

**Be Prepared
Be Aware
Be Ready**

**VIRUS ALERT
EBOLA
VIRUS ALERT**

EBOLA UPDATE

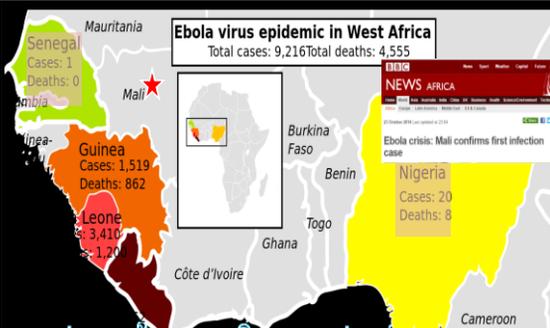
What you need to know



ทางประชุมใหญ่ทางวิชาการประจำปี ครั้งที่ 40
สมาคมโรคติดต่อเขตร้อนแห่งประเทศไทย

Ebola virus epidemic in West Africa

Total cases: 9,216 Total deaths: 4,555



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WHO declared "Nigeria is now free of Ebola virus transmission"

October 20, 2014

No new case for 42 days



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World Health Organization

Media centre

WHO congratulates Senegal on ending Ebola transmission

Statement
17 October 2014

WHO officially declares the Ebola outbreak in Senegal over and commends the country on its diligence to end the transmission of the virus.

The introduced case was confirmed on 29 August in a young man who had travelled to Dakar, by road, from Guinea, where he had had direct contact with an Ebola patient.

Senegal's response is a good example of what to do when faced with an imported case of Ebola. The government, under leadership of President Macky Sall and the Minister of Health Dr Awa Coll-Seck, reacted quickly to stop the disease from spreading.

The government's response plan included identifying and monitoring 74 close

ORIGINAL ARTICLE

Ebola Virus Disease in the Democratic Republic of Congo

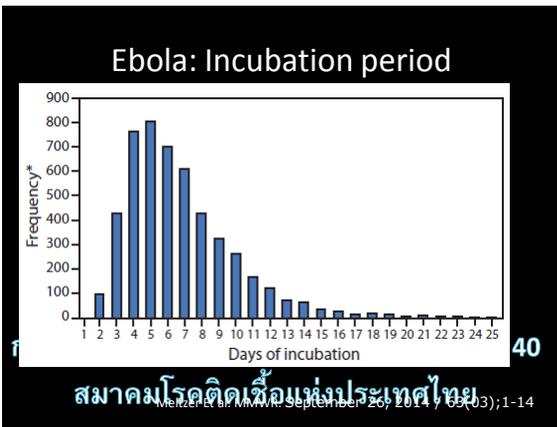
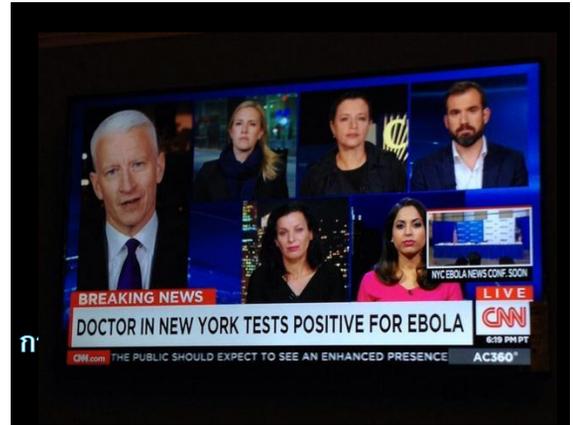
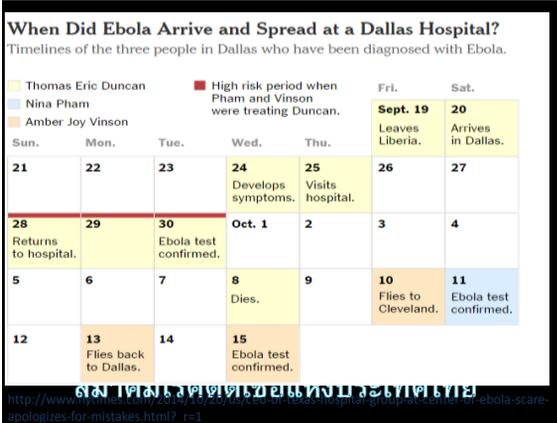
- Began on July 26, 2014
- The causal agent is a local EBOV variant
- Has a zoonotic origin different from that in the 2014 epidemic in West Africa

