# EBOLA AND FAKE NEWS IN THE DEMOCRATIC REPUBLIC OF THE CONGO

**Student: Alexander Scrase**

**Student Number: 20172457**

**Supervisor: Laura Anne Landorff**

**Department: Development and International Relations**

**Aalborg University, Denmark**

**Characters: 85178**

*ABSTRACT: This paper explores the impact of social media, specifically fake news spread in the context of the 2018/2019 Ebola epidemic in The Democratic Republic of the Congo. Theoretically this paper is grounded in constructivism, a theory which allows for the analysis of multiple relativist narratives about Ebola. A methodology analysing public social media data maps multiple narratives on popular sites Twitter and Facebook. This is undertaken in order to understand the resistance to an international public health intervention and documented attacks on Ebola treatment centres in North Kivu province. The results delineate that publicly available fake news does not explain the attacks on medical facilities in DRC. Therefore, a further discussion is embarked upon. The paper recognises constrains of public data with the growth of private messaging services, it draws on some examples of fake news in other situations which is spread via such a vector. Internet sovereignty is a modern phenomena occurring in ubiquitous settings across the world. A discussions of how this operates in DRC draws from wider examples of China and Russia. It is argued that this further skews this papers results and impacts up the public nature of the internet. Using a constructivist lens alternative narratives are discussed highlighting the 'business' of Ebola, this leads into a tentative glance as Post Development. Finally the tumultuous security situation in North Kivu is discussed, alongside the political environment of the time such as delayed general elections. Opposition to the government and the politicisation of Ebola is presented in order to further understand reasons for the attacks. The Ebola outbreak mitigation efforts in DRC continue to come under attack. This paper aims to further the understanding of the motivation behind such attacks. The results are inconclusive but a wide discussion has been implemented and provides foundation for further inquiry.*

# Contents Page

# 1. Introduction & Structure

## 1.1 Introduction

> 'If you want truth to go round the world you must hire an express train to pull it; but if you want a lie to go round the world, it will fly: it is as light as a feather, and a breath will carry it. It is well said in the old proverb, 'a lie will go round the world while truth is pulling its boots on' (Spurgeon 1859 in Ratcliff 2011:358).

Ebola is a recurring development problem in The Democratic Republic of the Congo (DRC), a country which is presently experiencing its largest ever outbreak in its Eastern boarded in North Kivu according to frontline charity Médecins Sans Frontières (MSF 2019). The current epidemic has novel challenges, Ebola treatment centres are being attacked hindering response efforts to control the outbreak. Fake news being shared via social media has been accused of catalysing the attacks, and as Spurgeon writing in 1859 posits above, lies move fast. The situation in DRC has been described as 'a natural experiment in fighting fake news' (Spinney 2019). Using methodology inspired by a previous study undertaken by Oyeyemi et al in 2014 this paper examines the impact of social media in Ebola mitigation by analysing Twitter and Facebook data. It is argued that a 'social environment of denialism' is perpetuated online through the spread of fake news (Traniello & Bakker 2017: 75). There is a claim that the construction of fake narratives via social media have a very real world application in DRC where Ebola treatment centres are under attack. Due to these reports this paper proposes the question:

**What role does social media play in Ebola treatment centres being attacked in the Democratic Republic of the Congo?**

**1.2 Structure**

This project is structured, initially with a explanation of the methodology and research design including a literature review. Followed by the theoretical grounding, the core concepts are then defined. The background and history of Ebola and the DRC is presented. A method, the results and then the analysis follow. The results are then discussed and linked back to the hypothesis and theory. New subjects of discussion are then raised. Finally the conclusions and ideas for further research complete the project.

## 2. Methodology & Research Design

Section two delivers the hypothesis, an argument for the relevance of this papers inquiry and the authors epistemological & ontological position.

### 2.1 Hypothesis

This project uses a deductive approach in order to answer the aforementioned question.

> *H1: Fake news on Twitter and Facebook incites attacks on Ebola treatment centres.*

The generation of hypotheses before the analysis allows for the the possibility of either verifying or contradicting the hypothesis through the analysis of the results.

### 2.2 Relativist Ontology

Philosophically, when exploring the nature of being, this paper subscribed to an relativist ontology. A relativist ontology compliments the notions of a socially constructed conception of truth over material and objective explanations of truth. Reality is constructed in the mind and defined via relation to the experiences encountered. This paper aims to 'understand the subjective experience of reality and multiple truths' (Levers 2013:2).

## 2.3 Constructivist Epistemology

This papers epistemological stance builds on constructivism as a lens to explore multiple narratives scribed online. A constructivist epistemology is utilised in this paper recognising the subjective roles of truth, that knowledge is a human and social construction.

## 2.4 Relevance Of The Question

### 2.4.1 Social Media

While writing this paper there are societal concerns about how people consume truth, traditional media has declined and new media has taken it place. This new media landscape has wide implications in the study of development and international security. In 2008, Tewksbury and Rittenberg in the Routledge Handbook of Internet Politics comment that internet news has not surpassed traditional news outlets or legacy media such as TV and Newspapers (2008:186). In just over a decade this statement is no longer holds true. New media is playing an increased role in news consumption (Owen 2017). The Pew Research centre posits that in America two thirds of people access news via social media (Matsa & Shearer 2018). Facebook, the largest social media site is pro-actively aiming to become a domain in which news is shared (Fernandez 2017). This extreme period of growth is levelling out in 2019 as it slows, and even declines in some areas (Newman et al 2018). However, as the contemporary news landscape settles into place it is clear that new media has an important role to play. This new landscape creates a topography of misinformation in which science and truth are under attack, there is a concern about the 'deconstruction of factual evidence and the falsehoods and hoaxes that have virtually become everyday occurrences' (Traniello & Bakker 2017:75). In a development context where misinformation is charged with negating the efforts of aid workers these questions become particularly important.

### 2.4.2 Fake News

The new media landscape has become dominated by fake news, a catch all phrase that has fully entered the lexicon and is utilised by many. This papers definition of fake new is provided in the definitions section. Using Google

trend data from 2004 to 2019 one can clearly see a marked increase in fake new's presence in the online discourse, a illustrated in in figure 1 below.
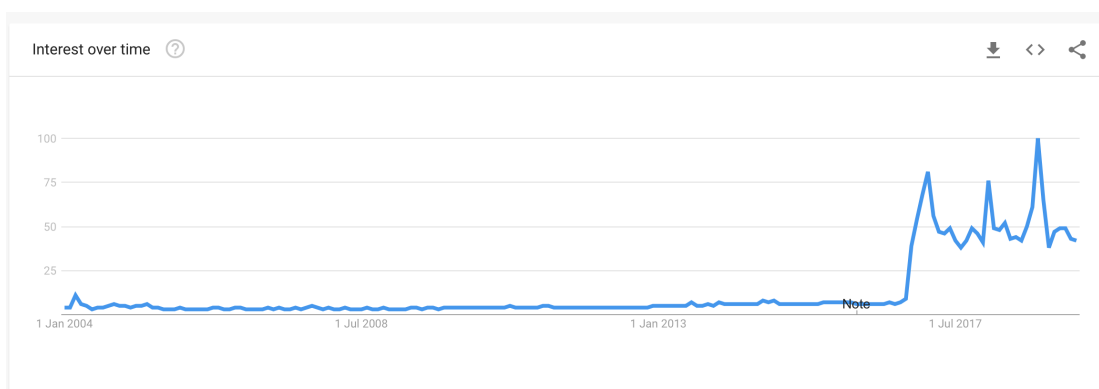


Figure 1: Illustrating a dramatic spike in search results for fake news after the 2016 presidential election in the United States (Google Trends 2019a)[1]. DRC is a particularly apt area of study as this is where the current Ebola outbreak is, and also the area where Ebola is most searched online in the past 12 month, as illustrated by Google trends data, see figure 2.
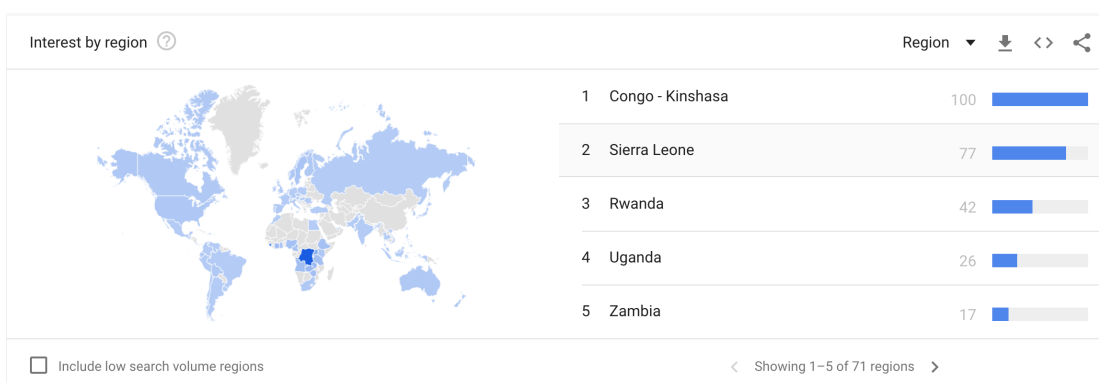


Figure 2: Illustrating that Congo is the area in which most people search for the term Ebola in the world in the last 12 months (Google Trends 2018b).

Fake news is a challenge for all of society, and it is argued that DRC provides a case study that illustrates the real world impact of fake news (Spinney 2019). Lessons learned in this realm of study will aim to understand how

[1] '*Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means that there was not enough data for this term*' (Google Trends 2019)

public information campaigns can operate more efficiently and improve development work. In a time that budget are being cut for anti Ebola programmes efficiency is even more relevant (Garrett 2018).

