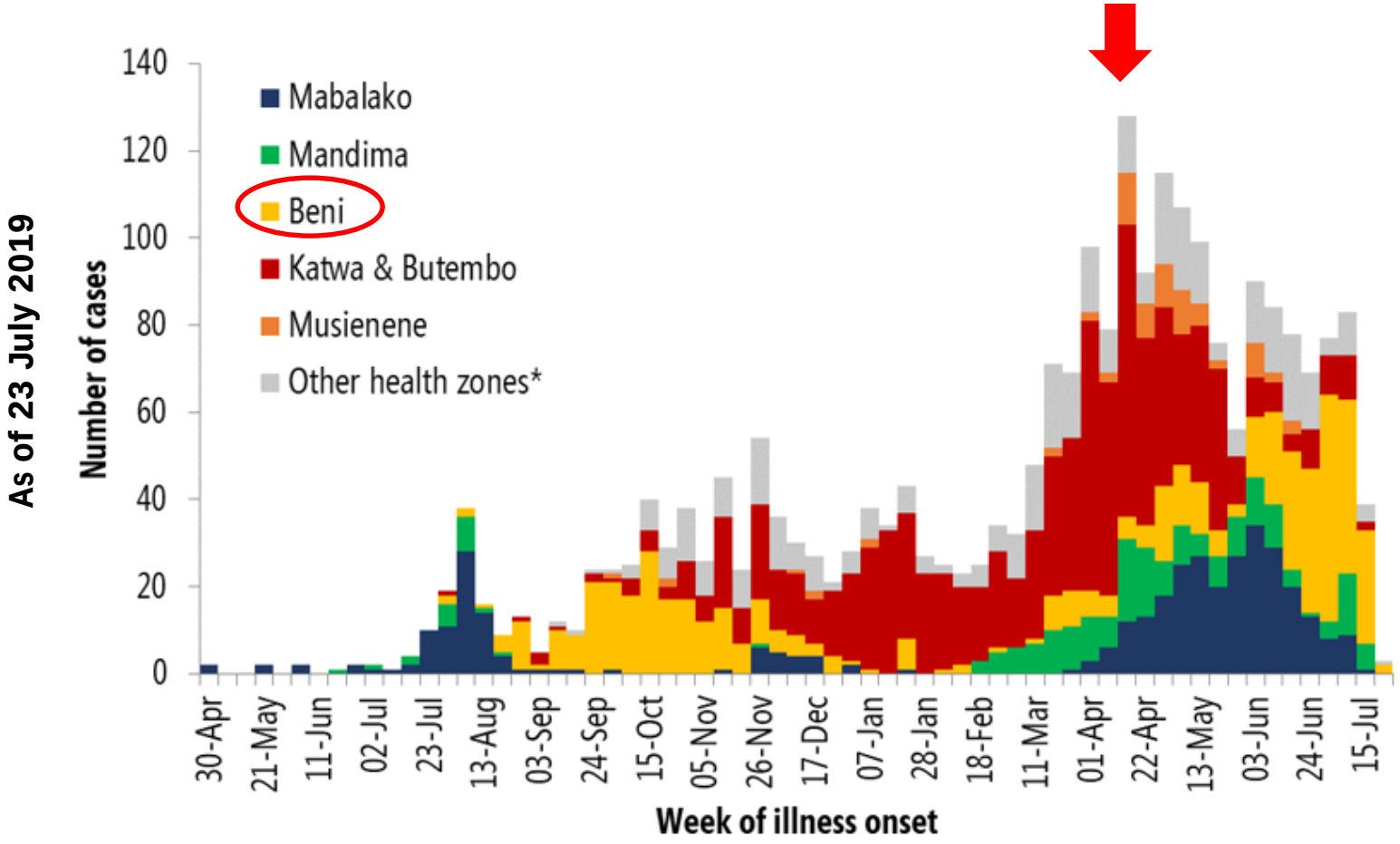
*As of 8/3/19

Low Risk to United States

- Low number of travelers from DRC
- Entry and exit screening in DRC
  - Goma Airport
  - >70 entry points - land borders
- No direct flights