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Table 3. Medical evacuation and repatriation from EVD-affected countries up to 13 October 2014

Date of evacuation (in 2014)	Evacuated from	Evacuated to	Profession	Status	Confirmed	Citizenship
2 August 2014	Liberia	Atlanta (USA)	Healthcare worker	Discharged	Yes	USA
5 August 2014	Liberia	Atlanta (USA)	Healthcare worker	Discharged	Yes	USA
6 August 2014	Liberia	Madrid (Spain)	Healthcare worker	Death	Yes	Spain
24 August 2014	Sierra Leone	London (United Kingdom)	Healthcare worker	Discharged	Yes	UK
27 August 2014	Sierra Leone	Hamburg (Germany)	Epidemiologist	Recovered	Yes	Senegal
4 September 2014	Monrovia, Liberia	Omaha (USA)	Physician (obstetrician)	Stable	Yes	USA
9 September 2014	Kenema, Sierra Leone	Atlanta (USA)	Physician	Stable	Yes	USA
14 September 2014	Sierra Leone	Leiden (the Netherlands)	Healthcare worker	Discharged	No	the Netherlands
14 September 2014	Sierra Leone	Leiden (the Netherlands)	Healthcare worker	Discharged	No	the Netherlands
19 September 2014	Liberia	Paris (France)	Healthcare worker	Discharged	Yes	France
22 September 2014	Sierra Leone	Madrid (Spain)	Healthcare worker	Death	Yes	Spain
22 September 2014	Sierra Leone	Lausanne (Switzerland)	Healthcare worker	Admitted	Unknown	Non-Swiss
28 September 2014	Sierra Leone	Maryland (USA)	Healthcare worker	Admitted	Unknown	USA
2 October 2014	Sierra Leone	Frankfurt (Germany)	Healthcare worker	Stable	Yes	Uganda
2 October 2014	Liberia	Omaha (USA)	Camerman	Stable	Yes	USA
6 October 2014	Sierra Leone	Oslo (Norway)	Healthcare worker	Unknown	Yes	Norway
8 October 2014	Liberia	Leipzig (Germany)	Laboratory worker	Death	Yes	Sudan

ECDC



- ### Clinical feature
- **Early symptoms:** sudden onset of fever, muscle aches, weakness, headache and sore throat.
 - **The next stage of the disease:**
 - vomiting, **diarrhea**
 - rash
 - malfunction of the liver and kidneys.
 - **Some patients :**
 - profuse internal and external bleeding
 - multi-organ failure.
- การประหมัดใหญ่ทางวิชาการประจำปี ครั้งที่ 40
- สมมติโรคติดต่อเขตร้อนประเทศไทย
- Brian S, et al. NEJM.ORG, Aug 20

A Case of Severe Ebola Virus Infection Complicated by Gram-Negative Septicemia

Table 1. Clinical Variables, Fluid Management, and Laboratory Values during the Course of Illness.^a

Variable	Day of illness							
	10	11	12	13	14	15	16	17
Clinical variables†								
Temperature (°C)	38.4	39.3	38.8	40.0	40.0	39.8	38.8	38.8
Respiratory rate (breaths/min)	ND	ND	ND	ND	40	40	39	35
Oxygen saturation (%)	97	93	95	88	89	90	92	93
Heart rate (beats/min)	96	92	80	140	170	160	140	150
Oxygen (liters/min)	—	—	—	—	1	5	6	6
Noninvasive ventilation (hr)	—	—	—	—	—	—	—	—
Fluid measurements (ml)								
Intravenous fluids‡	7850	13,175	11,675	9200	7510	13,734	7574	4418
Oral fluids‡	—	—	—	—	—	—	—	80
Diarrhea‡	4400	8400	6850	4030	2230	950	500	—
Vomiting‡	—	—	1200	1550	—	—	100	200
Urine	1330	1050	400	ND	ND	1760	4940	6870
Balance	2120	3725	3225	3620	5280	11,024	2034	-2572