### 2.4.3 Relevance of Ebola

This paper offers a detailed description of Ebola and related societal impacts in section 5 . Here it is argued that Ebola is particularly relevant disease to study as its intrinsically linked to environmental degradation and urbanisation - both of which are becoming more pronounced. Deforestation and extractive behaviours in the DRC means more instances of Ebola, both due to the proximity of humans  to animals, but also due to an increased migrant labour force (Olivero et al 2017). DRC has the second largest tropical forest in the world, which has not undergone as much deforestation in comparison to other tropical forests due to the historically tumultuous security situation, however it is not entirely immune. Specifically areas bordering the Virunga National Park are impacted by deforestation (Earth Observatory 2008). In 2016, due to increased political tension it has been documented of a wide scale 'selling off' of mineral rights and also a declassification of large chunks of Virunga National Park, this can be seen as a preamble to more deforestation in the area as transitioning regime loots as much as possible before the power changes hands (Global Witness 2017). This is occurring the same location as impacted by the current Ebola epidemic as illustrated by the map in  Appendix 1.A.

Ebola is far more problematic in the dense urban environment which on a global scale society is moving towards (UN 2014). DRCs capital Kinshasa is on track to become Africa's most populous city by 2030 (World Bank 2018). If Ebola reaches  a large urban area, such as Goma, it would be a humanitarian disaster. Both urbanisation and environmental challenges in DRC only add impetus to the importance of understanding Ebola and corresponding mitigation policy.

## 2.5 Literature Review

This paper has analysed previous literature on the subject of fake news and Ebola within the Aalborg University Library digital search engine known as PRIMO. The search was undertaken looking at the below terms mentioned in the 'title' with the dropdown 'all items' selected.

Search Terms were:

- **'Ebola' and 'Fake News'**
- **'Ebola ' and 'False News'**
- **'Ebola' and 'Misinformation'**

The word Ebola was also substituted for 'EVD' and abbreviation of 'Ebola Virus Disease' & 'Hemorrhagic Fever' however these did not give any results. The French and Swahili translation of Ebola is the same as the English word making the search inclusive taking into account linguistic variation.

Searching for 'Ebola' and 'Fake New' resulted in nine items (two articles in a peer review journal, one podcast, and two news articles). Two results for articles are from Spinney (2019) the article in Science Magazine supported further study of the role of fake news as referred to in the introduction of this paper - 'The Ebola epidemic in the Democratic Republic of the Congo (DRC) is providing a natural experiment in fighting fake news' (Spinney 2019). The relevant news article that this search revealed is about fake cures circulating which has been a core part of previous Ebola and fake news studies (AsiaNewsMonitor 2014).

Searching for 'Ebola' and 'False New' revealed ten items (eight news articles, one broadcast transcript, and one article in a peer review journal). One article discussed panic on the border on DRC but none explored the question referred to in this project, the predominant theme of this search is 'false alarms' in different settings across the globe. Searching for 'Ebola' and 'Misinformation' resulted in nine items (two news article, seven articles in peer reviewed journals, one manuscript). This search include a relevant 2014 study in the British Medical Journal undertaken by Oyeyemi et al in the wake of the 2014 Ebola epidemic in West Africa. The methodology provided a framework

for this study. Fung *et al* (2014) undertake a social media analysis of the 2014 epidemic, this study utilised the Chinese social media platform Weibo and also Twitter. The study focused on the day that the outbreak was announced by the World Health Organisation and a week later, taking a random sample of tweets containing the key-word Ebola. However neither of the studies used Facebook, offering a gap in the literature for this study to fill.

Chandler *et al* (2015) discusses the importance of working with local communities to create best practice in combating Ebola, rather that solely correcting misinformation, or giving instructions about how to stop Ebola that are contrary to local traditions which prove to drive a wedge between aid agencies and the communities impacted by Ebola. Understanding the relationship between the donor, agency and recipient is essential, and could provide insightful into what has gone so catastrophically wrong with the attacks on Ebola treatment centres in DRC.

Vinck et al 2019 interviewed 961 respondents in the same geographic area this paper is concerned with, North Kivu district in eastern DRC. The study revealed an alarming 25.5% of respondents did not believe that the current Ebola outbreak exists (Vinck et al 2019). The study certainly reaffirms the importance of trust in institutions and when they breakdown how difficult implementing public health campaigns become, however due to the nature of the respondents being in urban areas no interviews with those in rural areas were undertaken. Further, social media as a source of information is not discussed, namely information givers are identified as: 'friends and family', 'community radio stations', 'national radio stations', 'religious leaders' and 'health professionals' leaving another gap for this paper to explore, especially how 'Friends and Family' become conduits for fake news  (Vinck et al 2019: 533).

One news article discussed the Yahoo Twitter feed being hacked and  sending misinformation about Ebola (Progressive Digital Media 2014). We recognise that technological advancements in social media, algorithm and programming

are having very real world societal impacts, some are an accidental byproduct of the new cyber landscape this could include clickbait, others are manipulated by nefarious actors such as hackers and scammer, some are state sponsored such as troll farms (Brian 2018:71).

Jin et al (2014) undertook a quantitative analysis on the rumours that abounded on Twitter around the 2014 epidemic identifying ten main rumours which were then mapped over time as illustrated in table 1 and figure 3 below.

| Table 1. Top 10 Ebola-related rumors by Tweet volume from 28 September to 18 October 2014. | | |
|---|---|---|
| Rumor no. | Content | Label |
| 1 | Ebola vaccine only works on white people | White |
| 2 | Ebola patients have risen from the dead | Zombie |
| 3 | Ebola could be airborne in some cases | Airborne |
| 4 | Health officials might inject Ebola patients with lethal substances | Inject |
| 5 | There will be no 2016 election and complete anarchy | Vote |
| 6 | The US government owns a patent on the Ebola virus | Patent |
| 7 | Terrorists will purposely contract Ebola and spread it around | Terrorist |
| 8 | The new iPhone 6 is infecting people with Ebola | iPhone |
| 9 | There is a suspected Ebola case in Kansas City | Kansas |
| 10 | Ebola has been detected in hair extensions | Hair |

Table 1. Illustrating main rumours around Ebola on a global scale in 2014 (Jin et al 2014: 91).
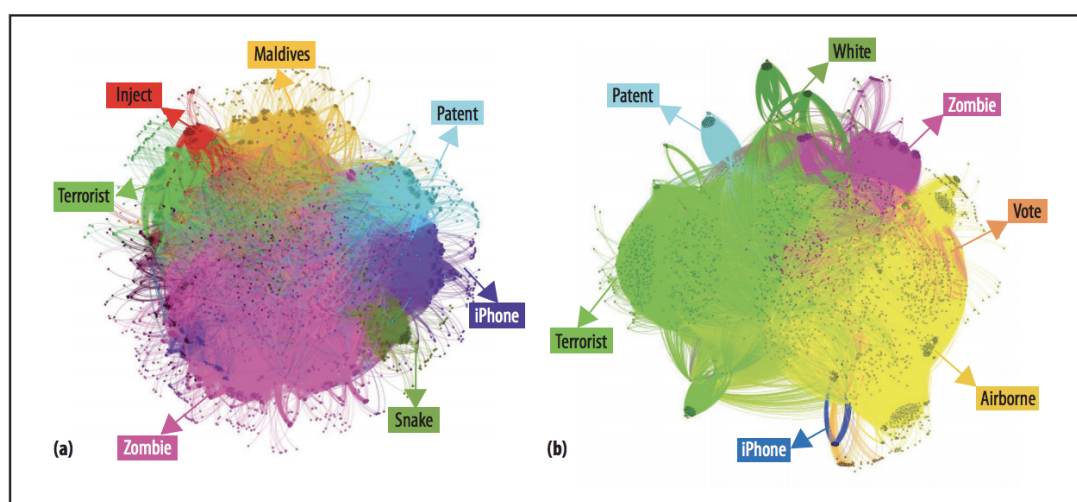


Figure 3. Illustrating how the rumours changed over time from a) September to b) October  (Jin et al 2014: 92).

Jin et al (2014) focus on Twitter as other studies have done, and argue for the case of the importance of using social media 'since social media has become one of the primary means by which people learn about worldwide developments' (Jin et al 2014:90).

In summary, news reporting on the current Ebola outbreak has highlighted diverse reasons for the attacks on Ebola treatment centres and have implied that fake news being spread to these communities is a large part of the reason for the attacks (Freytas-Tamura 2018; Weber 2018; Schaap 2019). Previous literature on fake news and Ebola outbreaks, available via PRIMO, have been focused on past epidemics and were mostly concerned with false cures. While damaging to public health, they are not as destructive as direct armed resistance to the public health response. The previous literature provides a framework for a methodology using social media to explore the online discourse. However there are big gaps in the kind of social media used, namely Facebook. Furthermore, the only study available via Primo on the current outbreak used interviews in urban areas, there has not been an online study undertaken on the current outbreak in DRC, an outbreak that is proving hard to contain due to the security risks to frontline infection control and treatment staff.

