<Ebola Mania>

'Ebolanoia' is the combination of the words *Ebola* and *paranoia*, that was coined by writer Maryn Mackenna - who authored the book *Superbug* – when she was writing about individuals who were overly consumed by the fear of contracting Ebola on her Tumblr page back in 2014 (Hedgecock S., 2014). From what began as an Ebola epidemic in West Africa, all it took was one traveler from Liberia to the United States to get diagnosed with Ebola on the 30th September 2014 to send Americans panicking – with a huge uproar raged online and hysteria from fear and misinformation (Towers S. et al, 2015); All from a few isolated cases of Ebola in the US. I could not help but see the irony when in comparison with the Covid-19 pandemic in 2020. The coronavirus, which infected millions and killed hundreds of thousands in the US, seem to only be receiving the same, if not less concern than Ebola, with only 11 cases. In fact, in a poll done, it seems as though voters are more satisfied with how the Centre of Disease Control and Prevention (CDC) is handling the Coronavirus, compared to Ebola in 2014 (Murad Y.,2020). It really gets one thinking about the contributing factors that caused such an uproar for Ebola in 2014 – Was Ebola that scary? How much of the hysteria that resulted could be due to the media inflating fear in individuals? Was the 'Ebola Mania' part also racism manifesting under the guise of fear for the disease? And finally, how much parallels can we observe between Ebola in 2014 and the Covid-19 pandemic today? These questions sparked by my intrigue lends inspiration to this article, and I will further explore the answer to these questions in the following paragraphs in an attempt to understand the different ways that can affect a population's response to diseases.

1. What is Ebola?

First of all, let's explore the 'villain' in this story, that is Ebola. Ebola, also known as the Ebola virus Disease (EVD), is caused by a group of viruses in the genus Ebolavirus (Centre of Disease Control and Prevention (CDC), 2019). Out of the six species that have been identified, namely Zairean, Bundibugyo, Sudan, Tai Forest, Reston and Bombali, the one responsible for the 2014-2016 Ebola Outbreak in West Africa was the Zairean ebolavirus (EBOV) species (Centre of Disease Control and Prevention (CDC), 2019). It mainly targets the immune cells in our body (along with other cells) with an average case fatality rate of 50%, the rate having fluctuated between 25% to 90% in previous outbreaks (World Health Organisation (WHO), 2020). To put this into perspective, the crude fatality rate of Covid-19 (reported deaths divided by reported cases) is currently between 3-4% (WHO, 2020). The fatality rate of Ebola is thus quite high of a number – to further understand why this may be so, let's dive into the structure of the virus, transmission and progression of the disease:

1.1 EBOV

The Ebolavirus is part of the family of viruses known as Filoviridae, due to its unique filamentous shape, as shown in the figure below.

Figure 1: Ebolavirus
Picture: https://abcnews.go.com/Health/ebola-/story?id=24733669

The filament-shaped virus consists of the virus' negative sense, non-segmented RNA virus, enveloped by an outer membrane embedded with glycoproteins (Reece, Smit, Flanigan, 2016). These glycoproteins are coded for by the RNA in the virus. Only seven genes are present in the genome, coding for the structural proteins nucleoprotein (NP), polymerase factors VP35 and VP40, the glycoproteins, transcription activators VP30 and VP24, and RNA polymerase (Reece, Smit, Flanigan, 2016). Being viruses, they are unable to replicate on their own and thus needs to enter and hijack a host cell's mechanism to do so. These proteins are therefore coded for to help the virus in doing so. However, before being able to have access to the host cells, the virus will have to find a way to enter the body. So, how does the virus get transmitted into a person?

1.2 Transmission of Disease

EVD is a zoonotic disease, which involves both humans and animals. It is believed that bats are the reservoir hosts for the Ebola virus, and the virus may have been passed to humans either through the handling of the bats or consumption of the bats with the virus. The virus then, having gone through mutations could then have the ability to infect human cells, causing the disease (CDC, 2016).

EVD is then transmitted between individuals through direct contact between broken skin or mucous membranes in the eyes, nose or mouth with the following (WHO, 2020):

1. Blood or bodily fluids from individuals who have or had died from Ebola.
2. Objects that have been in contact with the bodily fluid of the individuals who have or had died from Ebola.
3. Infected fruit bats or non-human primates.