Epidemic Curve

Visual display of onset of illness among cases associated with outbreak



5 Image source: https://www.who.int/csr/don/25-july-2019-ebola-drc/en/

Outbreak Response

- Find, isolate, diagnose, treat cases
  - Surveillance
  - RCT comparing 4 therapeutics
  - Case management
- Prevent transmission
  - Infection control
  - Contact tracing, ring vaccination, quarantine
  - DRC border screening
- Community engagement and education
  - Safe and dignified burials
  - Vaccine acceptance

Factors Impeding Response

1. Complex political environment and lack of security → fear and distrust
2. Reluctance in community → delays in case detection and isolation
3. Population movement in highly densely populated areas → challenges in contact tracing
4. Infection and prevention control practices → nosocomial transmission

WHO Public Health Emergency of International Concern – July 2019

- Possible increased national and regional risks
  - Uganda - 3 cases in June but no further spread
  - In DRC – cases in 3 new health zones; Goma

- Need for intensified and coordinated international response
  - Neighboring countries: Specific steps to prepare
  - Other countries: Awareness and review protocols
    - Screening at U.S. airports or active monitoring of travelers not recommended at this time

Hospital Preparedness: A Tiered Approach

Facility Tier	Minimum Capabilities	Number in Virginia
Frontline	Identify, triage, and isolate possible patients with Ebola	
Assessment	Receive and isolate a PUI and coordinate Ebola testing	6
Treatment	Care for and manage patient throughout disease process	2

Identifying Persons Under Investigation for Ebola Virus Disease (PUI)

1. Was the person in an Ebola-affected area within 21 days before symptom onset?
   - Detailed travel history is key – CDC map: www.cdc.gov/vhf/ebola/outbreaks/drc/east-drc-map.html