## 3. Theoretical Grounding

### 3.1 Constructivism

Wendt, writing in 1999 in 'Social Theory of International Politics' explains that constructivism has often been pushed to the side by more traditional International relations theories (Wendt 1999:2). In 2019 a radically updated truth disseminating machine exists due to ubiquitous coverage of the internet and social media, this paper argues that in such a zeitgeist theories of constructivism are very relevant. Terms such as post-truth are dominating the discourse (Wang 2016). With three books released with the same title alone in 2017 all calling to question the lack of accuracy in current reporting (Lloyd 2017). Accusations of 'fake news' are being used by myriad influential voices. With one politician going as far to say that 'people (...) have had enough of

experts' (Gove in Mance 2016). Indeed, Rochlin (2017:386) goes as far as to say that 'Facts and evidence have been replaced by personal belief and emotion, the nature of news, and what people accept as news, is also shifting toward a belief and emotion-based market' (Rochlin 2017: 386). Such a paradigm shift, may be deeply troublesome for empiricist, but it also give a great deal of credence to ideas of constructivism as a tool for theorising due to the focus on 'ideas, norms, knowledge, culture, and argument in politics, stressing in particular the role of collectively held or "intersubjective" ideas and understandings on social life' (Finnemore & Sikkink 2001 :392). As Ruggie posits 'constructivism is about human consciousness and its role in international life' (199:856). This paper sees social media as interesting reflection of human consciousness, an etching of current culture and motivation.

The lens of constructivism has a powerful gaze when analysing the architecture of truth as it recognises that there can be many truths and that the rules governing society are not natural but constructed. This goes against theories of realism and liberalism which prescribe rules for the international system based on predefined presumption of anarchy (Wendt 1999).

Further constructivism is 'not a theory of international politics' but can be used in numerous situations, specifically this paper uses constructivism to focus on a contemporary development / public health / security challenge (Wendt, 1999:7). 'Constructivists explore how new norms emerge' and this paper is exploring the reasons behind the new 'norm' of attacking medical treatment centres (Ayukawa 2011:6). The theory understands that 'actors are shaped by the social milieu in which they live, one obvious research question for them is: How does this shaping happen and with what results?' (Finnemore & Sikkink 2001:393) The social milieu in this case is social media, and the actors are the local communities impacted by Ebola and the treatment centre staff, which brings us back to this papers question of - 'What role does social media play in Ebola treatment centres being attacked in the Democratic Republic of the Congo?'

## 3.2 Thought Experiment

Controlling discourse is no longer the privilege of the few and it's wise to understand how such constructed truths may play out for societal issues. If we take the attack on an Ebola treatment centre as our example. One narrative of constructed truth can feed impetus for the attack while another decries it. Camilleri argues for the benefits of thought experiments as a way to test our own assumptions and as method of 'self interrogation' (Camilleri 2014:1697). As a thought experiment we can identify a number of hypothetical narrative threads that are constructed and extrapolate potential varying outcomes. One can look as the aid worker as the coloniser, promoting the spread of Ebola to eradicate indigenous population, as a way to gain financially via resource extraction, therefore it is logical to attack the treatment centres as a form of defence. Another sees Ebola as a rumour or myth made up to block an area from being able to participate in elections, therefore the treatments centres are a front for a corrupt government bent on disenfranchising the people, thus the attack is a form of political protest  and the disease is fabricated. Whereby another narrative is that Ebola is a real infectious disease that needs to be stopped from spreading by  humanitarian intervention. But why then are the same funds not given to other disease prevention methods, this brings us to another narrative of self interest, western nations are funding the centres to stop it spreading to their own lands, or they have a need to understand it in case it becomes weaponised by nefarious actors looking for a cheap biological weapon. In a truth landscape in which a disease, a fundamentally true and objective thing, can be weaponised, politicised, or even deleted from existence it can be claimed that Constructivism is a apt theory to harness. Indeed, as Wendt famously said `anarchy is what states make of it.' perhaps then Ebola is what people make of it (Wendt 1999:6).

# 4. Definitions & Concepts

In this section the project provides a definition of  Fake News and Web 2.0 / social media.

## 4.1 Fake News Definition

'One of the most striking differences between a cat and a lie is that a cat has only nine lives' (Twain 1894:86)*. Lies are an integral part of online news and they have many lives, it is necessary for this paper to have a working definition of the type of lie we analyse. This paper draws on Gelfert's definition of fake news 'the deliberate presentation of (typically) false or misleading claims as news, where the claims are misleading *by design*' (Gelfert 2018: 85). The emphasis on 'by design' gives impetus to the purposefully misleading nature of fake news. This paper does not define fake news as a tool of political rhetoric as it is often used. Pavon-Guinea in an article titled 'Hacking Westphalia' provides an interesting overview of the structural foundation of fake news and how the algorithms of social media (discussed below) add momentum to spreading lies (2019). It is posited that the hyper efficient advertising structures inherent in social media make false new far more impactful (Pavon-Guinea 2019).

## 4.2 Web 2.0 / Social Media Definitions

> *"It is our responsibility to amplify the good effects and mitigate the bad - to continue increasing diversity while strengthening our common understanding so our community can create the greatest positive impact on the world."  (Zuckerberg in Weedon et al 2017:3)*

Web 2.0 and social media emerged as the internet evolved from a static to an interactive landscape, primary examples of this are social media sites such as Facebook (Chadwick & Howard 2008). Web 2.0 meant that the internet became a contested site of political discourse, rather than a two dimensional notice board it became a town hall meeting on a global scale. As with all town

hall meetings there can be chairpersons and hecklers. Social media is set up so the user is always voting 'yes', the founder of Facebook Zuckerberg, quoted above, rejected the dislike button, its means user interaction automatically promotes the post, regardless if the post is fake. Such inherent positive feedback creates advertising revenue. The system is fundamentally self propelling and income generating (Rochlin 2017; Gelfert 2018). Fake news sites have become big business and they use Facebook as an important market place, as the heckler always shouts yes (Braun & Eklund 2019; Ohlheiser 2016). In addition, It is argued that novelty attracts human attention and subsequent sharing, fake news is more likely to have eye grabbing headlines (Pavon-Guinea 2019).

# 5. Ebola in DRC

Ebola was first identified in DRC in 1976 (CDC 2014). The virus proves a serious developmental issue and furthermore aid agencies are being hindered through attacks on Ebola treatment centres. While writing this report in 2019 the Ebola outbreak in DRC is continuing with moderate intensity (WHO 2019). The current outbreak, is the 10th of its kind and it is the worst so far experienced in DRC.

## 5.1. DRC Security Overview

DRC currently has 4.5 million internally displaced people because of political instability lingering since the civil wars of the 1990s (World Bank 2018). The civil war lasted from 1997 to 2002 and resulted in the deaths of 5 million people (Burke, 2019). In the run up to 2016 elections there has been a large and violent government crackdown on the opposition which has catalysed an upsurge of armed conflict across the country which subsequently delaying the elections (Human Rights Watch 2018). North Kivu, the area of DRC that is impacted by Ebola is home to 120 separate armed groups with violence undertaken by diverse actors, see Appendix 3. Officially the civil war ended in 2003 however this area has been plagued by continued insecurity with an uptick since 2016 (Garrett 2019). Figure 4 below highlights how insecurity

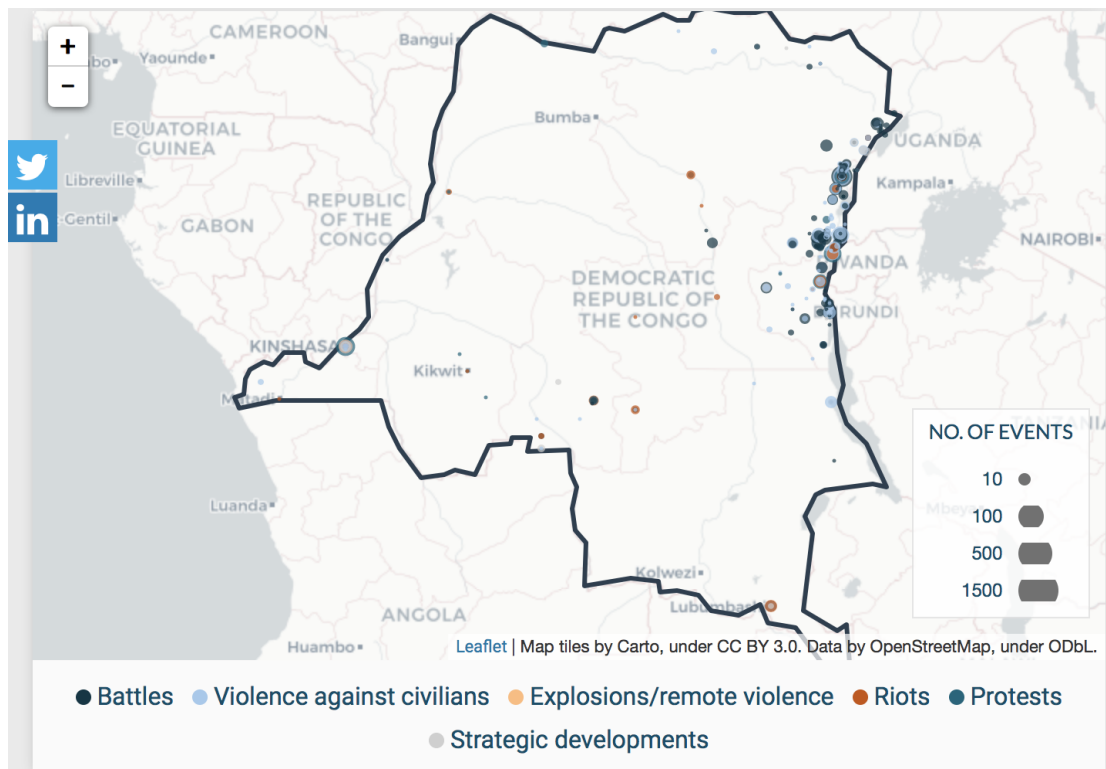clusters in the eastern border of the DRC, which is also the area of the Ebola outbreak.



Figure 4. Conflict analysis over the date range May 1st to April 20, the same timeline as the method later in the paper follows (Acledata 2019).