สมมติโรคติดต่อเขตร้อนประเทศไทย

Kreuels B et al. NEJM. October 22, 2014

Emory's experience

The patients were **profoundly hypovolemic** due to their low serum albumin and vascular leak with third spacing. Fluid losses in their patients were **5-10 L/day**. **Electrolyte losses** were significant and included **profound hyponatremia, hypokalemia and hypocalcemia**. Arrhythmias were noted

1. Nutritional depletion was evident

ที่ 40

Brian Dicker IDWeek 2014



Centers for Disease Control and Prevention
 CDC 247: Saving Lives. Protecting People.[™]
 Morbidity and Mortality Weekly Report (MMWR)
 October 17, 2014 / 63(41):925-929

Cluster of Ebola Cases Among Liberian and U.S. Health Care Workers in an Ebola Treatment Unit and Adjacent Hospital – Liberia, 2014

- No common source of exposure or chain of transmission was identified.
- Multiple opportunities existed for transmission of Ebola virus to HCWs
 - exposure to patients with undetected Ebola in the hospital
 - Inadequate use of personal protective equipment during cleaning and disinfection of environmental surfaces
 - Potential transmission from an ill HCW to another HCW
 - Some HCWs worked in night shift

การประชุมใหญ่ทางวิชาการประจำปี ครั้งที่ 40 สมาคมโรคติดต่อแห่งประเทศไทย

Table 1. Work responsibilities and clinical information for five health care workers (HCWs) who became infected with Ebola virus while working in an Ebola treatment unit (ETU) or an adjacent general hospital (hospital A) – Monrovia, Liberia, July 2014

HCW	HCW A	HCW B	HCW C	HCW D	HCW E
Work location	Hospital A ED	ETU and hospital A ED triage area	ETU and hospital A ED triage area	ETU (hospital A ED triage area; unknown)	Hospital A ED
Shift frequency	Night only; 3.5 shifts per week	Day and night; ~14 day and 7 night shifts per month	Day only; shift frequency not available	Night only; shift frequency not available	Night only; 3.5 shifts per week
Responsibilities	Direct patient care in hospital A ED	Direct patient care in ETU; assessment of patients in hospital A ED and triage area; cleaning and disinfection of grossly contaminated surfaces in hospital A ED	Disinfecting solid surfaces and HCWs leaving ETU ward; but inside the ETU containment area; cleaning and disinfection of grossly contaminated surfaces in hospital A triage area	Disinfecting solid surfaces and HCWs leaving ETU ward; but inside the ETU containment area; unknown whether cleaning and disinfection activities were performed in hospital A triage area	Direct patient care in hospital A ED
Personal protective equipment use in ETU	Did not work in this setting	As recommended by HSF for this setting*	As recommended by HSF for this setting*	As recommended by HSF for this setting*	Did not work in this setting
Personal protective equipment use in hospital A	Gloves were used when available; use of other equipment unknown*	Double gloves and gown reported at minimum for all patient and cleaning encounters; use of additional mucous membrane barrier precaution equipment variable*	Unknown	Unknown	Gloves were used when available; use of other equipment unknown*
Contacts outside of work	Unknown	None reported	None reported	Unknown	Unknown
Date of symptom onset	July 14	July 22	July 22	July 23	July 29
Outcome	Died July 26	Recovered	Recovered	Died July 27	Recovered
Lab status	Laboratory confirmed†	Laboratory confirmed‡	Laboratory confirmed‡	Probable	Laboratory confirmed‡
Additional comments	No other HCWs in cluster were reported to have contact	Participated in cleaning and disinfecting surfaces grossly contaminated on July 14	No additional information	Died with hemorrhagic manifestations of EVD	Had direct, unprotected patient contact with



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