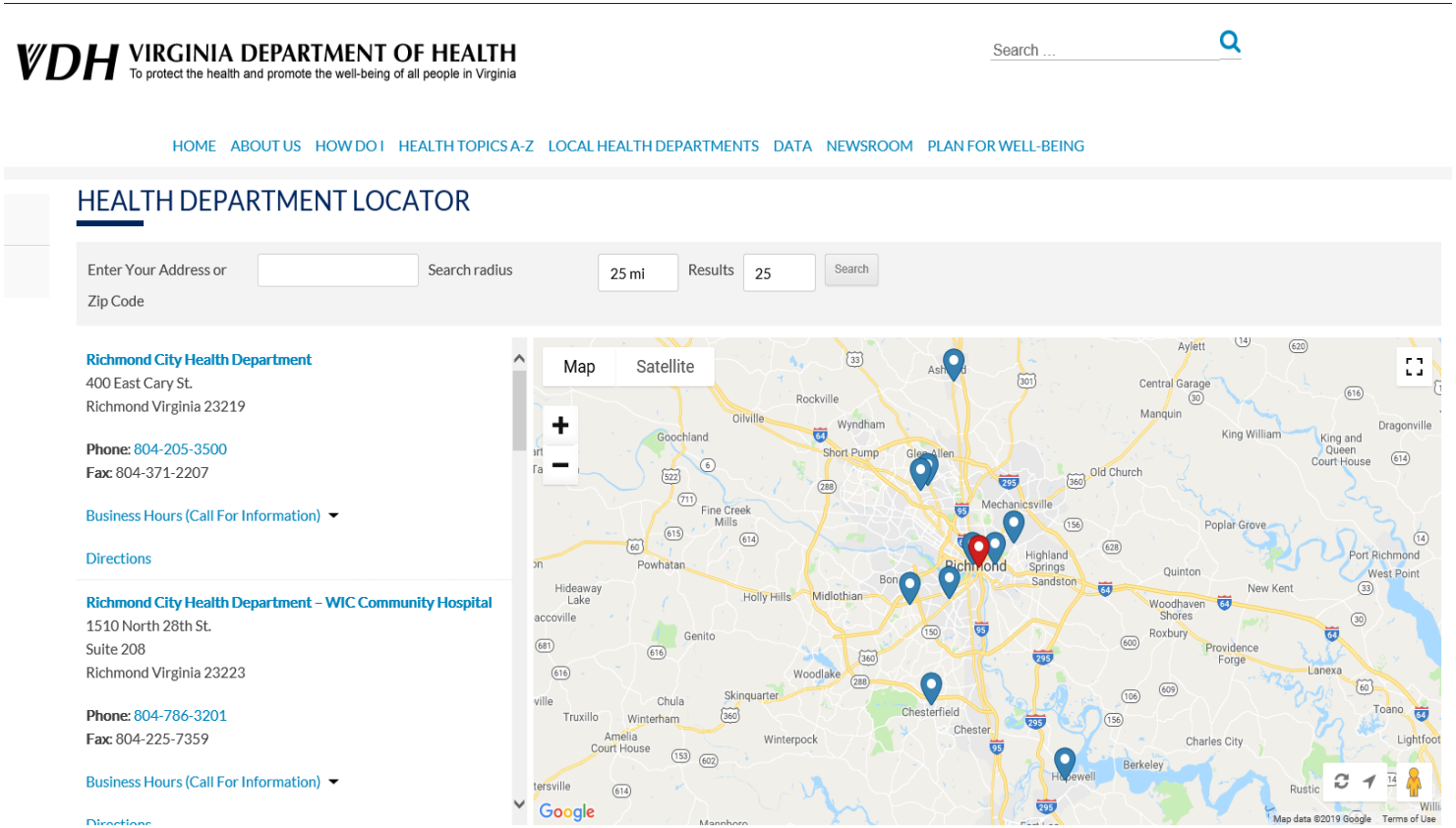
2. Did the patient have direct contact within the 21 days before the onset of symptoms with:
   - Blood or body fluids of a person with EVD
   - Objects contaminated with body fluids from a person with EVD
   - Semen from a man who recovered from EVD
   - Infected fruit bats or nonhuman primates

3. Does the patient have symptoms compatible with EVD?
   - Fever, severe headache, fatigue, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage

Infection Control for PUIs

- Isolate patient in single room with private bathroom
- Limit personnel who enter room
- Use standard, contact, and droplet precautions
  - PPE type depends on whether patient has vomiting, diarrhea or bleeding and is clinically stable or not
- Maintain log of people entering patient's room
- Limit visitors
- Establish procedures for monitoring and managing visitors