Since 2016 a 'strategy of chaos' to further delay elections has been undertaken by the central government, rekindling old conflicts and making a environment impossible to support the infrastructure needed for an election (Sawyer 2018). In 2019 while writing this report the elections are still contested making for an uncertain political climate with fears of renewed violence (Doss and Ibrahim, 2019).

## 5.2 Ebola Virus Disease

Ebola outbreaks are getting worse as we can see from the below figure 4
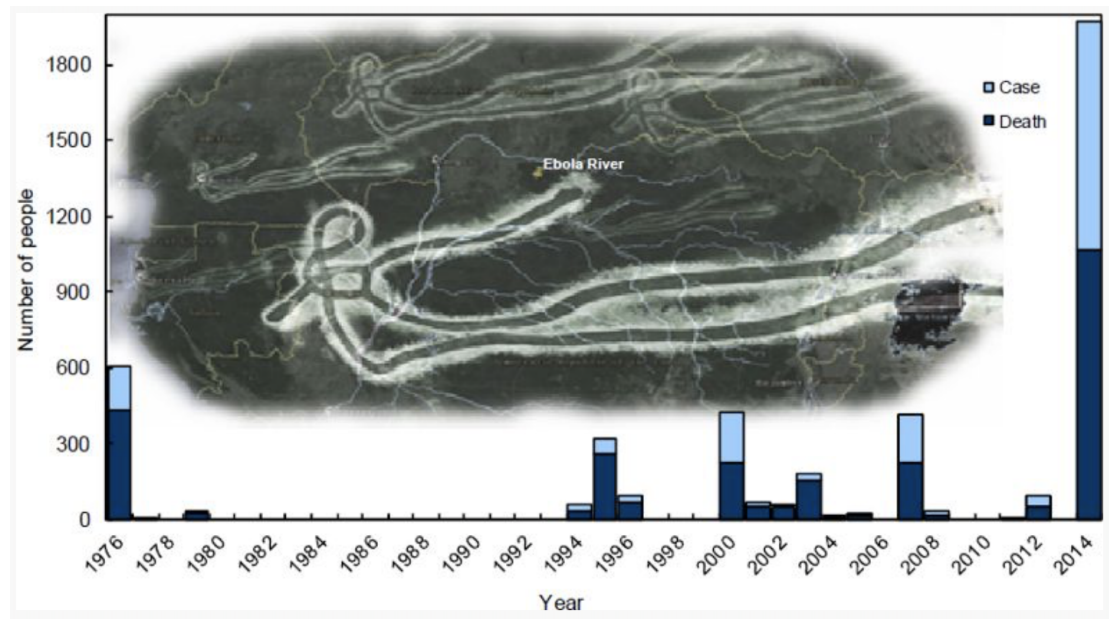


Figure 5. Illustrating that the 2014 Ebola outbreak was considerable worse that previous outbreaks (Zhang et al 2014: 763).

Ebola holds the classification 'biosafety level 4 agent', to give a comparison it is more deadly and contagious than HIV. Hypothetically, if one was 'able to concentrate the destructive effects to the human body of HIV in one year to one week, that would compare to the power of the Ebola virus' (Zhang et al 2014:763). The large amount of displaced people in DRC and the lack of resources means that people often turn to the colloquially named bushmeat to supplement their diet. The umbrella term bushmeat includes wild animals such as bats, primates, cane rats and antelope. Usually the meat is cured or smoked which does not neutralise pathogens efficiently making it high risk in relation to disease control (CDC 2018). Consuming bushmeat is one way for 'zoonotic spillover' to occur, with Ebola moving from the animal population to human. Once Ebola is present in the human population its spreads rapidly passing from person to person (Bonwitt et al 2018:167). Post zoonotic transition, education and awareness become the most powerful preventative measures, a vaccine is still in a test phase but is getting positive results (Cohen 2018). Vaccinations are most efficient when the 'ring vaccination' method is used to contain the spread of ebola, community engagement is

therefore essential to build the 'ring' (Branigan 2019). Public awareness to promote infection control are paramount, mobilising community groups to spread awareness and focus on those most vulnerable such as children and taxi drivers (UNICEF 2018). Public awareness campaigns have been mobilised by organisation such a the Centre for Disease Control (Appendix 2). These include advising on safe burial practices, explaining how Ebola spreads and why to respect quarantine (Butty & Isango 2018). The attacks on Ebola treatment centres unravel all of the above, causing Ebola to spread rampantly, a number of reports identify a corresponding spike in Ebola cases after attacks and centres are disabled (International Rescue Committee 2019).

### 5.3 Fake News And Ebola

'I count false words the foulest plague of all' *(*Aeschylus c.525–456 bc)

Ebola has been linked to misinformation campaigns since the height of the Cold War (Kincaid 2014). It is a virus that has fascinated the media for decades (Zhang *et al* 2014: 764). The 2014 Ebola outbreak saw a plethora of online hoax and rumour, for example one story falsely identifying a town in Texas being infected with Ebola was seen by 340,000 people (Dzieza 2014).

What is unique about this outbreak of Ebola is that there have been full scale attacks on Ebola treatment centres in the province of North Kivu (MSFa 2019). There are also smaller forms of resistance to Ebola treatment such as throwing rocks and non compliance with health workers but this focuses on the main events (congotoday 2019). Ebola has in the past been the focus of scepticism with public health campaigns being disbelieved, as either plain wrong or as a scare tactic for environmentalists to deter poaching in protected areas (Bonwitt et al 2018:168). This occasion conspiracies about Ebola are said to abound and MSF explain how gaining trust of the local community is essential (MSFb 2019). Due to the voracious efficiency of the disease its very difficult to build trust as people associate the treatment centres with negative results as we can see from the two quotes below:

'When somebody comes late to a treatment center they have less chance to survive," he said, calling it a "vicious cycle" that creates a negative public perception. In the eyes of many people, he said, treatment facilities began to look like "a kind of center where people come to die.' (Yao in Yuhas 2019)

'It only took a few days in Butembo, responding to the current outbreak in eastern Congo, before I was surrounded by an angry mob chanting "kill him", after they refused to allow our surveillance team to investigate a death in their neighbourhood' (Shako 2019)

According to a New York Times article this distrust is made worse because of politicians exploiting the crisis for votes, saying that Ebola was spread by the incumbent government or from foreigners -  'The thermo-guns aimed at people's foreheads to take their temperature, the politicians say, are weapons to steal votes. Ebola, they also sometimes say, was brought in by foreigners' (Freytas-Tamura 2018). Schaap explains, in his report on the 2019 attack on a MSF treatment centre in Katwa, that local tribe - The Nande are fearful that the vaccines are a way to destroy their tribe making them hostile to the treatment centres (Schaap 2019). Weber (2018) also reports 'an uptick in social media posts about conspiracy theories regarding the outbreak that were inflaming such resistance and inhibiting response efforts' when referring to the current outbreak (Weber 2018). In a study in which members of the local community in Kivu were interviewed it was revealed that over 25% of respondents replied that they did not believe that the Ebola outbreak existed (Vinck et al 2019). Further this this Vinck et al highlight how trust is essential in combating Ebola, local communities need to report outbreaks so treatment and containment can work efficiently (Vinck et al 2019). As Vinck continues - 'Trust and the circulation of accurate information by reliable sources are crucial to control Ebola outbreaks and pose a major challenge in conflict environments' (Vinck et al 2019:2). Therefore, in order to have a successful policy in combating Ebola its essential to snuff out fake news about the

disease. As Shako declares 'Ignorance and war have become the virus' partners in crime' (Shako in Schaap 2019). Some of the more popular misconceptions are covered by Schaap, disbelief in Ebola's existence, that the government is responsible, or that witchcraft is the culprit, there are even conspiracy that its an organ harvesting trick (Schaap 2019). Another narrative is that that medical staff are profiteering from the outbreak (Boseley & Burke 2019; Lucard 2019). Local community engagement is an essential undertaking for successful treatment, those who have been treated become some of the most power and convincing influencer, a solid asset in dispelling myths around the treatment centres. The idea of transparent centres allowing for family members to visit and for people to see what is happening in the centres has been implemented in some areas, specifically to build trust (Spinney 2019). Observing local burial practices is also essential, an amalgamation of sterile disposal and local custom, for example welcoming religion leaders to participate (Malvy et al 2019). There has even been a pop song made about Ebola by 'Talented Young Brothers', they recorded a song with MSF saying Ebola is real which has been played on local radio (MSF 2014).

## 6. Method

This section discuss internet data, the framework for the Twitter and Facebook analysis and a note on ethics.

### 6.1 Data

There are inherent problems with internet data. Cyberspace is a complex and chaotic landscape that is in constant flux - internet data can be deleted, archived or corrupted. This study focuses on contemporary events, internet data allows for real time information, a snapshot in time which may not be available in the future. In the analysis of such data one's viewpoint needs to be taken into account in adherence with constructivist theories. The researcher in this case uses a machine based in Denmark formatted to English. Social media algorithms recognise this and will present one such online reality. Internet data relativistic as it is presented differently depending

on the user. Furthermore, language translation software is being used in the research, this is not a failsafe mechanism and it can miss out on the nuances and colloquialisms of language, especially in an area of such diverse linguistic heritage as the DRC (Palma 2008). Self reflexivity and recognising the constraints of internet data throughout the research process have been essential. Due to censorship the internet in DRC has been closed down and blocked during occasions of political tension, from 31 December 2018 until 19 January 2019 social media sites were blocked skewing results when undertaking the social media analysis (Kalonji 2019).