Upon entering the body, the virus will then begin to attack immune cells in the blood, which will then carry the virus to the liver, spleen and lymph nodes – and this is where hell begins for the victim (Clark, n.d).

1.3 Attack of the Ebolavirus

The virus targets immune cells known as dendrites, which offer the first line of defense in an invasion. Dendrite cells in normal cases engulf pathogens and express the protein on the surface of their cells – known as a peptide-MHC complex – in order for T-lymphocytes to bind and trigger cell-mediated immunity to kill cells with the virus and halt virus replication. However, as a result of infection by the ebolavirus, this system is disrupted, and T-lymphocytes are not activated. The virus also suppresses the release of interferon, that helps to stop viral replication (Clark, n.d). Immune response is therefore suppressed, and the body is not able to fight the virus as effectively. This allows the virus to replicate itself and spread to other cells very quickly, exacerbated by the fact that the infected cells are carried in the blood that flows all over the body.

Symptoms may therefore start to show – such as fever, chills, muscle pain, sore throat, weakness and general discomfort. At this point the victim would usually have been exposed to the virus a little over a week ago. Symptoms still largely general, it is only until the next stage whereby the virus causes the characteristic hemorrhaging in the victim (Clark, n.d).

In this next stage, Macrophages, another immune cell that is infected by Ebola, release proteins that result in coagulation, causing small blood clots to form in blood vessels; limiting the amount of blood transported to organs. At the same time, inflammation, part of the immune system's natural innate defense, would increase the permeability of the blood vessels – originally to recruit immune cells to infected tissues – but can end up causing the blood vessels to leak (Servick, 2014). Widespread inflammation can then cause damage to the blood vessels and result in hemorrhaging. External symptoms can then manifest itself through the bleeding of orifices, maculopapular rash and spontaneous bruising.

Liver cells, which are required to produced proteins for coagulation of blood and important components of plasma die with the lack of oxygen supplied by blood, exacerbating the hemorrhaging ; and cells in the adrenal glands die, resulting in the inability to synthesize steroids to regulate blood pressure and can result in circulatory failure that prevents oxygen from reaching the organs (Servick, 2014). The concoction of effects by the virus can lead to patients then dying from shock, extremely low blood pressure and the failure of multiple organs.

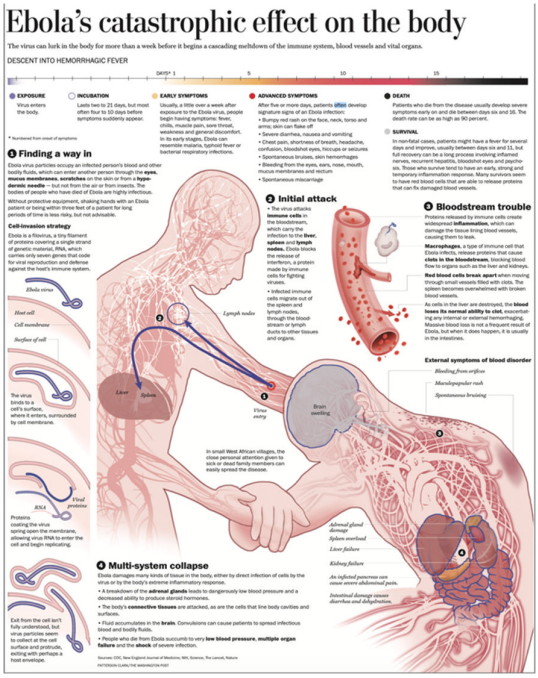


Figure 2: Progress of Ebola on the body

Picture: https://www.washingtonpost.com/wp-srv/special/health/ebola-effect-on-body/pdf/EbolaBody.pdf

Upon reading about the effects of Ebola, it's terrifying, isn't it? Maybe it does justify the fear induced in the Americans back in 2014. Afterall, bleeding from all the holes in our body does not seem like a nice way we would like to go. It is important to note though, that the Ro (average number of secondary infections from one infected person) for Ebola is 2, compared to the estimate of Covid-19 at about 2.5 (Petersen E., et al, 2020). Ebola may be more fatal, but less easily spread – which would undermine the need for such an uproar among the people. Yet, it happened. The outbreak happening in the midst of a world immersed with social media, social media had a big part to play in affecting the responses people had to the disease. It definitely played a big part in inducing fear among the people, and we will explore this in the next section.