Notify the Local Health Department



TOOLS FOR HEALTHCARE SYSTEMS

Assessing Viral Hemorrhagic Fever (VHF) Risk in a Returning Traveler

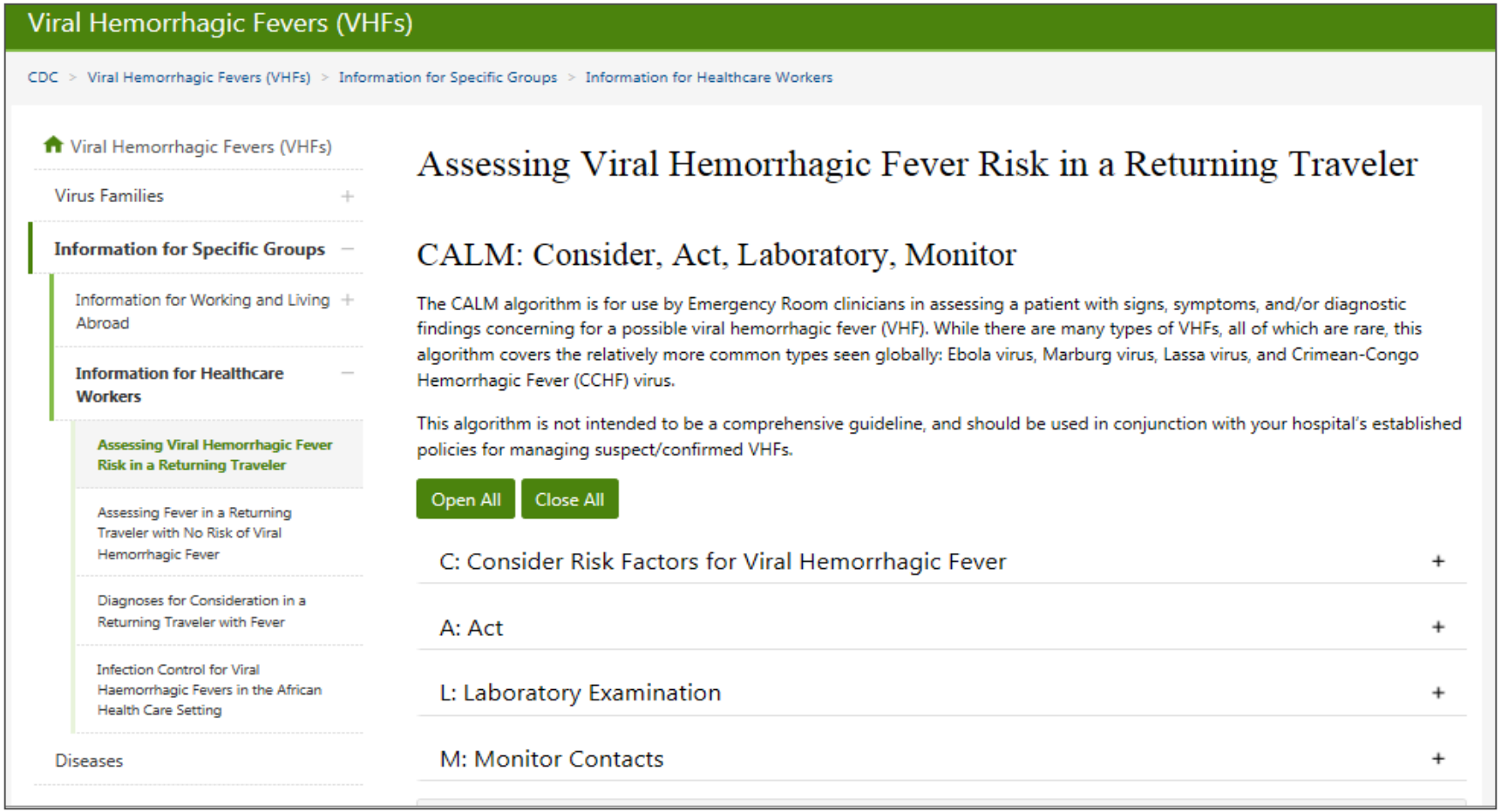


 Image source: CDC https://www.cdc.gov/vhf/abroad/assessing-vhf-returning-traveler.html