## 6.2  Twitter Analysis

In 2014 Oyeyemi et al had a letter published in the British Medical Journal in which they outlined a methodology for using the popular social media site Twitter as a tool to explore misinformation during the 2014 Ebola outbreak. The results found that there were a number of false and misleading narratives circulating. The majority were about false cures for Ebola; that a plant called Ewedu could offer a cure, as can blood transfusions and washing in salty water (Oyeyemi et al 2014) . Such false notions damage public health awareness campaigns but can be mitigated through better public awareness and legitimate online health campaigns. The paper set up a framework that is used in this project to explore what is being said about Ebola in the current outbreak, this paper modifies the original methodology through adding extra social media sites, and not restricting the search to only one language, as there have been advancements in translation software since the original study.

## 6.3. Facebook Analysis

Building on Oyeyemi et al's method this project utilises Facebook as a research tool. Facebook has become a widely used tool in the social sciences providing diverse samples that can produce solid results with the benefit of being relatively cheap to produce (Kosinski et al 2015). Facebook provides 'access to an extraordinary amount of information about individuals and groups, recorded in a natural environment' (Kosinski et al 2015: 547).

Following from Kosinski et al this paper recognises that Facebook only provides a select sample group as not everyone has access to the internet, however as this paper is focusing on the interaction between fake news and tackling Ebola it remains relevant. We must recognise other ways fake news is spread, such as word of mouth (Kosinski et al 2015). It is also highlighted that as a researcher we can only gain insight into public data, and there is much data that we cannot access as its shared within private circles (Kosinski et al 2015: 549). Taking a cursory look at other social media we found that Facebook and Twitter have the most user friendly search functions. For example Instagram & Reddit do not provide a search function that can delineate a selected time period making for a colossal amount of data to trawl through, Weibo is mostly in Chinese language making it difficult to navigate for someone not fluent, even with advancements of translation software.

Zimdars provided 11 categories of fake news as presented below which are utilised in order to categorise results (Zimdars in Rochlin 2017: 388).
- Fake News: Sources that entirely fabricate information, disseminate deceptive content, or grossly distort actual news reports.
- Satire: Sources that use humor, irony, exaggeration, ridicule, and false information to comment on current events.
- Extreme Bias: Sources that come from a particular point of view and may rely on propaganda, decontextualized information, and opinions distorted as facts.
- Conspiracy Theory: Sources that are well-known promoters of kooky conspiracy theories.
- Rumor Mill: Sources that traffic in rumors, gossip, innuendo, and unverified claims.
- State News: Sources in repressive states operating under government sanction.
- Junk Science: Sources that promote pseudoscience, metaphysics, naturalistic fallacies, and other scientifically dubious claims.
- Hate News: Sources that actively promote racism, misogyny, homophobia, and other forms of discrimination.

- Clickbait: Sources that provide generally credible content, but use exaggerated, misleading, or questionable headlines, social media descriptions, and/or images.
- Proceed With Caution: Sources that may be reliable but whose contents require further verification.

(Zimdars in Rochlin 2017: 388)

This list is problematic due to its subjective nature, for example the 'extreme bias' category depends on one's world-view (Rochlin 2017). In the context of the Ebola outbreak some of these categories may not be relevant. Due to the use of constructivism and recognition of self reflexivity this paper is concerned with narratives built online rather than a flawless categorisation of posts, the categorisation aids in quantifying data into manageable units.

**6.4 Ethical Considerations.**

There is a lack of ethical guidelines about the use of public data mined from social media (Kosinski et al 2015). Therefore in this project any personal profiles have been made anonymous, they were public at time of research however this thesis respects the right to anonymity as the posts can still be deleted by the user. The question then of informed consent can be crossed off the list of concerns through the implementation of anonymity, as we recognised that just because data is available it does not mean it is public (Townsend & Wallace 2016). Anonymity is implemented through blocking out names and images of the author with a simple editing tool. Posts from organisations that are clearly meant to be public remain public. Following Kosinski et al's guidelines we treat the publicly available data in the same vein as archive footage, with the extra caution of making anonymous personal profiles (Kosinski et al 2015). As academic endeavour continues to mine social information available on-line it is likely that there will be many ethical bridges to cross. One aspect of constructivism is that it shines a light upon author reflexivity, self reflexivity in this new research environment also has ethical undertones. Such an awareness will help to avoid the ethical pitfalls.

# 7. Results.

## 7.1 Twitter Search By Location.

May 8th 2018 was when the epidemic in DRC was officially declared by the ministry of health (The Ebola Outbreak Epidemiology Team 2018). The first identified case can be traced back to May 3rd so this study will start from April 1st 2018 to see if there is any preamble on social media in the run up to the Ebola outbreak, and the study is undertaken up until April 20th 2019 due to the writing timeline of this paper.

Search Terms 'Ebola' were entered into the Twitter search engine with the date range of April 1st 2018 - April 20th 2019. Due to the transient nature of the borders in the region and the fact that the capital of DRC Kinshasa is only four kilometres from the capital of Republic of the Congo Brazilleville, and the centre on the epidemic is near the boarder with Uganda, the search was undertaken by choosing all neighbouring countries as search regions. The results are delivered in the below table 2.

| Country | Frequency of tweets | Fake News Tweet |
|---|---|---|
| Democratic Republic of Congo | 0 | 0 |
| Uganda | 9 | 0 |
| Central African Republic | 0 | 0 |
| Rwanda | 0 | 0 |
| Tanzania | 0 | 0 |
| South Sudan | 0 | 0 |
| Zambia | 0 | 0 |
| Angola | 0 | 0 |
| Congo - Brazzaville | 44 | 0 |
| Total | 53 | 0 |

Table 2. Tweets, geolocated and searched since April 1st 2018 until April 20th 2019.

**7.2 Twitter Search By Attack**

More specific searches were carried out for the hashtag of the name of each attack location one week before and one week after the three attacks on treatment centres as illustrated in table 3 below.

| Date | Location of attacked treatment centre | Dates of serch | Hashtag and frequency of tweets | Fake News Tweets |
|---|---|---|---|---|
| February 24th 2019 | Attack in Katwa (MSFc 2019) | 17th Feb - 3rd March | #katwa 80 | 0 |
| February 27th 2019 | Attack in Butembo(MSFa 2019) | 20th Feb - 6th March | #Butembo 56 | 0 |
| April 19th 2019 | Attack in Butembo (Maliro, 2019) | 12-26th April | 99 Tweets #Butembo | 0 |
| **Total** | | | **237** | **0** |

Table 3. Attack locations and associated tweets

**7.3 Facebook Search By Month**

Using the Facebook advanced search engine the word 'Ebola' was searched with using the below parameter to filter the search in order to cast the net as wide as possible: :

- Posts from: Anyone
- Post type: All Posts
- Posted in groups: Any Group
- Tagged Location: Anywhere
- Date: Specific month were selected

Each month from May 2018 to April 2019 was then searched individually in order to sort the data into manageable monthly chunks. The frequency of posts and those that are categorised as fake news are presented in table 4.

| Date | Frequency of posts | Fake News Posts |
|------|--------------------|-----------------|
| May 2018 | 17 | 2 |
| June 2018 | 18 | 0 |
| July 2018 | 16 | 1 |
| August 2018 | 18 | 3 |
| September 2018 | 19 | 2 |
| October 2018 | 19 | 2 |
| November 2018 | 10 | 1 |
| December 2018 | 9 | 0 |
| January 2019 | 10 | 0 |
| February 2019 | 19 | 4 |
| March 2019 | 20 | 2 |
| April 2019 | 19 | 5 |
| Total | **194** | **22** |

Table 4: Frequency of Facebook results containing the word Ebola and those deemed fake news from May 2018 to April 2019.

# 8. Analysis

This sections provides an analysis of the three core searches undertaken on Twitter and Facebook.

## 8.1 Twitter Search By Location

There were no results for fake news concerning Ebola using the location search. The original study using this methodology during the 2014 outbreak found a plethora fake cures via this search. This time around the dominant tweets that made up the results were those of aid organisations or international organisations such as the WHO and their associated staff, often offering condolences or giving updates and practical information about Ebola. The majority of tweets came from Brazzaville which is not technically in the DRC, however, during the elections the internet was closed down in large areas of the DRC and due to Brazzaville's close proximity lots of the Twitter internet protocol addresses would be registered here (Kalonji 2019).

## 8.2 Twitter Search By Attack

The analysis focused on three attack on Ebola treatment centres in order to explore the kind of online narrative surrounding the events. February 24th 2019 Attack in Katwa in which a MSF treatment centre was made inoperative as it was partially burned down. The attack resulted on the centre closing down hampering efforts to contain the Ebola outbreak (MSFc 2019). A second attack occurred in Butembo on the evening of the 27th February 2019. Staff have subsequently been evacuated and patients, 15 of which had Ebola are not longer in quarantine (MSFa 2019). The final attack analysed on 19th April 2019 in Butembo saw a prominent WHO doctor killed and was later claimed by ISIS (Wembi & Goldstein 2019). As with the search by location, the Twitter search did not reveal any results of fake news. The majority of tweets that were linked to Ebola in DRC and the treatment centre attack were condemning the attack and offering support and condolences of those impacted, or were news reports. There were no cases in which the attacks were celebrated or seen in a positive light. The Twitter landscape certainly
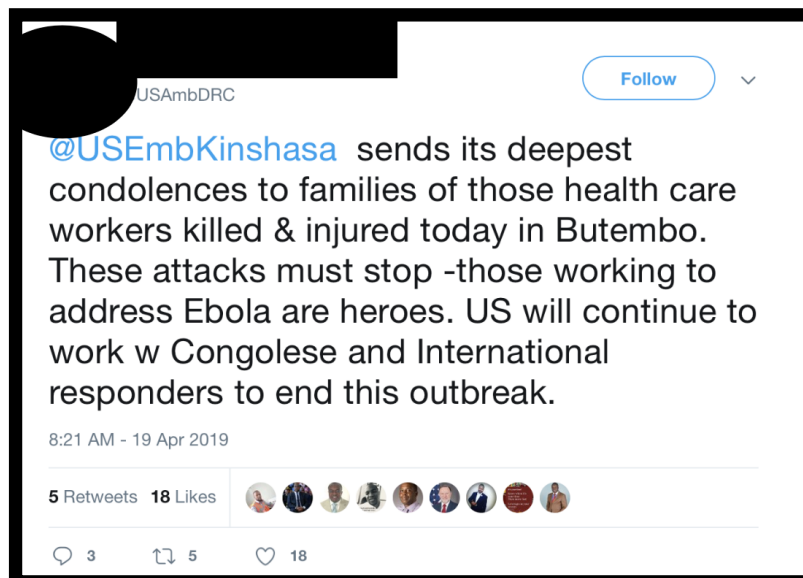
seems to be dominated by valid and substantiated public health advice or new. Some example are presented below in tweet 1 and 2.

