

Ebola Virus Disease

Global Epidemiology and Surveillance in Hong Kong as of 13 August 2014



Ebola Virus Disease (EVD)

- Ebola virus disease (EVD), (formerly known as Ebola haemorrhagic fever) is a severe, often fatal illness, with a death rate of up to 90%
- EVD first appeared in 1976 in 2 simultaneous outbreaks, one in a village near the Ebola River in the Democratic Republic of Congo, from which the disease takes its name
- Outbreaks were also recorded in some other African areas such as Gabon, Cote d'Ivoire, Uganda and Congo, primarily in remote villages near tropical rainforests

Ref : WHO Ebola virus disease Fact sheet - April 2014 <http://www.who.int/mediacentre/factsheets/fs103/en>



Natural reservoir

- In Africa, fruit bats, particularly species of the genera *Hypsignathus monstrosus*, *Epomops franqueti* and *Myonycteris torquata*, are considered as possible natural hosts
- The geographic distribution of Ebola viruses may overlap with the range of the fruit bats

Route of transmission

Animal to human

- through contact with blood, secretions, organs or other body fluids of infected animals including chimpanzees, gorillas, fruit bats, monkeys, forest antelopes and porcupines

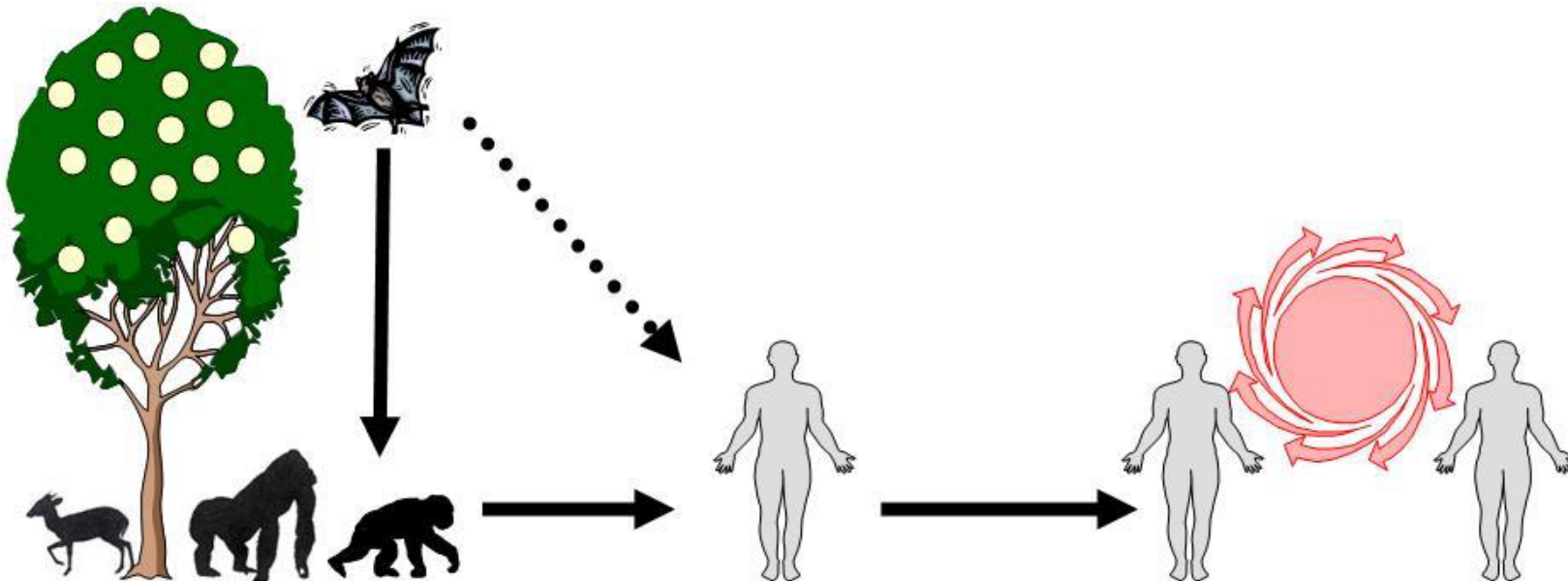
Human to human

- direct contact (through broken skin or mucous membranes) with blood, secretions, organs or other body fluids of infected people
- indirect contact with environments contaminated with such fluids

1. Virus reservoir : Fruit bats

The virus maintains itself in fruit bats. The bats spread the virus during migration.