Assessing Fever in a Returning Traveler with No Risk of VHF

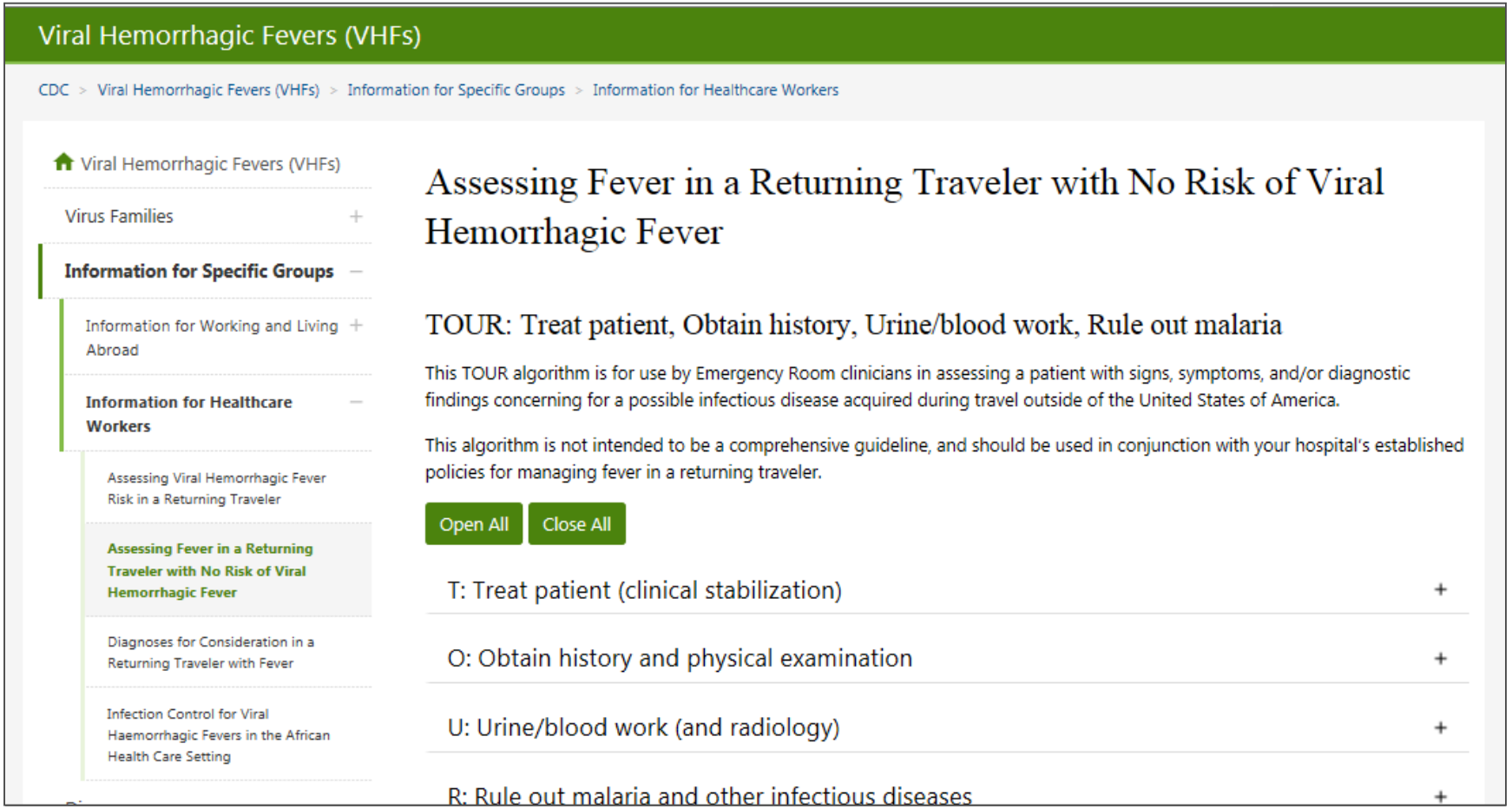


Image source: CDC https://www.cdc.gov/vhf/abroad/assessing-fever-returning-traveler-no-risk-viral-hemorrhagic-fever.html

Malaria

- Leading cause of travel-related hospitalization and death
- Early diagnosis and treatment is critical to improve outcomes
- CDC Malaria Hotline (770-488-7788) or toll free at 855-856-4713 from 9am to 5pm Eastern time
  - After hours or on weekends and holidays, clinicians requiring assistance should call the CDC Emergency Operations Center at 770-488-7100 and ask the operator to page the person on call for the Malaria branch