Tweet example 1: This tweet gives an example of news coverage of the treatment centre attacks as part of the online narrative.



Tweet example 2: Give an example of a message of condolences as part of the online narrative.

## 8.3 Fake News In Facebook Search

From 194 posts that contained the word Ebola over the selected time period 22 were marked as fake news. Referring back to Zimdars categorisation we can break down the Facebook posts into fake news, junk science, conspiracy theory and hate news (Zimdars in Rochlin 2017:388). The main themes of the fake news posts are, Ebola is real but is manufactured by the west or supranational organisation, fake cures, spiritual cures and some fake cases of Ebola in different areas that are used to create fear of immigration. The majority of the highlighted cases are not focused specifically on the current outbreak in DRC. They are interesting in so much as they provide an example of the kind of rumour and falsity that constructs the online narrative globally.

The fake news posts that are specifically about Ebola in DRC are to do with the financial gain from Ebola. The idea that the development 'industry' is making money from Ebola, an example is Post 1 below. The next theme that occurred is the politicisation of Ebola, how it has been used to disenfranchise the area impacted because the elections were called off as we can see in Post 2 below. However, the examples of fake news are so rare within the search they do not provide impactful results, and certainly do not support the hypothesis H1.

Post 1. Provides an example of 'Ebola as business'
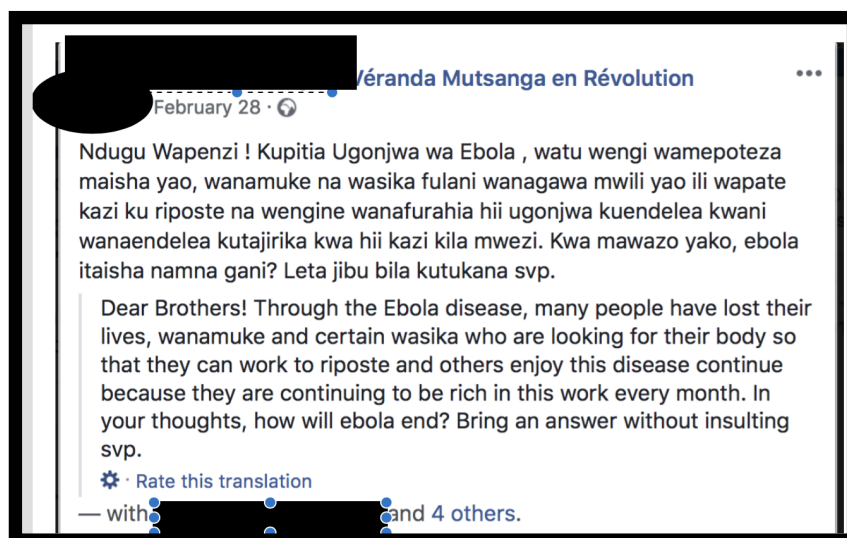
Post 2. Provides and example of the politicisation of Ebola.



The constructed reality publicly available via this papers search favours that the online landscape is a place that pushes the aid agencies narrative, a mixture of messages of concern and condolences. As we can see from example of posts 3 and 4 below.

Post 3. Provides an example of the MSF updating on the current situation, this kind of update is a common occurrence in the discourse

Post 4: Provides an example of the public health campaign being promoted by the WHO.
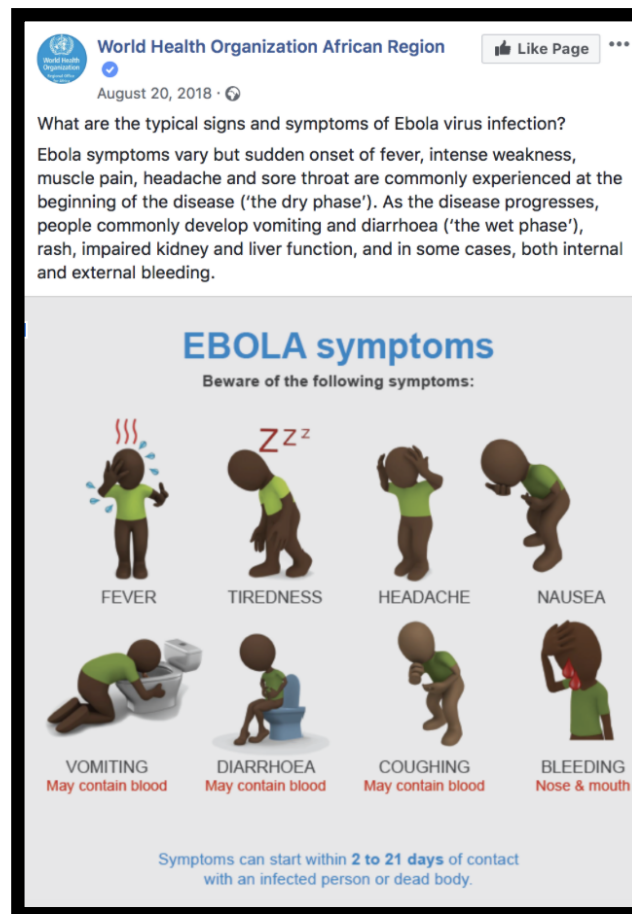


## 8.4. Summary of Analysis

The lack of fake news reported in the results indicate that public posts on Facebook or Twitter are not places that incite attacks against Ebola treatment centres in any meaningful way. The results do not back up the hypothesis '*H1: Fake news on Twitter and Facebook incites attacks on Ebola treatment centres'.* Both the Twitter and Facebook results gave very few examples of 'fake news' acting as a catalyst in the current Ebola outbreak in DRC. Numerous news reports have indicated that this is the case, the results of this paper do not back up such claims using the aforementioned methodology. Other avenues of analysis will be provided in the discussion and other reasons for the attacks explored in the discussion and challenge section.

# 9. Discussion & Challenges

Ebola treatment centres are being attacked, media reports repeatedly point the finger towards fake news being circulated online. This papers Twitter & Facebook analysis have not validated any of these claims, and in the process of the analysis has had some challenges. Therefore the discussion section of this paper also encompass the challenges section. The discussions section will explore implications of social media not available for public analysis, the impacts of emerging phenomena of Internet sovereignty, the idea of Ebola as business and the politicisation of the outbreak in DRC.

## 9.1 Private Communication

This analysis explored the publicly available discourse in accordance with previous studies, theoretically taking the approach of constructivism to see which realities are construed via public online society. However, the analysis has no access to information that is spread privately. Fake news has been identified to be spread through messenger service such Facebook and Whatsapp. As they are not public and cannot be monitored in any ethical way, the techniques used in this paper therefore miss on a large segment of online data. As Molteni points out when discussing fake news in Brazil 'WhatsApp's end-to-end encryption and the closed nature of its networks, it's nearly impossible to study how misinformation moves through it' (Molteni 2018). In order to bolster the data and give further revelation into fake new interviews and focus groups could be undertaken in order to understand where knowledge is seeded from, however direct access is currently, and correctly so, an impossibility. There have been a number of high profile cases of Whatsapp being associated with vigilante violence in India through spreading fake news and rumours. The issue has been recognised with Whats app launching an advertising campaign named 'Share Joy no Rumours' and also creating limits to how many times a message can be forwarded (hindustantimes.com 2018). Further to this around the Indian election 2 millions accounts were deleted after being highlighted as suspect accounts (Safi 2019). In Brazil What app has been linked to rumours about fake vaccine for Yellow Fever, a voice message from a fake doctor saying the vaccine is

dangerous and a fake text message purporting a student death because of the vaccine have been circulating (Molteni 2018). It is not unlikely a similar occurrence could be happening in the DRC, with fake news propagated via such networks.

**9.2 Ebola As Business.**

A number of the Facebook comments alluded to the 'industry' or financial gain created by Ebola, a number can be disregarded as conspiracy theories, see Appendix 5. There were two posts which specifically looked at the president of Sierra Leone, a site of a previous outbreak, and people profiting from the current outbreak being employed by the aid agencies as illustrated by post 1 above. The results provided a limited data set, however, it is still an interesting concept to look at which has been credited by a number of sources as the reason for mistrust (Boseley & Burke 2019; Lucard 2019). Building on the theory of constructivism which sees human interaction and an amalgamation of 'ideational factors' we can see a number of narratives around Ebola, one is indeed Ebola as a business. This concept directly hinders development attempts as it warps motivations. In comparison to other diseases a lot more money is being invested into Ebola by international donors, therefore local employment is being provided, once the epidemic stops the employment will also cease (Tsongo, 2019). Some members of the local community are making financial gain. This leads to an interesting theoretical segue to the ideas of post development. Post development theorising has been lead by a number of scholars who claim 'development' is fundamentally flawed and reimagine development as a broken project (Sachs 1992). Matthews explain that post development scholar say about development that it has 'done more harm than good', is 'obsolete' and 'in ruin' (Mathew 2004:373). Ideas of post development construct an entirely different reality of development. In the case of Ebola in DRC they would highlight failure for community engagement and be very sceptical of the economic impacts of the development interventions because it promotes a continuation of the disease for financial gain. There would also most likely be a discussion about neo-colonial roots of Non Governmental and charitable organisations lack of trust and legitimacy they

wield, with a drive to build the response on local knowledge and participation instead. This is something that many policy documents are in fact promoting, after lessons learned during the 2014 Ebola outbreak in which conflict were sparked because a lack of respect for burial practices(WHO 2017).