2. Ebola and Social Media

The risk of being infected by Ebola in the US at that time was almost negligible, yet that did not stop the people from expressing panic over the issue. The number of tweets mentioning 'Ebola' skyrocketed, from below 500 per million tweets to about 5000 per million tweets in the beginning of October, after the first US imported case was reported, in the end of September (Chun, Tsz, Cheung, Miu., Fu, 2014). This exceeded the number of tweets on influenza, the factor of comparison the researchers looked to. Researchers too found that words associated with negative feelings such as fear, anger and anxiety were more often observed in tweets on Ebola than Influenza (Chun, Tsz, Cheung, Miu., Fu, 2014). Clearly,

people in the US were afraid; but fear does not turn from zero to hundred just like that – so what ignited this fear in the people?

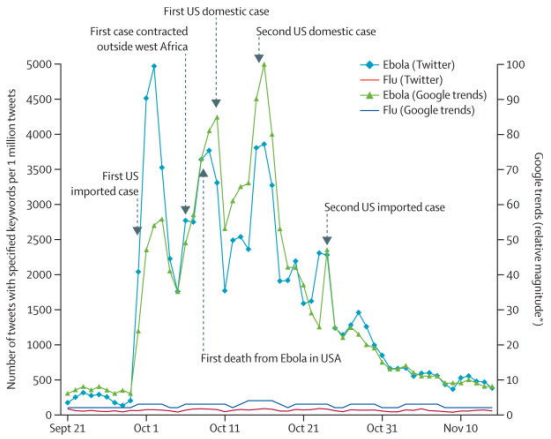


Figure 3: Temporal trends on Twitter and Google about Ebola and Influenza (flu) before, during and after Ebola cases in the USA, September to November 2014
Picture: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)62418-1/fulltext

Well, the media and entertainment industry definitely had much to do with the arising of fear in the people. Non-stop articles and news coverage of the disease and the possibility of an outbreak manifesting itself in the US had heightened the American's alertness towards the disease and their concern of getting infected. In a sampling done by researchers, they found that 96% of print and television news stories from 12 news sources that covered the disease had risk-elevating messages – that is, the messages provided tend to lead to an elevated perception of risk for Ebola (Sell T.K., Hosangadi D., Trotochaud M., 2020). That is a large proportion of media that would likely stoke fear in the public about the disease. The constant coverage of news on Ebola, paired with the numerous tweets from people on the ground and content shared by family of friends would have let you think about Ebola constantly, inflating the scariness and severity of the situation in our minds, that could lead to hysteria.

People say that the scariest thing is actually our own minds, and when you look at this situation, it may actually seem that the minds of the people the biggest enemy that they were faced with back then, rather than the virus. Our minds are so powerful, they are capable of blowing what was a small matter into a huge panic and anxiety in our minds, fueled by the constant media coverage of the issue. What is known as an availability heuristic, this thinking mechanism comes into play when we are trying to retrieve information quickly when making a decision (Kornell N., 2014). To help us make decisions fast, it often calls upon information that come into our viewpoints frequently, that it is the most readily available information in our brain when we are retrieving it. Likewise, when we see the numerous and everyday update on Ebola, it becomes easy to think of instances of the disease. Despite not knowing deeply about the disease, we then replace the quantity of content we see about Ebola and take it as an approximation on the severity of the disease. It is through this that we begin to think

of Ebola as a grave matter, resulting in fear that could be disproportionate to the actual problem.

