

Got Ebola?

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Ebola is being considered a
Biosafety Level 4 Agent and is
categorized as Category A
Bioterrorism weapon in
biological warfare

The News and You

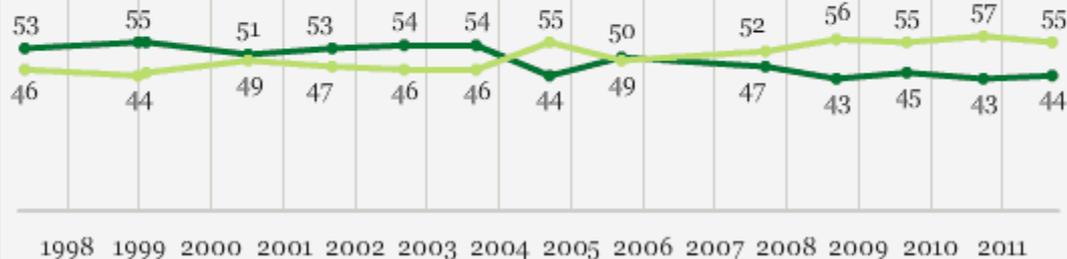
In the United States, it is a common belief that an individual cannot always trust what they read or hear in the news. For example, in a 2012 Gallup Poll people were asked “how much trust and confidence” they had in the news media. 6 out of 10 people answered “not very much”.

In general, how much trust and confidence do you have in the mass media -- such as newspapers, TV, and radio -- when it comes to reporting the news fully, accurately, and fairly -- a great deal, a fair amount, not very much, or none at all?

Gallup trend since 1997

■ % Great deal/Fair amount

■ % Not very much/None at all



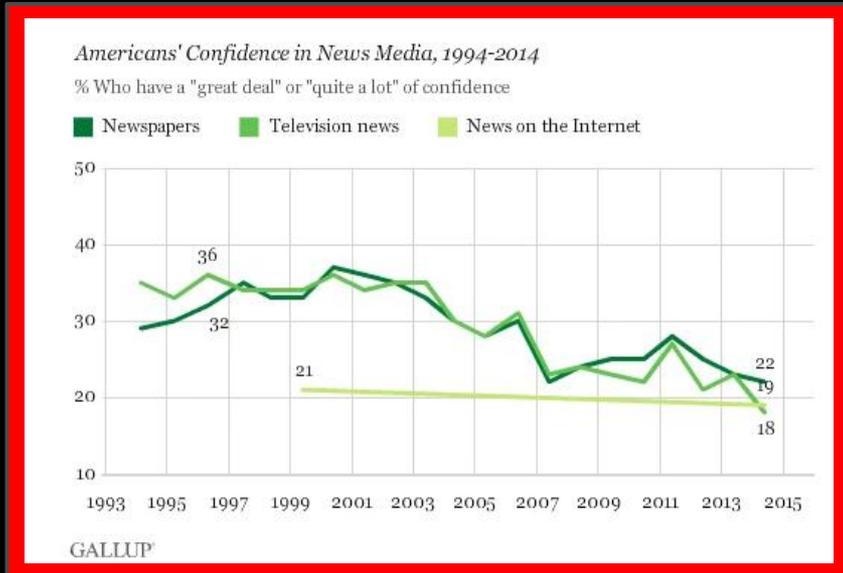
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The Media, **Trust**, and You

Popular Reasons to Distrust the Media:

- ★ False Assumptions
- ★ Bias
- ★ Omission

It is because of these contributing factors that it is wise to have a certain level of skepticism but also to have an open mind. In order to form a more educated opinions. Its important to find appropriate background information about the topic.



News Story

<http://www.cbsnews.com/videos/1012-nurse-who-cared-for-dallas-ebola-patient-tests-positive-for-virus-smart-bike-wheel-could-change-transportations-future/>

Step 1: Analyze the News Story

In the CBS coverage of this event we learn:

- A man, Thomas Eric Duncan, is being treated for the virus in Dallas.
- His healthcare worker, a nurse, contracted Ebola after caring for him.
- She and her loved ones were placed in quarantine and surrounding individuals were alerted.
- America has sent troops over in hopes to stop Ebola from spreading.

Step 2: How to Determine What's Important

- Take the information used in the news story and use that as a basic starting point.
- The first thing mentioned in this news story, was the issue of the Nurse contracting the disease even after wearing protective gear, so what is the CDC's role in this news story. A representative from the CDC also spoke about protocol, so the CDC is important to this news story.
- This news story also discusses isolation procedures and the neighborhood the nurse lived in for spread of the disease. So how the disease is spread is important information.
- Effects in Africa have been more severe than here and according to the news story there have been 8,000 cases and over 4,000 deaths in Africa, so that is important background information to the disease here in the US.