## 9.3 Internet Sovereignty

The idea of sovereign internets has been adopted by many nations across the world. The term internet sovereignty was coined in 2010 by the Chinese government (Tiezzi 2014). It explains that the internet in China will be administered under national law. Essentially the Chinese state aimed to control the content of the internet by creating digital sovereign borders around a previously permeable construction (Tiezzi, 2014). This massive technological undertaking of huge scale has become colloquially known as the 'Great Firewall of China' (Harvey 2014: 2). Another example comes from Russia: The Russian government is proposing laws for full internet sovereignty through the use of 'centralized hubs that would allow the Kremlin to monitor all the traffic flowing across Russian internet space and block or filter anything it doesn't like' (Gilbert 2019). The official reasoning behind such a move is defensive, to combat offensive cyber capabilities from the US (Gilbert 2019). However, the move would also greatly increase control over the domestic population and to quell dissenting voices. During president Putin's time in power the traditional press freedoms have been eroded but online spaces have provided a place of free speech, methods of internet sovereignty de-construct even these spaces (PEN 2016).

In the case of DRC a simpler method has been used and could account partially for the lack of fake new results in this paper. Firstly, the internet has been periodically 'turned off' with people in the DRC having to obtain sim cards and data bundles from neighbouring counties (Kalonji 2019). In addition to this, especially during election time, government crackdowns on social media use occurred (Bujakera & Mahamba 2019). In a climate that does not promote free speech public criticism online could potentially be stifled and sent 'underground'. This theory also compliments the notion that 'fake news' is

not available publicly but sent via private networks as discussed in section 9.1.

## 9.4 Politicisation Of Ebola

Incumbent Joseph Kabila's tenure had technically comes to an end in 2016, until 2019 he held onto power while the security situation has steadily declined (Norton 2018). In January 2019 Felix Tshisekedi was declared the new president of DRC taking over from Kabila after 18 years, defeating opposition leader Martin Fayulu of the Lamuka Opposition Alliance. Ibrahim and Doss call this a 'defeat for democracy' (Ibrahim & Doss 2019). The reason for the criticism is that according to 40,000 election monitors votes, and a further leaked data set of 49,000 results Martin Fayulu had the majority and the final results were wrong (Blood et al 2019: Stearns 2019). The opposition have been oppressed and Kabila and Tshisekedi were colluding to further Kabila's influence (Burke 2019; Ibrahim and Doss 2019). North Kivu is an area that is predominantly opposing the central government and supporting the opposition party (Paravicini 2018). The voting in this area was stopped, and the reason given was that of Ebola. This was a controversial move as stated by Fayulu in a tweet: 'The pretext of Ebola is fallacious because there has been campaigning in these areas. It's yet another strategy to hijack the truth of the polls' (Fayulu in Paravicini 2018).

Linking Ebola and the election has caused problems for health care staff (Freytas-Tamura 2018). Schapp explains that the lack of ability to vote in the 2018 elections on the pretence of the Ebola outbreak has made it far more difficult to convince people of the genuine danger of Ebola with a subsequent growth of conspiracy' (Schaap, 2019). The epicentre of the epidemic is an area that has traditionally been against the powers in the capital, it has also been the site of a protracted UN peacekeeping mission backed by the central government, the security situation continues to be adverse eroding trust for the national government and international organisations (Vogel et al 2019). The UN Peacekeeping mission knows by the acronym MONUSCO has had many challenges, especially during the delays to the elections in which it

suffered its worse ever attack (Congo Research Group 2017). MONUSCO has been criticised for its lack of operational ability and failure to respond when civilians are under attack specifically examples have been highlighted in Kasai, South Kivu and Ituri (Laer 2018). The lack of effectiveness of the UN twinned with a deep distrust of the central government, in addition to the lack of elections on the pretext of Ebola created distrust, with the Ebola treatment centres becoming a rallying point for anti government violence (Elliott, 2019). In the 2014 outbreak in Guinea, Ebola interventions in affected areas were hijacked by politicians electioneering, creating an association between Ebola response and the central power, Ebola became a tool for politicians (Wilkinson & Fairhead 2017). With resultant hostility to aid agencies (Nossiter 2014). The DRC context is reverse, it is argued that the central power used Ebola to disenfranchise the opposition rather than promote their own agenda. The Ebola outbreak as been enveloped into the security maelstrom of DRC, a political environment made of many layers of distrust. At the same time the fragile security of the region further fans the epidemic, giving it potential to expand into neighbouring countries.

## 10. Conclusion & Further Research

In this section the project provides its concluding comments and lays out some propositions for further research.

### 10.1 Conclusion

This paper aimed to understand the reasons behind attacks on Ebola treatment centres, using a constructivist approach to explore multiple narrative presented online. Using previously tested methodology, the paper revealed a lack of results that indicate fake news played a part in the attacks. However, for reasons such as internet sovereignty and censorship the online landscape could be seen to have changed since the studies on the 2014 outbreak were undertaken. It is argued that alternative means of communication could be used to seed rumour and construct narratives and discourse that can manifest in attacks on health workers attempting to contain a deadly disease. This paper contends that the relevance of fake new still

exists, however the way to explore it is no longer by analysing strictly publicly available data, but other means of private communication, perhaps a methodology built on focus groups and interviews would prove illuminating.

Narratives such as those of Ebola as business and the politicisation of Ebola continue to hinder an essential public health campaigns. The paper provides a positive outlook about the discourse of the public health campaign within the realm of public social media, with the majority of the material posted online in the papers search being credible while providing real updates updates or advise rather than a plethora of fake news. This paper calls for further study on the subject for fake news in different areas of the internet. In May 2019 the Ebola outbreak continues to spread even with a working vaccine, treatment centres are closed and people do not trust the vaccine.

## 10.2 Further Research

### 10.2.1 Colonialism

A greater exploration into the role of the colonial legacy of DRC & the theory of post development would be a fertile area of inquiry. A rejection of development workers could be viewed through a lens that takes the colonial history of DRC into account. King Leopold II of Belgium ruthlessly exploited the population of current DRC for rubber production between1885 1908, a period which was subsequently know for its 'red rubber' because of the associated bloodshed (Viaene 2008:752). Leopold's initial narrative to gain support for his activities was one of philanthropy and development, his public goal was stop the slave trade whereby in reality he caused a genocide (Sanford 1989). A lack of trust to international aid worker seems unsurprising after 200 years of foreign intervention under the guise of 'development', a distrust which continues to this day (Vogel et al 2019).

### 10.2.2 Actor Network Theory

This paper focuses on the impact of an online social network, the interaction between human and technology, the ways in which narratives are constructed

through interaction with non human actors - the algorithm. Actor Network Theory, ANT, is a way of looking at reality but attempting to understand all the networks involved. 'ANT is an attempt to provide analytical tools for explaining the very process by which society is constantly reconfigured' (Callon 2001:62). ANT specifically focuses on the roles of technology in social constructivism and could prove insightful for further study, giving agency to the technology in addition to the human. In a modern world in which algorithm and artificial intelligence plays a forceful role in shaping the truth it could prove fruitful to re-engage with the agency of technology in its new and more complex form (Johnson 1988).

# 11. Reference List

Aeschylus (c.525–456 bc) Greek tragedian: Prometheus Bound l. 685

Acled Data (2019) 'Democratic Republic of the Congo' Search filter May 1 at
        2018 until  April 20 2019 [Online] available from acleddata.com
        <https://www.acleddata.com/dashboard/#180> [Accessed May 15
        2019].

Asia News Monitor (2014) 'Beware fake ebola treatments on the internet, FDA
        says'  [Online] 19th August. Available from proquest <https://search-
        proquest-com.zorac.aub.aau.dk/docview/1553782465?
        accountid=8144> [Accessed 12 May 2019].

Ayukawa, J (2011) 'Constructivism' In Bertrand Badie, Dirk Berg-Schlosser
        and Leonardo Morlino (eds.) International Encyclopedia of Political
        Science. Thousand Oaks, CA: SAGE Publications

Blood, D. Wilson, T. Pilling, D (2019) 'Martin Fayulu has reason to thank
        Congo voting machines he once feared'  [Online] January 15. Available
        from FT website
        <https://www.ft.com/content/78bf0af4-18e8-11e9-9e64-
        d150b3105d21> [Accessed 14 May 2019]

Bonwitt, J Dawson,M.  Kandeh,M. Ansumana,R.  Sahr,F. Brown,H.  Kelly, A.H
        (2018) 'Unintended consequences of the 'bushmeat ban' in West Africa
        during the 2013–2016 Ebola virus disease epidemic'  Social Science &
        Medicine, Vol. 200

Boseley, S. Burke, J (2019) 'Ebola in the DRC: everything you need to
        know'  [Online] May 15. Available from the Guardian website
        <https://www.theguardian.com/world/2019/may/15/ebola-in-the-drc-
        everything-you-need-to-know> [ Accessed May 15]

Braun, J A. Eklund, J L (2019) 'Fake News, Real Money: Ad Tech Platforms,
        Profit-Driven Hoaxes, and the Business of Journalism'. *Digital
        Journalism*. 7:1, 1-21

Branigan, D (2019) 'Evidence Shows Ring Vaccination Strategy Effective In
        Limiting Ebola Outbreak In DRC'  [Online] 15th April available from
        healthpolicy-watch.org <https://www.healthpolicy-watch.org/evidence-
        shows-ring-vaccination-strategy-effective-in-limiting-ebola-outbreak-in-
        drc/> [Accessed May 20th 2019].