EBOLA



2. Epizootic in primates

Infected fruit bats enter in direct or indirect contact with other animals and pass on the infection, sometimes causing large-scale epidemics in gorillas, chimpanzees and other monkeys or mammals (e.g. forest antelopes).

3. Primary human infection

Humans are infected either through direct contact with infected bats (rare event), or through handling infected dead or sick animals found in the forest (more frequent)

4. Secondary transmission

Secondary human-to-human transmission occurs through direct contact with the blood, secretions, organs or other body fluids of infected persons. High transmission risk when providing direct patient care or handling dead bodies (funerals).



Incubation period

- 2 to 21 days
- Become contagious once patients begin to show symptoms.
- Men who have recovered from the disease can still transmit the virus through their semen for up to 7 weeks after recovery from illness

Ref : 1. WHO Ebola virus disease Fact sheet - April 2014 <http://www.who.int/mediacentre/factsheets/fs103/en/>
2. WHO Frequently asked questions on Ebola virus disease <http://www.who.int/csr/disease/ebola/faq-ebola/en/>



Clinical features

Early presentations:

- sudden onset of fever
- intense weakness
- muscle pain
- headache
- sore throat

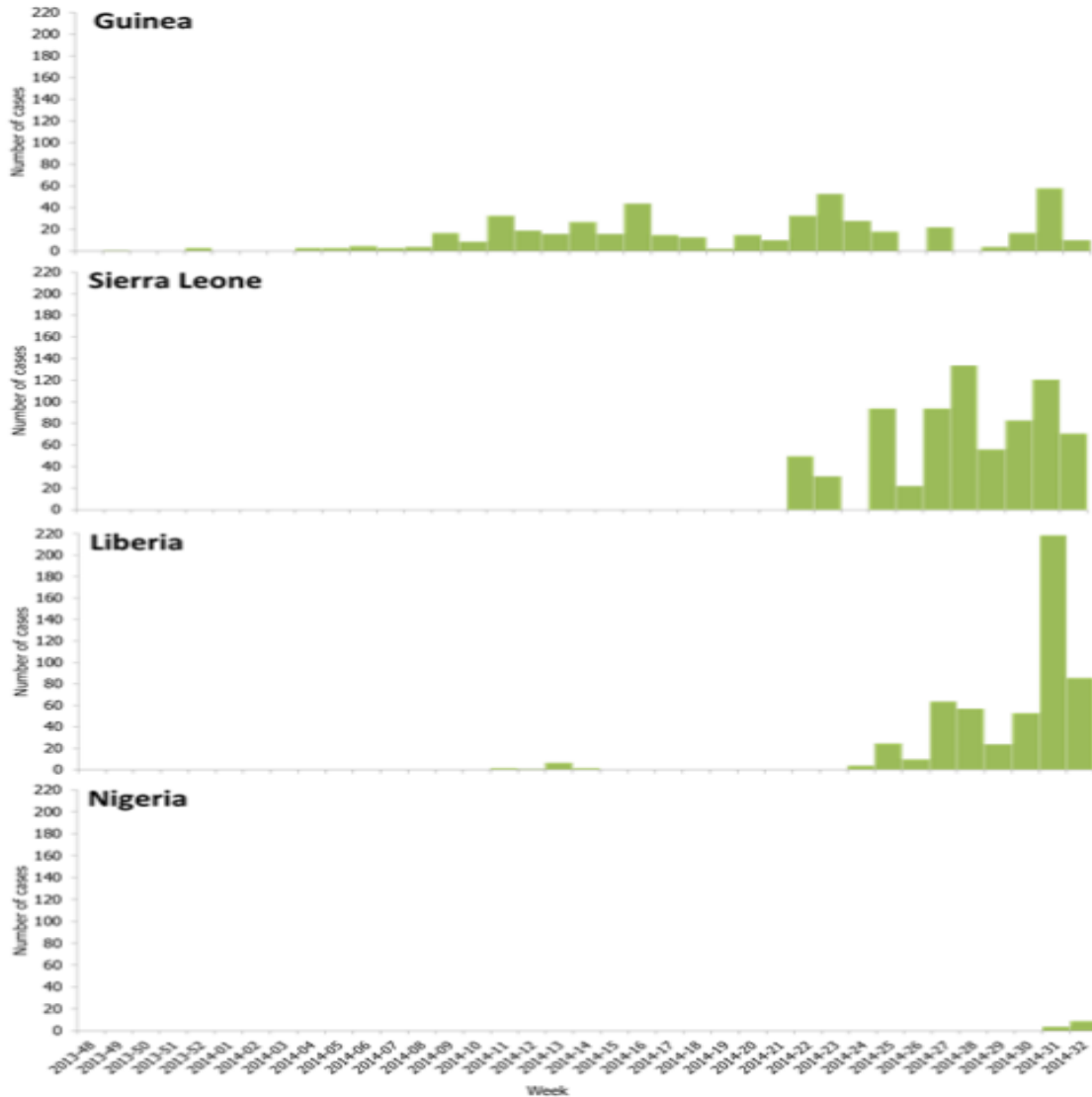
Followed by:

- vomiting
- diarrhoea
- rash
- impaired renal and liver function
- in some cases, both internal and external bleeding

Statistics of EVD in Guinea, Liberia, Nigeria, and Sierra Leone as of 9 Aug 2014

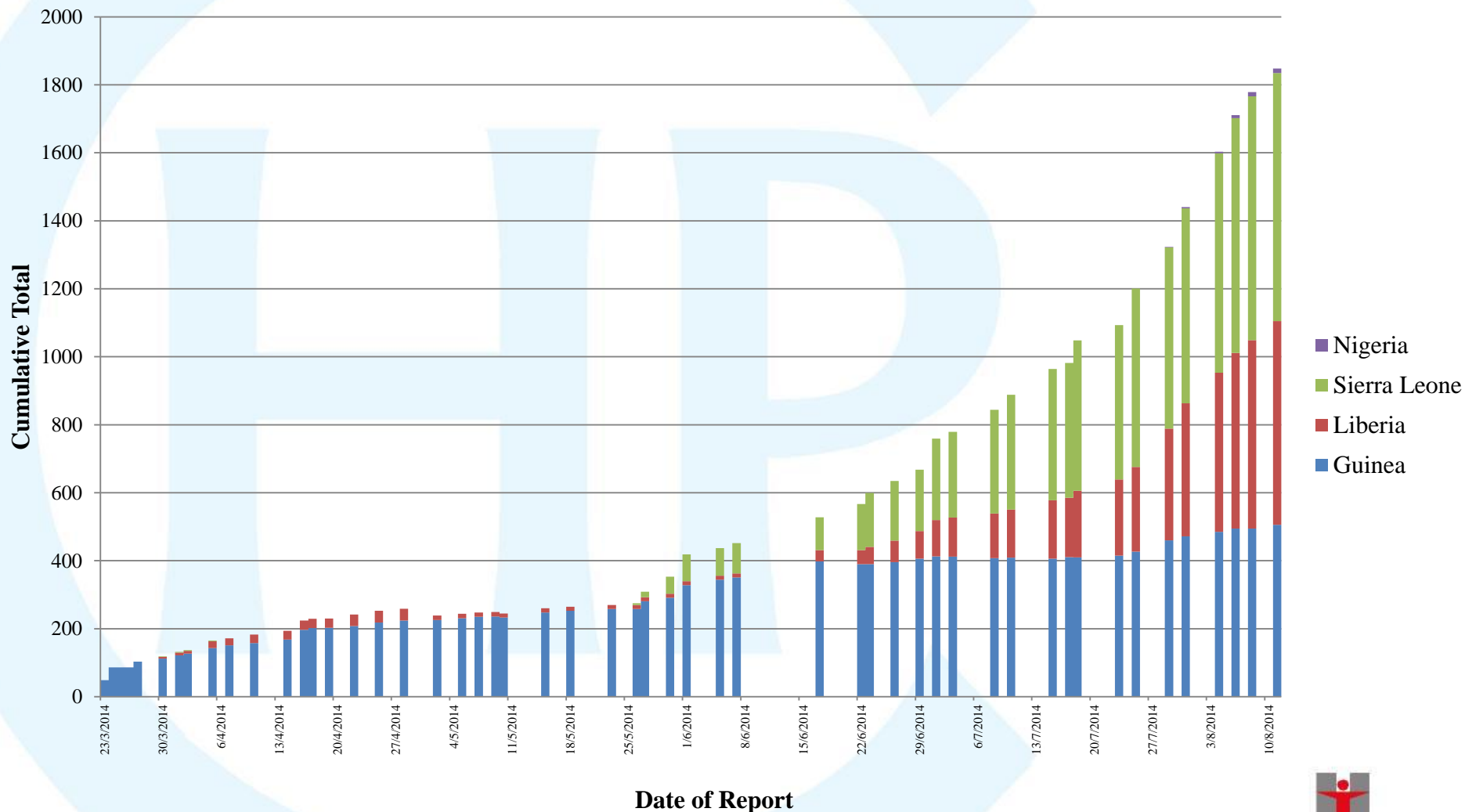
	Confirmed	Probable	Suspected	Total
Guinea				
Cases	362	133	11	506
Deaths	238	133	2	373
Liberia				
Cases	158	306	135	599
Deaths	146	125	52	323
Sierra Leone				
Cases	656	37	37	730
Deaths	276	34	5	315
Nigeria				
Cases	0	10	3	13
Deaths	0	2	0	2
Total				
Cases	1176	486	186	1848
Deaths	660	294	59	1013

