

# EBOLA: EPIDEMIOLOGY OF FEAR



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Is all the information we get from the media true? What were the consequences of the outbreak? Have we experienced other similar epidemics?

## Epidemiology of Ebola disease

### Biology

- The Ebola virus causes the disease
- It belongs to the Filoviridae family
- It is transmitted through direct contact with blood or other body fluids from infected/dead people/animals
- Some mammals like bats, chimpanzees and gorillas are a reservoir of the virus

### Symptoms:

- Fever
- Weakness and muscular pain
- Throat and head pain
- Vomit
- Diarrhoea
- Rashes
- Kidney and liver failure
- Internal and external haemorrhages

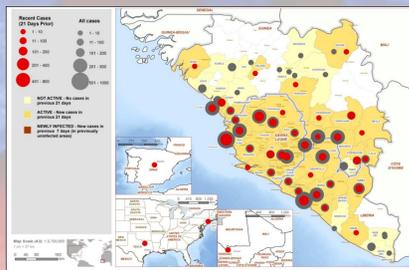
### History

Ebola was considered to be an African endemic disease, however, the last outbreak has put the whole world on alert.



## Ebola 2014 outbreak

On March 23<sup>rd</sup> of 2014 the World Health Organization declared a new outbreak of Ebola in Guinea. On August 8<sup>th</sup>, they considered the epidemic as a public health emergency of global concern.



Affected countries	Specie	Cases	Dead	Death rate
Guinea, Liberia, Sierra Leone, Nigeria, Mali, Senegal, Spain, United States and United Kingdom	Ebola Zaire	18.603	6.915	37%

Why were so many people affected in the latter Ebola outbreak?

- Guinea, Liberia and Sierra Leone are very poor countries
- Previous outbreaks occurred in isolated rural areas, never in big cities
- Lack of adequate health infrastructure and medical staff
- Lack of preparation and social information
- Awareness and prevention campaigns had difficulties being understood
- Culture burials that included physical contact with the dead
- High population flow

## Consequences of the outbreak

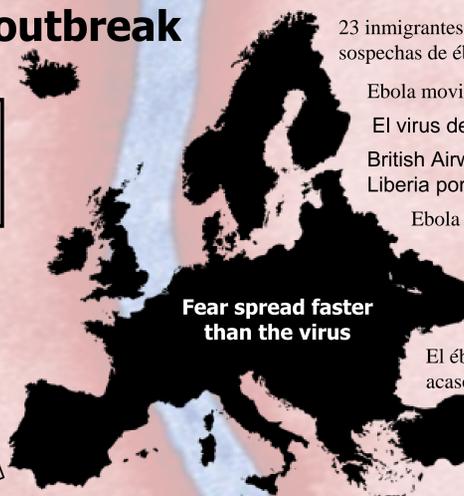


**Stigmatization and victimization of Ebola survivors**

People were afraid and they needed to accuse someone of spreading the disease.



**Unequal economic efforts**



**Fear spread faster than the virus**

23 inmigrantes, cinco horas aislados en una playa por sospechas de ébola. *El País*

Ebola moving faster than control efforts. *New York Times*

El virus del Ébola, fuera de control. *El Periódico*

British Airways suspende sus vuelos a Sierra Leona y Liberia por el ébola. *El Periódico*

Ebola out of control. *The Independent*

El ébola, un problema global. *El País*

Un millón de euros para salvar un enfermo de ébola fuera de África. *El País*

El ébola en España: "Le he dicho a mi mujer que, por si acaso, no se acue al hospital". *El País*

El ébola ya está aquí. *El Periódico*

El perro de la contagiada de ébola será sacrificado para "evitar riesgos". *El País*

## Other current epidemics

### Avian influenza

Virus that affects mainly the poultry, but also humans. It is transmitted by direct contact with an infected animal.

**400 cases and 250 dead**

#### Preventive measures:

- Import restriction of poultry meat and other products
- Quarantine of imported poultry
- Poultry slaughtering



### CAUTION! Influenza A

Variant strain of seasonal flu. **>622.500 cases and 18.000 dead**



#### Preventive measures:

- Non certificated masks 5 times more expensive
- Football matches without public
- Demonstrations, festivals and cinemas were banned

### Bovine spongiform encephalopathy

It is transmitted through the consumption of beef infected with the BSE agent.

**200 cases and 90 dead**

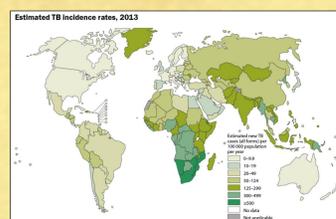
#### Preventive measures:

- Cattle slaughtering
- Global beef trade decline



### CAUTION? Tuberculosis

#### Estimated TB incidence rates, 2013

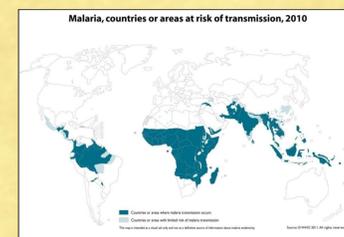


Disease caused by a bacterium. It is transmitted through the respiratory tract. **9 million cases and 1,5 million dead**

A third of the world's population has latent TB. Second cause of death by infection in adults.

### Malaria

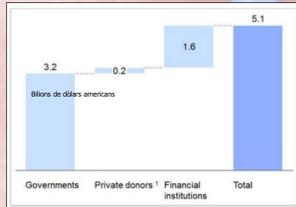
Mainly affects tropical countries. It is transmitted through the bite of mosquitoes infected with the parasite. It is estimated that half the world's population is at risk of contracting the disease. **198 million cases and 584.000 dead**



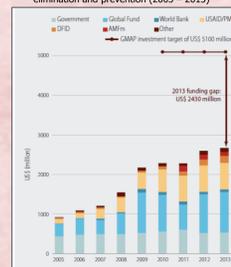
## Ebola versus malaria

	<b>Ebola</b>	<b>Malaria</b>
<b>Cause</b>	Caused by the Ebola virus that is transmitted by mammals to humans or humans to humans.	Caused by a parasite (Plasmodium) that is transmitted through the bite of infected mosquitoes.
<b>Population at risk</b>	The population of the affected region are those who have a higher risk of contracting the virus.	Half of the world's population is at risk.
<b>Affected region</b>	Previous outbreaks have affected Equatorial African countries.	90% of malaria deaths are in Africa, mostly children under 5 years.
<b>Death rate</b>	Mortality rates depend on the strain but are generally high.	Mortality rates are around 50% thanks to the control and prevention measures applied.
<b>Cases and dead estimation</b>	Estimated 18.603 cases and 6.915 deaths in the latest outbreak.	Estimated 198 million affected and 584.000 deaths a year.
<b>Diagnosis and treatment</b>	Treatment involves strict sanitary conditions.	The diagnosis and treatment in the early stages of infection saved many lives.
<b>Access to treatment</b>	The vast majority of victims have been admitted to treatment centers.	50% of people at risk have access to insecticide treatment in his home.
<b>Socioeconomic impact</b>	It causes a high economic impact on the affected countries due to the health infrastructure that is needed. The stigmatization has caused a lot of people to lose their jobs.	Malaria is a cause of family poverty because prevents from going to work or to school.

Total resources provided for the Ebola 2014 outbreak



Total resources provided for malaria elimination and prevention (2005 - 2013)



What is the cause of these unequal economic efforts?

Would a disease that affected the northern hemisphere be equally regarded?