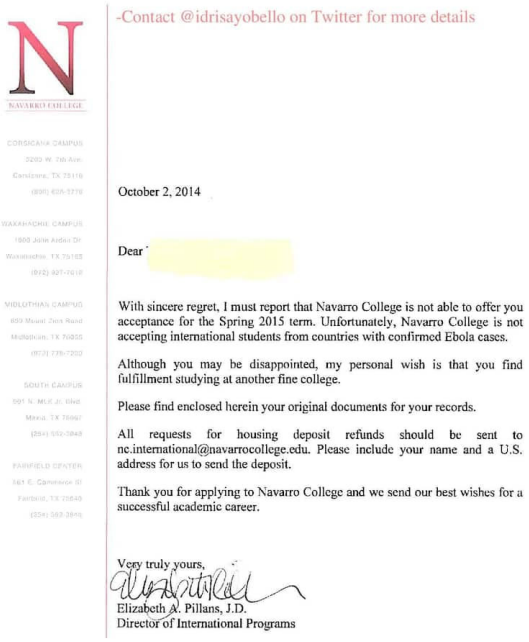
All this talk on how bad media is gives it a bad rep – social media definitely has some cons, but we should also look at how it could also act as a platform to relay information as well. Albeit not specific to the hysteria in America, we can generally recognize how social media has great potential in having a part to play in public health crises. It can be difficult to survey on people's healthcare behavior to better understand the risks people may be exposed to the disease. However, with social media, using polls or monitoring, it could provide researchers with more information with less cost, and increased safety, since contact is also minimized when done online. This is an outlet used by the Democratic Republic of Congo in the Ebola Outbreak, to monitor the situation in different places, especially places that are hard to access due to it being conflict areas (O'Reilly, E.D, 2018). Not to mention social media can allow for seamless and quick updates by officials to debunk misinformation or disperse panic. Though often negative feelings tend to persist over rationality, where the debunking may not work, it is better to have the information relayed via social media than to have none at all.

In this section we covered how media, as well as our own minds can contribute to hysteria, while then also giving a more positive view of the media's role in influencing people's views of the disease. Clearly, the media played a large role in influencing the fear of individuals, where some of this fear may have translated into actions that prove to be harmful to society.

3. Ebola Mania

Imagine being accepted to a University in Texas, United States. Getting ready to start a new chapter and fly over to the land of 'Freedom', you pack your essentials, the new clothes you painstakingly picked out for your 'new life', and that gift your mom gave you as a lucky charm for your studies into your luggage. As you pack, you uncontrollably smile, thinking of the new and exciting experiences you were going to experience in a land you have always wanted to step foot on. Ping, your laptop lights up, with a notification for a new email – from the University! What more exciting news can they bring? You start reading: 'Unfortunately, the college is not accepting international students from countries with confirmed Ebola cases.', and that they are thus 'not able to offer you acceptance for the spring 2015 term.' Your heart drops. The outbreak in where you live (Nigeria) is over! How could they possibly do this to not only you, but many of the prospective students also living in Nigeria, who will now have their plans derailed over the miniscule risk of an US outbreak of Ebola? This is only one of the examples of what can be considered an overreaction by Americans to the issue. Teachers and students being forced to leave work or school to be quarantined, despite returning to the US from Ebola-free regions or being taunted for possibly having Ebola are some of the other ways Americans have expressed their fear of the virus (Ahmed S., Mendoza D., 2014). However, how much of these reactions can be justified? Considering that many of these mania cases often involve being against Africans or people coming from

Africa, we ask ourselves if these reactions are purely due to fear for the disease, or are they there to push certain agendas (political, or social) under the guise of fear?



-Contact @idrisayobello on Twitter for more details

NAVARRO COLLEGE

October 2, 2014

Dear

With sincere regret, I must report that Navarro College is not able to offer you acceptance for the Spring 2015 term. Unfortunately, Navarro College is not accepting international students from countries with confirmed Ebola cases.

Although you may be disappointed, my personal wish is that you find fulfillment studying at another fine college.

Please find enclosed herein your original documents for your records.

All requests for housing deposit refunds should be sent to nc.international@navarrocollege.edu. Please include your name and a U.S. address for us to send the deposit.

Thank you for applying to Navarro College and we send our best wishes for a successful academic career.