Checklist for Healthcare Facilities

- ❑ Stay informed
- ❑ Ensure availability of appropriate PPE and other infection control supplies
- ❑ Review infection control policies for consistency with CDC guidance
- ❑ Review environmental cleaning procedures and provide refresher training for cleaning staff
- ❑ Begin education and refresher training for healthcare personnel
- ❑ Review triage procedures and ensure relevant questions are asked during triage process for patients with compatible symptoms
- ❑ Ensure laboratories review procedures for appropriate specimen collection, transport, and testing of specimens
- ❑ Review policies and procedures for screening and work restrictions for exposed or ill healthcare personnel, and ensure that HCP have ready access to medical consultation, including by phone
- ❑ Designate points of contact responsible for communicating with local health department and providing internal updates for HCPs and volunteers

Source: CDC https://www.cdc.gov/vhf/ebola/pdf/healthcare-facility-checklist-for-ebola.pdf

Take Home Messages

- Risk of Ebola virus spreading is very high within eastern DRC and its neighboring countries
- Risk of Ebola virus spreading globally is low
- U.S. health care facilities should be prepared to identify a Person Under Investigation for Ebola (PUI), isolate him or her, and inform the local health department
- A detailed travel history is critical in identifying a PUI
  - Identify specific locations, dates, and activities
  - Use CDC outbreak map for most up-to-date information on Ebola-affected areas

Resources

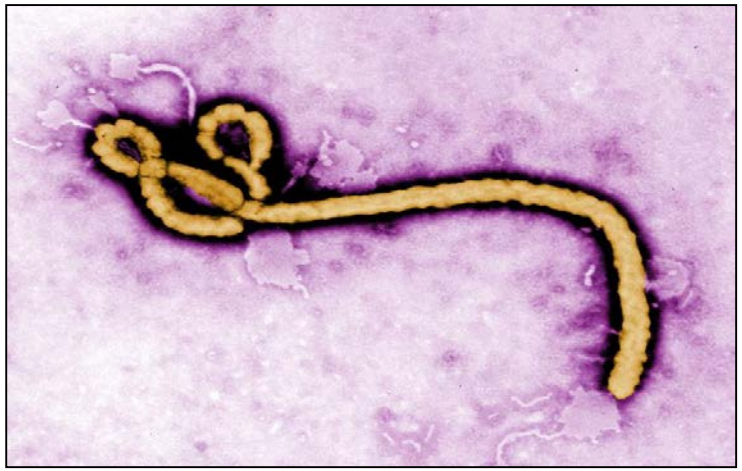
- VDH Ebola webpage http://www.vdh.virginia.gov/ebola
- Virginia local health departments webpage http://www.vdh.virginia.gov/local-health-districts/
- CDC map of 2018 DRC outbreak area https://www.cdc.gov/vhf/ebola/outbreaks/drc/east-drc-map.html
- CDC EVD website for clinicians https://www.cdc.gov/vhf/ebola/clinicians/index.html
- CDC Interim Guidance for U.S. Hospital Preparedness for Patients Under Investigation (PUIs) or with Confirmed Ebola Virus Disease (EVD) https://www.cdc.gov/vhf/ebola/healthcare-us/preparing/hospitals.html
- CDC malaria information https://www.cdc.gov/parasites/malaria/index.html
- WHO Ebola outbreak situation reports https://www.who.int/ebola/situation-reports/drc-2018/en/
- National Ebola Training and Education Center https://netec.org/
  - Identify, Isolate, Inform: Assessment, management, and placement of PUI https://courses.netec.org/courses/pui-101

THANK YOU!

EXTRA SLIDES

Ebola Virus Disease (EVD): Key Facts

- Spread by contact with body fluids or contaminated objects
- Symptoms start 2-21 days after exposure
  - Fever, headache, fatigue, muscle pain, joint pain, abdominal pain, rash, diarrhea, vomiting, or unexplained bleeding