Step 3: Using What The Story Gave Us

-A good place to start researching background information is by starting with the information the news story gave us and go from there.

-Any specific quotations, interviews, or organizations addressed in the new story are good places to start.

Apply This: From this news story, two members of the CDC were interviewed on guidelines of treating Ebola. After watching it, we proceeded to go the CDC homepage and etc... to find more information about Ebola

Step 4: Gathering the Facts

In order to maintain a healthy balance between skepticism and open mindedness an individual must take the research into their own hands. In order to do so, they must figure out what it is they want to know.

So based on what the important information is, What do I want to know?

- How does one contract Ebola?
- What are the symptoms?
- What is the process of treatment?
- What are the CDC's Guidelines?

Step 5: Start your Research

- Start with doing a general search of Ebola on the CDC website, which will give you good basic information on the disease. This will lead you to other reliable sources like Mayo Clinic where you can find more information about the biology of the disease.
- Next you can go to other news sources to see what information they have used and found, and compare it to the information used in this news story. For example, the New York Times.
- Finally any major organization related to the issue is a good place to find background information, one that we found was the World Health Organization.

Step 6: Branching Your Research

- After learning about one area of research, such as science, it is helpful to also to focus on another area of research to complete the whole picture about the topic.

Apply This: By looking into the history of Ebola, we can gather a better understanding of why this virus is gaining national attention.

Application of Step 2 and 3

- Taking the information that we found important in this news story, that first lead us to start our background research with the CDC Website.
- Their website was able to give us the basic background information that we needed which was...

Basic Information About Ebola

- Also known as *hemorrhagic fever* and *EVD*
- Can be found in humans and other primates
- Spreads by *direct contact with blood or other body fluids* of an infected human or animal
- It is **NOT** air borne
- Vaccines have *not been approved* by the FDA.

Application of Steps 4 and 5

- Once you know the basic information about Ebola, one can draw your own conclusions about where you think it might be best to look.
- In this case, the Mayo Clinic was a good source to use to go more in depth about the disease, so that is where one would go next.
- This lead to the following information about Ebola...

The Biology Behind Ebola

- Ebola in humans is **caused by 4 of 5 viruses** of the genus Ebolavirus.
- The virus **attaches to specific cell receptors and fuses** with the membrane of the cell to **increase the the virus's ability to bind and infect** the cell and eventually others around it.
- Once the virus gets past the membrane it then **unbinds and uncoats strands of RNA** and adds its genetic make up in as a structural protein.
- Eventually, the **cell synthesizes itself with the genetic material of the virus** and new synthesized cells accumulate in the membrane. The virus then buds off and effects other cells.

Application of Step 6

- Once you have found some information on the disease it is wise to go back to your first source, and see what additional information they can give you.
- This is where we went back to the CDC's website, to find more out about the symptoms of ebola.
- This step is also the time to look to other news sources to find any information you can, in this case we found information on Ebola from the New York Times, who also had visuals to help understand the symptoms.
- This step is also where you may want to look up something like the history of the news story, which we found just by doing an internet search, where a publication out of Stanford was found.
- So this is what we found....

What are the Symptoms?

Symptoms begin: 2 days to 3 weeks after contact

Moderate Symptoms: Fever, sore throat, muscle pains, headaches

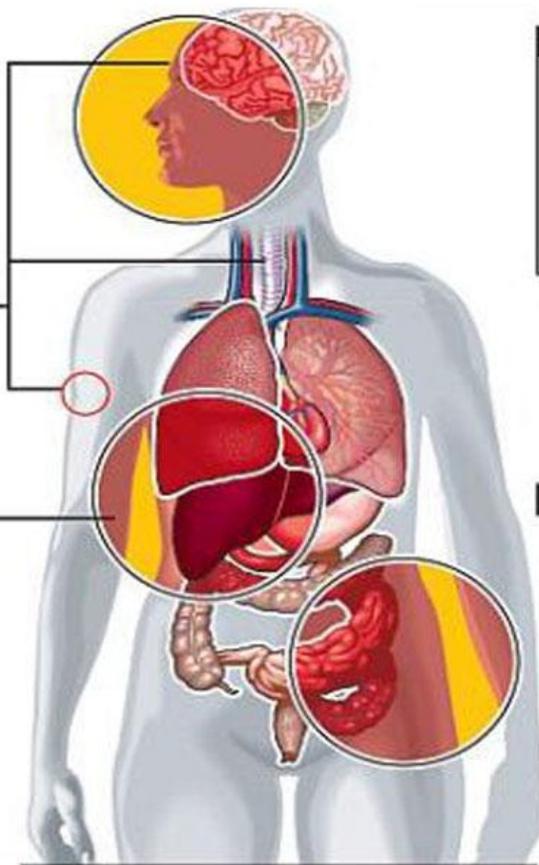
Extreme Symptoms: vomiting, diarrhea, rash, decreased functioning by the liver and kidneys.