Very truly yours,

Elizabeth A. Pillans, J.D.
Director of International Programs

Figure 4: Rejection Letter from Navarro College.
Picture: https://www.washingtonpost.com/news/to-your-health/wp/2014/10/15/navarro-college-in-texas-apologizes-after-rejecting-nigerian-applicants-over-ebola-fears/

Ebola does not discriminate against any race, or skin color when infecting individuals, so why is it that the Americans are marginalizing only those from African-decent, fearing that 'they may have Ebola'? The issue that we are most likely to attribute this to would be racism. Racism is not new in America, with issues between the African Americans (blacks) and the whites, a great proportion of the population. It definitely does not help that in the news reports on Ebola, the disease is often painted as an African disease, one associated with the blacks and the foreignness of the disease (Zurcher A., 2014). This tends to create an 'Us' versus 'Them' narrative, the idea that we have to marginalize and exclude 'them' (the Africans who are perceived to have the disease) to protect 'Us' (the (white) American population). This mentality proves to be dangerous, as it tends to polarize the groups of people in the country and turn them against each other – fueling the racism against the marginalized and the anger in those being oppressed (Emamzadeh A., 2019). It is a pity that such an effect can result from the spread of diseases, when we all the more should come together as humanity to fight humanity's common enemy together. It is even more upsetting to observe that the situation has yet to get better even today in the pandemic – still filled with so much hate towards the minority groups that seem to be the 'problem'.

Other than the surfacing of racism, it is not unsurprising to see the disease being politicized as well, to push one's political agendas. An interesting case we could look at is US President Donald Trump's reaction to the Ebola outbreak in 2014. Despite the CDC maintaining that

the transmission of Ebola between people is much more limited than other diseases, and the fact being that there were only an isolated number of cases present in the US, Donald Trump continually criticized then US President Barack Obama's response to the outbreak – calling upon his resignation over his 'incompetence' to shut the borders to Africans and stop issuing Visas to those from the continent. He even went as far as to accuse the CDC and the government officials for giving misinformation on the rate of transmission of the virus and claimed that Ebola is much more easily spread than let on (Rupar A. 2020). Trump made a ruckus over the outbreak for a while, before seemingly losing interest in the topic after the midterm elections. It could be said that Trump was obviously fearmongering among the people, hoping to add fuel to the flame that is the fear for the disease – to make Americans feel as though the democrats were not doing enough to stop the outbreak (that barely made its way into the US) (Rupar A. 2020). The politicalizing of diseases is an unfortunate effect brought about by different viewpoints and rivalry in the political scene. It seems as though despite countless of events indicating that bringing in politics for instances like these more likely causes more chaos than good, things never seem to change.

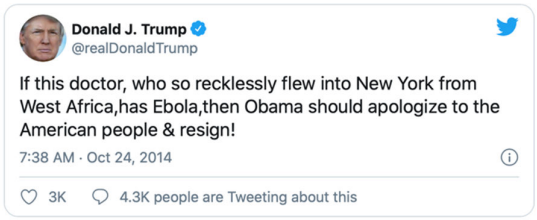


Figure 5&6: Tweets by Trump
Pictures: https://www.nbcnews.com/think/opinion/trump-tweets-about-obama-coronavirus-ebola-reveal-hypocrisy-his-crisis-ncna1153666

In the face of the frightening Ebola, the fear of individuals had very well translated to what most may consider irrational decisions against those who are often African American. While some of these reactions may be from genuine fear against the disease, there will be individuals who are doing it on purpose to spur divide for their own purposes.

The Covid-19 pandemic we are currently in is a great indication of how much has changed, or not changed, from the panic we have seen for Ebola. Being also in the age of social media and where politics and racism rage on, we shall now reflect on the parallels present between the pandemic as well as the Ebola outbreak – two very different viruses, but seemingly with similar effects – in the next section.

4. The Covid-19 Pandemic

Covid-19 and Ebola are very different types of diseases, caused by different types of viruses. Covid-19 is more easily transmitted compared to Ebola, while the fatality rate of Ebola is much higher than Covid-19. In the case of the US, millions are infected with Covid-19 in October 2020, still classified as a pandemic, while Ebola only infected 11 people in the US back in the 2014 saga. The differences are clear between the diseases and the extent of it. Yet, much of the reactions to the diseases didn't change much: A 'foreign' pathogen brought into the states. An uproar was caused among the population – with increased curiosity and hoo-hah made online on the topic. People started to shy away from Asians, whom they perceived would have contact with the virus. Fake news was spread, and irrationality exceeded reasoning. Living through the Ebola situation in the past and then this, would have likely given the Americans a huge deja-vu. There are definitely parallels when it comes to the reactions towards the diseases – namely when it is regarding reactions on the media as well as in terms of politicalizing the crisis.