Weekly number of EVD cases in West Africa (Guinea, Sierra Leone, Liberia and Nigeria) up to 06/08/2014



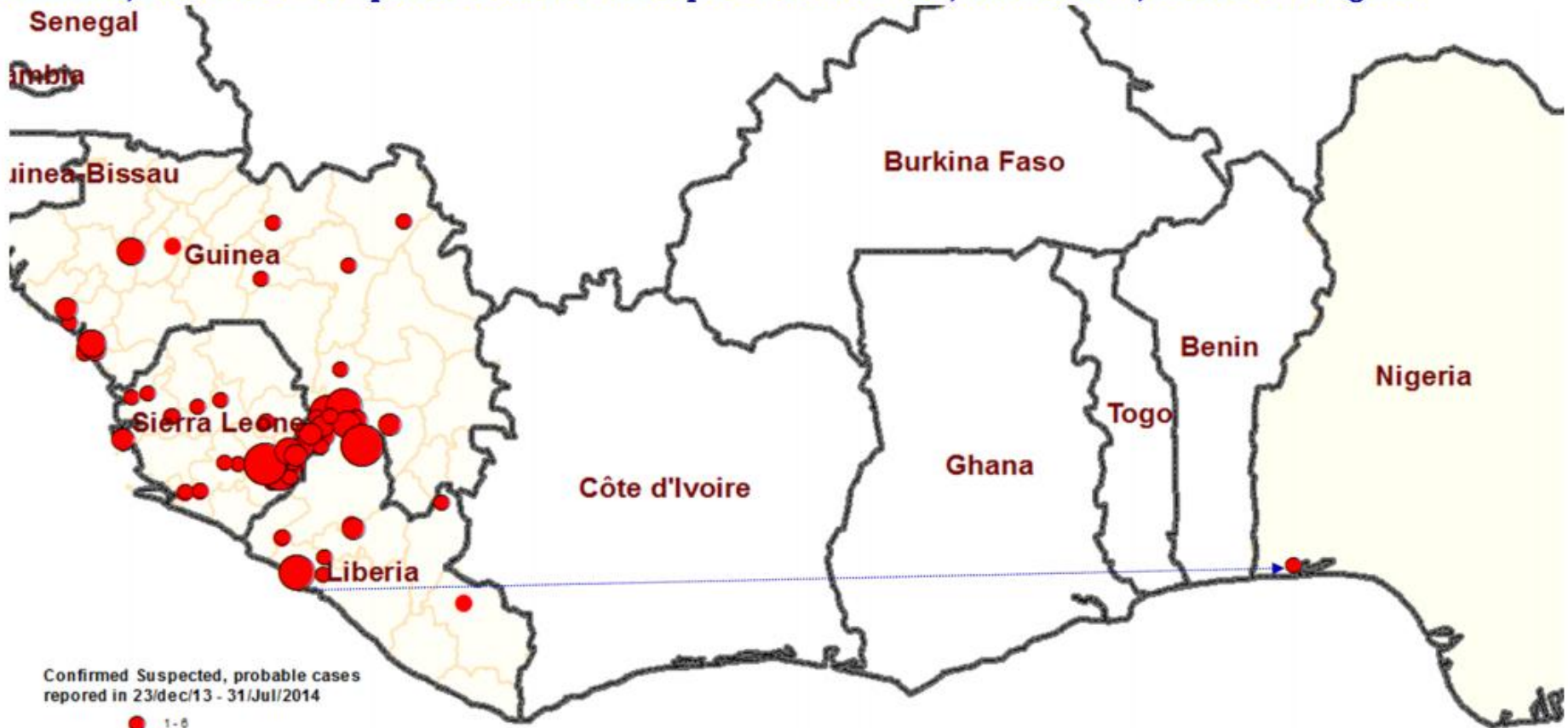
Ref: Epidemiological update: outbreak of Ebola virus disease in West Africa (8 August 2014)