- Not infectious until symptoms start
- No FDA-approved vaccine or treatment

Image source: CDC https://phil.cdc.gov/Details.aspx?pid=10815

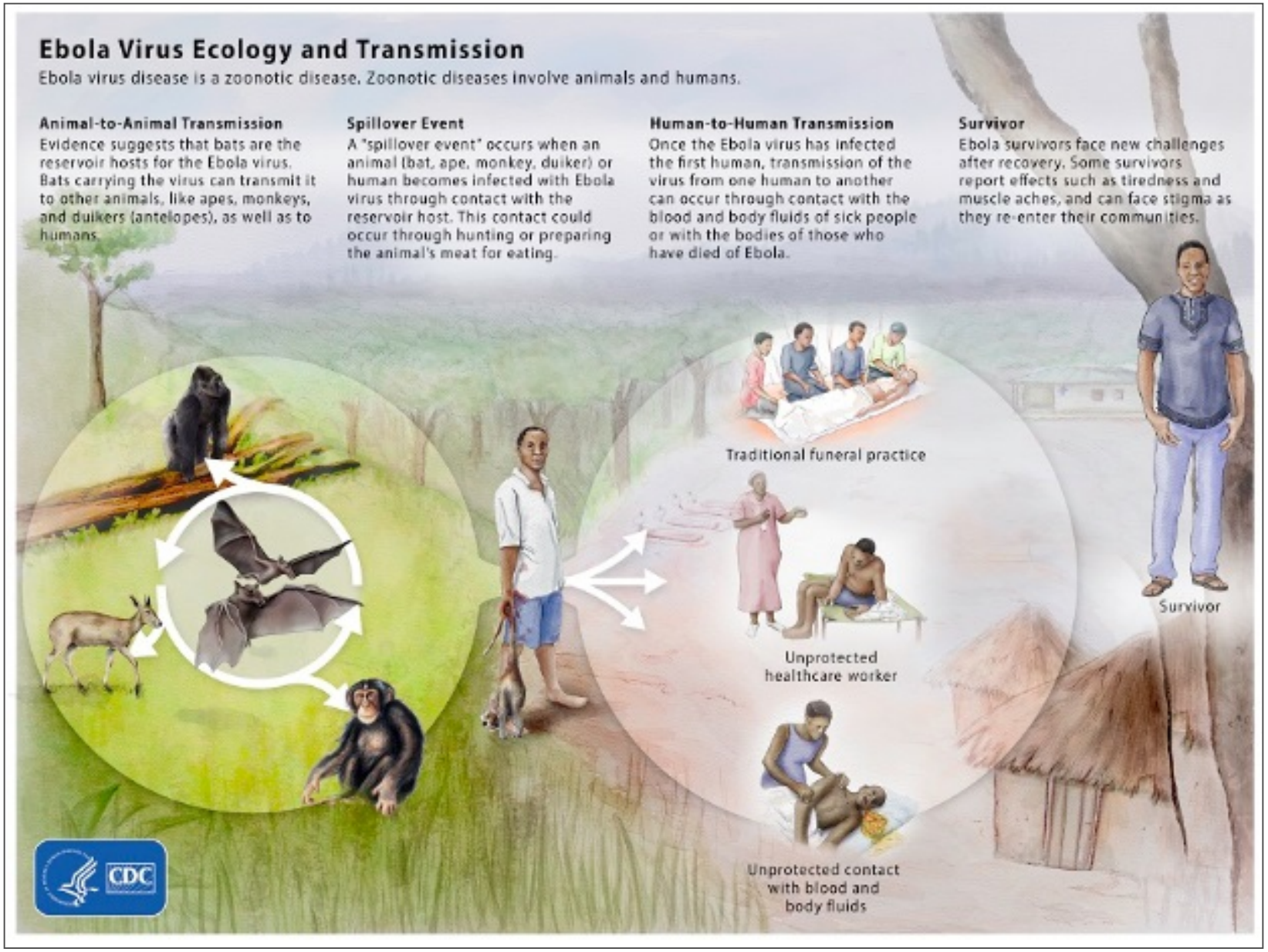


 Image source: CDC https://www.cdc.gov/vhf/ebola/resources/virus-ecology.html