First, let's talk about the responses seen in the media towards the pandemic. A prominent sentiment articulated by the WHO Director-General was the idea that it was not only the novel disease that we are fighting, but also the 'infodemic' that comes with it (WHO, 2020). With the pervasive use of social media today, where it is a place anyone can say anything and still likely have an audience, there is the presence of numerous trolls and conspiracy theorists online spreading misinformation and fueling panic among the population. Some of these stories include thinking that Covid-19 was a manufactured disease, or that the CDC had exaggerated the seriousness of the disease in an attempt to hurt Trump politically. An actual 37%, and 32% of a sample of US adults believed in these theories (Law T., 2020). These people who believe in these theories are more likely to choose not to abide to health guidelines, thinking that the disease is a hoax – which is terrifying to hear, knowing that they will pose a great danger to the population and prolong the pandemic. The same thing was also seen for Ebola, with individuals claiming that Ebola was a manufactured disease that aimed to serve as 'population control' (Feuer, 2014). However, when comparing the reactions to the conspiracy theories for the two disease, the Covid-19 conspiracies seem to have a more negative effect by possibly worsening the situation, compared to Ebola which heightened paranoia and carefulness among the population. Reflecting on this difference it is upsetting to know that the people ended up responding inappropriately to both situations, especially when there was media that downplayed covid-19, which was more widescale, and intensified Ebola, of a smaller scale. Regrettably, we still have not learnt to control how to appropriately use media to our advantage in handling crises like these.

Certainly, we cannot only blame the media for the difference in reactions. The politicization of the issue is also an aspect of this pandemic that is awfully similar to the Ebola outbreak, only now, the tables have turned and have caused less panic among the population rather than intensify the fear – inappropriately, considering the larger extent of Covid-19. US President Donald Trump calling the virus a hoax, downplaying the disease and constantly shooting down the words of scientists and the CDC is one way that would have caused Americans to

underestimate the coronavirus (Bardella K., 2020). This is especially so for Americans who may not have the proper news source to turn to – when unable to make a judgement on their own, and with their President constantly calling fake news to numerous news outlets, some Americans may only find Trump the most 'reliable' source of news they can trust. After all, since he is the president, he cannot be wrong, right? (Wrong.) In an attempt to increase his reputation and support, he downplays the virus to make it look as though he is doing a good job handling it, while also vilifying the Chinese to push down on China, the second largest economy's power and reputation in the American's eyes (Cheong, D., 2020). The attempt for Donald Trump to politicize the situation and fail to provide practical solutions has caused many preventable deaths, a horrible outcome for America. It definitely seems absurd that Donald Trump, who was preaching on the dangers of Ebola and the insufficient response by the administration back then is now downplaying the dangers of the coronavirus.

It is interesting to be experiencing the pandemic, seeing the responses to it, and comparing it to the Ebola situation – realizing that nothing much has changed, or even worsened through the years. I can only hope that the constant issues of misinformation in the media, and the politicalizing of issues can be minimized in the future. Sadly, history is bound to always repeat itself.

5. Conclusion

In the previous sections, we have talked about Ebola and its dangers, how the dangers of Ebola had been magnified through the media, causing frenzy and social or political repercussions on the country. We have also discussed the similarities and differences between the Ebola outbreak and coronavirus pandemic today, in the context of the media, politics and reactions by the Americans. Upon further reflection, I would say that it is very intriguing to have explored the different reactions to the spread of diseases – whether it was genuine fear that pushed some people to react the way they did and shunned groups of people, or due to other agenda they held – it just proves the great diversity of people and plethora of emotions present during crises. Especially in this age of mass media where millions of information can be found online, the different content accessed by each person has the ability to shape different perspectives and reactions to it. Therefore, when it comes to us individuals being exposed to these contents during crises, it is important for us to be able to be discerning and do what is best for the society. As this pandemic continues to rage on, I can only hope that there is one more similarity between the Ebola outbreak in 2014 and pandemic – that it will come to an end.

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