Confirmed, probable, and suspected cases of Ebola virus disease in West Africa, update 11 August 2014

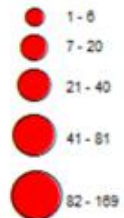


Ebola Virus Disease (EVD) in West Africa (Situation as of 30 July 2014)

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



Confirmed Suspected, probable cases reported in 23/dec/13 - 31/Jul/2014



Countries affected by Ebola

Ref:

http://www.afro.who.int/en/downloads/doc_download/9380-ebola-virus-disease-in-west-africa-maps-31-july-2014.html

Country	Cases	Deaths	HCW affected (Case/Death)
Guinea	472	346	(33/20)
Liberia	360	181	(47/28)
Sierra Leone	574	215	(44/23)
Nigeria	1	1	0
Total	1,407	743	(124/71)

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

WHO International Health Regulations Emergency Committee Meeting 6-7 August 2014



- The conditions for a Public Health Emergency of International Concern (PHEIC) have been met
- A series of preventive and control measures are recommended for the states with Ebola transmission, border states and all member states on 8 August.



Current Preventive & Control measures

- DH has adopted the preventive strategies which are in line with those recommended by WHO
- Disease surveillance, preparation to investigate and manage cases, with diagnostic laboratory facilities
- Border control to manage travellers originating from Ebola-infected areas arriving at the airport and BCPs with unexplained febrile illness.
- Education to travellers
- Risk communication to the public and targeted communities
- Other efforts



Enhanced surveillance and investigation

- Provided updated reporting criteria of EVD based on the latest development.
- Reminded doctors to notify CHP any suspected cases promptly, with information on updated reporting criteria, outbreak development, affected areas and recommendations on infection control provided
- CHP will initiate immediate investigation and control measures once notification is received
- Patients will be referred to the HA's Infectious Disease Centre in PMH for isolation, diagnosis and treatment;
- Specimens will be collected for laboratory testing and confirmation



Reporting criteria for EVD

An individual fulfilling both the ***Clinical Criteria AND Epidemiological Criteria*** should be reported to CHP for further investigation.

Clinical Criteria

- Suffering from a sudden onset of fever ($\geq 38^{\circ}\text{C}$, 100.4°F);
OR
- Having at least one of the following symptoms/signs: inexplicable bleeding, bloody diarrhoea, bleeding from gums, bleeding into skin (purpura), bleeding into eyes, or haematuria;
OR
- Any inexplicable sudden death.



Reporting criteria for EVD (cont'd)

AND

Epidemiological Criteria

One or more of the following within 21 days before onset of illness:

- Close contact* with a confirmed or probable case of Ebola Virus Disease or his/her bodily fluids;

OR

- Resided in or history of travel to an affected area/country#.

* Such as sleeping in the same household with a case, direct physical contact with the case (dead or alive) during the illness, direct physical contact with the (dead) case at the funeral, touched his/her blood or body fluids (including semen) during the illness, touched his/her clothes or linens, breastfed by the patient (baby).

For the updated list of affected countries/areas, please refer to the following website: http://chp.gov.hk/files/pdf/evd_affected_area.pdf



Border control measures

- No direct flight from the 4 affected countries.
- Immigration officers at BCPs:
 - assist in identifying arrival passengers holding travel documents issued by the four affected countries
 - provide them information sheets about EVD.
- Information sheets:
 - remind the sick travellers to approach port health personnel immediately if they are already sick upon arrival
 - remind them to seek medical treatment in the nearest AED of public hospitals as provided in the information sheet if travellers have symptoms during their visit to Hong Kong,
- Temperature screening of arriving travellers at BCPs was continued.
- Members of the public are advised to avoid unnecessary travel to the affected area



Education to Travellers

- Travellers have been advised to avoid unnecessary travel to Guinea, Liberia, Lagos of Nigeria and Sierra Leone.
- DH's Travel Health Service website
- Provided information to airport community and tourism industry
- Broadcast health messages of EVD in the departure and arrival halls of the airport



Risk communication to the public 衛生防護中心 Centre for Health Protection

and targeted communities

- Designated website, health education materials
- Letters to doctors, hospitals and various healthcare professionals
- Information to other working partners, e.g. government departments/ bureaux, District Councils and others, on the latest EVD situation and requested them to assist in disseminating health information to the public.
- Approached the organisations of Africans in Hong Kong to give them information about the disease and preventive measures.
- Press briefings, press releases, APIs on personal and hand hygiene in mass media for the public



Thank you