****At this time there is internal/external bleeding****

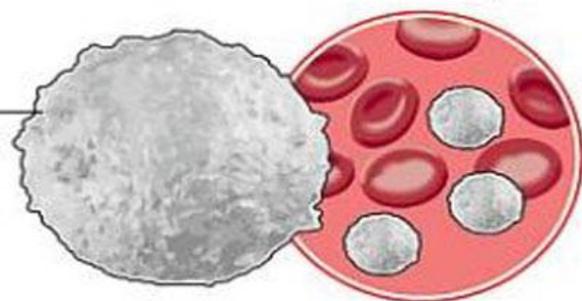
Overall Symptoms: Low white blood count, elevated liver enzymes, abnormalities in blood clotting and texture of blood.

Signs and symptoms

- The virus takes **2 to 21** days to show symptoms from the date of infection.
- First symptoms are fever, intense weakness, muscle pain, headache and sore throat.
- Secondary symptoms are vomiting, diarrhoea, rash, impaired kidney and liver function, and in certain cases, internal and external bleeding.



■ Those suffering from EVD also record low white blood cell and platelet counts and elevated liver enzymes.



- Although victims may appear healthy, they are still infectious as long as their blood and secretions contain the virus. Men who have recovered from the disease can still transmit the virus through their semen for up to 7 weeks after recovery.

Source: World Health Organisation

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Application of Step 6

-Using just a regular internet search we were able to find a very reliable source to get some history on the disease. We used a stanford publication of find just the basic history about the disease, and where it has affected most people, and when it started.

-Here is what we found...

HISTORICAL BACKGROUND:

“In 1976, Ebola (named after the Ebola River in Zaire) first emerged in Sudan and Zaire. The first outbreak of Ebola (Ebola-Sudan) infected over 284 people, with a mortality rate of 53%. A few months later, the second Ebola virus emerged from Yambuku, Zaire, Ebola-Zaire (EBOZ). EBOZ, with the highest mortality rate of any of the Ebola viruses (88%), infected 318 people. Despite the tremendous effort of experienced and dedicated researchers, Ebola’s natural reservoir was never identified. The third strain of Ebola, ebola Reston (EBOR), was first identified in 1989 when infected monkey’s were imported into Reston, Virginia, from Mindanao in the Philippines. Fortunately, the few people who were infected with EBOR (seroconverted) never developed Ebola hemorrhagic fever (EHF). The Last known strain of Ebola, Ebola Cote d’Ivoire (EBO-CI) was discovered in 1994 when a female ethologist performing a necropsy on a dead chimpanzee from the tai Forest, Cote d’Ivoire, accidentally infected herself during the necropsy.”

<https://web.stanford.edu/group/virus/fil/history.html>

First Outbreak:

Zaire, 1976

Number of cases: 318

Death Rate: 88%

CDC Notes: Occurred in Yambuku and surrounding area. Disease was spread by close personal contact and by use of contaminated needles and syringes in hospitals/clinics. This outbreak was the first recognition of the disease.

Third huge Outbreak:

Ebola Uganda 2000-2001

Number of cases: 425

Death rate: 53%

CDC notes: Occurred in Gulu, Masindi, and Mbarara districts of Uganda. The three most important risks associated with Ebola virus infection were attending funerals of Ebola hemorrhagic fever case-patients, having contact with case-patients in one's family, and providing medical care to Ebola case-patients without using adequate personal protective measures.

Second Huge Outbreak:

Democratic Republic of the Congo, 1995

Number of Cases: 315

Death Rate: 81%

CDC notes: Occurred in Kikwit and surrounding area. Traced to index case-patient who worked in forest adjoining the city. Epidemic spread through families and hospitals.

Most recent Outbreak:

Multiple Countries, 2014

Number of cases as of October 17th:
4655

Death Rate as of October 17th: 52%

CDC Notes: Ongoing outbreak across multiple countries in West Africa. Number of patients is constantly evolving due to the ongoing investigation.

<http://www.forbes.com/pictures/eiji45efgff/multiple-countries-2014/>

Now Lets Think Realistically

- Yes the 2014 Ebola epidemic is the largest in history affecting multiple countries in West Africa, but the amount of ***cases in the U.S. is under 10***
- The ability to handle and create a biological weapon with Ebola is ***low***
- The risk here in the U.S. is ***extremely low***

**Now...Can you apply this
to a different news story?**

Try the link below!

<http://fox2now.com/2014/08/18/michael-brown-death-missouri-national-guard-headed-to-ferguson/>