Bujakera, S. Mahamba, F (2019) 'Congo cuts internet for second day to avert
        'chaos' before poll results'' [Online] 1st January. Available from
        reuters.com <https://www.reuters.com/article/us-congo-election/congo-
        cuts-internet-for-second-day-to-avert-chaos-before-poll-results-
        idUSKCN1OV1GL> [ Accessed May 16]

Burke, J (2019) 'African nations call for recount in DRC election' in the Guardian [Online] 13 January. Available from The Guardian website <https://www.theguardian.com/world/2019/jan/13/african-nations-call-for-recount-in-drc-election> [Accessed 1 March 2019].

Burke, J (2019) 'DRC opposition urges civil disobedience after election appeal rejected' [Online] 20 January Available from The Guardian website <https://www.theguardian.com/world/2019/jan/20/drc-oppositionleader-martin-fayulu-civil-disobedience-election-appeal-rejected> [Accessed 12 May 2019].

Butty, J. Isango, E (2018) 'Strategic Messaging Aims to Combat Ebola in DRC' [Online] Available from The VOA website. 25 May <https://www.voanews.com/a/strategic-messaging-aims-to-combat-ebola-in-drc/4409486.html> [Accessed 10 March 2019].

Callon, M (2001) 'Actor Network Theory' Neil J. Smelser, Paul B. Baltes (eds) International Encyclopedia of the Social & Behavioral Sciences, Pergamon.

Camilleri, K (2014) 'Toward a constructivist epistemology of thought experiments in science' *Synthese* vol. 191(8)

Centre for Disease Control and Prevention - CDC (2014) '2014 Ebola Outbreak in Democratic Republic of the Congo' [Online] 21st November available from cdc.gov <https://www.cdc.gov/vhf/ebola/outbreaks/drc/2014-august.html> [Accessed 1 March 2019].

Centre for Disease Control and Prevention - CDC (2018) 'bushmeat' [Online] 15th November available from cdc.gov <https://www.cdc.gov/importation/bushmeat.html> [Accessed 1 March 2019].

Chadwick, A. Howard, P (2008) 'Introduction: New directions in internet politics research'. Routledge Handbook of Internet Politics. Routledge. London

Chandler, C. Fairhead,J. Kelly, A.. Leach, M (2015) Ebola: limitations of correcting misinformation. *The Lancet*. vol 385 (9975)

Cohen, J (2018) 'Ebola vaccine is having 'major impact' but worries about Congo outbreak grow' [Online] 10th December available from Science Mag <https://www.sciencemag.org/news/2018/12/ebola-vaccine-having- major-impact-outbreak-may-still-explode-west-africa> [Accessed 2 March 2019].

Congo Today (2019) '833 deaths linked to Congo's Ebola outbreak' [Online] April available from Congo Today website <http://congotoday.net/833-deaths-linked-to-congos-ebola-outbreak/> [Accessed 12 May 2019].

Congo Research Group (2017) 'MONUSCO Suffers the worst attack in its history' [Online] December 10th. Available from Congo Research Group <http://congoresearchgroup.org/monusco-suffers-the-worst-attack-in-its-history/>  [Accessed 12 May 2019].

Dzieza, J (2014) 'Fake news sites are using Facebook to spread Ebola panic' [Online] October 22.  Available from theverge.com <https://www.theverge.com/2014/10/22/7028983/fake-news-sites-are-using-facebook-to-spread-ebola-panic> [Accessed 19th April 2019].

Doss, A. Ibrahim, M (2019) 'Congo's election: a defeat for democracy, a disaster for the people' [Online] 9 february. Available from theguardian.com <https://www.theguardian.com/global-development/2019/feb/09/ democratic-republic-of-the-congo-election-a-defeat-for-democracy- disaster-for-people-mo-ibrahim> [Accessed 1 March 2019].

Earth Observatory (2008) 'Deforestation in the Democratic Republic of the Congo' [Online] available from Earth Observatory <https://earthobservatory.nasa.gov/images/79276/deforestation-in-the-democratic-republic-of-the-congo> [Accessed 1 April 2019].

Elliott, V(2019) 'Ebola responders in Congo confront fake news and social media chatter' [Online] May 2nd  available from the newhumanitarian <http://www.thenewhumanitarian.org/news/2019/05/02/ebola-responders-congo-confront-fake-news-and-social-media-chatter> [Accessed May 15].

Fayulu, M in Paravicini, G (2018) 'Three Congo opposition areas excluded from presidential election' [Online] December 26th Available from <https://www.reuters.com/article/us-congo-election/three-congo-opposition-areas-excluded-from-presidential-election-idUSKCN1OP0J9>[Accessed May 15].

Fernandez, P (2017) 'The technology behind fake news.' *Library Hi Tech News* vol. 34 (7)

Finnemore, M. Sikkink, K (2001) 'Taking Stock: The Constructivist Research Program in International Relations and Comparative Politics'. *Annual Review of Political Science*.

Freytas-Tamura. K (2018) 'Trek Into Congo Forest Reveals an Ebola Crisis Fueled by Violence' [Online] 26th December available at New York Times website <https://www.nytimes.com/2018/12/26/world/africa/ebola-congo.html?module=inline > [Accessed 12 March 2019].

Fung, I., Fu, K., Chan, C., Chan, B., Cheung, C., Abraham, T., & Tse, Z (2016). Social Media's Initial Reaction to Information and

Misinformation on Ebola, August 2014: Facts and Rumors. *Public Health Reports* 131(3)

Garrett, L (2019) 'Your Cell Phone Is Spreading Ebola' [Online] April 17 available from foreignpolicy.com <https://foreignpolicy.com/2019/04/17/your-cell-phone-is-spreading-ebola/> [Accessed May 1st 2019].

Garrett, L (2018) 'Ebola is back and trump is trying to kill funding for it' [Online] 9th May Available from foreignpolicy.com <https://foreignpolicy.com/2018/05/09/ebola-is-back-and-trump-is- trying-to-kill-funding-for-it/ > [Accessed 19 March 2019].

Gelfert, A (2018). Fake News: A Definition. Informal Logic, 38, (1), 84–117. <https://doi.org/10.22329/il.v38i1.5068>

Gilbert, D (2019) "Russia Is Building its Own Version of China's Great Firewall" in Vice [Online] 7th March Available from vice.com <https://www.vice.com/en_asia/article/gyakjx/russia-is-building-its-own-version-of-chinas-great-firewall>[Accessed 10 March 2019].

Global Witness (2017) 'Total Systems Failure -  Exposing the secret networks destroying forests in the Democratic Republic of Congo' [Online] Available June 26 available from global witness.org <https://www.globalwitness.org/en/campaigns/forests/total-systems-failure/> [Accessed 21 May 2019].

Google Trends (2019a) Google Trends Search Term - 'Fake New" [Online] Data available from trends.google.com <https://trends.google.com/trends/explore?date=all&q=fake%20news> [Accessed 22 May 2019].

Google Trends (2019b) Google Trends Search Term - 'Fake New" [Online] Data available from googletrends.com https://trends.google.com/trends/explore?q=ebola [Accessed 22 May 2019].

Gove, M in Mance, H (2016) 'Britain has had enough of experts, says Gove' [Online] June 3rd Available from FT.com <https://www.ft.com/content/3be49734-29cb-11e6-83e4-abc22d5d108c> [Accessed 13th April 2019].

Harvey, K (2014). 'Great firewall of china' In Encyclopedia of social media and politics (pp. 600-603). Thousand Oaks, CA: SAGE Publications

Hindustantimes (2018) Share joy, not rumours: WhatsApp launches first TV campaign to fight misinformation in India [Online] 3rd December <https://www.hindustantimes.com/tech/share-joy-not-rumours-whatsapp-launches-first-tv-campaign-to-fight-misinformation-in-india/story-ZC7GoD9COZx7fANI2NeV5K.html> [Accessed 26 March 2019].

Human Rights Watch (2019) 'Democratic Republic of Congo' [Online]
Available from The Human Rights Watch website
<https://www.hrw.org/africa/democratic-republic-congo>[Accessed 1
March 2019].

International Rescue Committee (2019) 'As Ebola cases spike, IRC's David
Miliband visits DRC: "The situation is far more dangerous than the
statistic of 1000 deaths, itself the second largest in history,
suggests' [Online] 10th May available from reliefweb.int <https://
reliefweb.int/report/democratic-republic-congo/ebola-cases-spike-irc-s-
david-miliband-visits-drc-situation-far> [Accessed 22 May 2019].

Jin, F Wang,W. Zhao,L. Dougherty,E. Cao,T. Lu,C. Ramakrishnan,N (2014)
'Misinformation Propagation in the Age of Twitter' *Computer* vol.47(12)

Johnson, J (1988). Mixing Humans and Nonhumans Together: The Sociology
of a Door-Closer. *Social Problems* vol.35(3)

Kalonji,T (2019) 'Habari RDC: Congo's internet shutdown disrupted news
outlets under the guise of tackling fake news' [Online] 26th February.
available from indexoncensorship.org <https://
www.indexoncensorship.org/2019/02/habari-rdc-congo-internet-
shutdown-disrupted-news/> [Accessed 1st April 2019].

Kincaid, C (2014) 'Ebola Disinformation spread by leftist professor' [Online]
States News Service [Online] October 28
<https://www-lexisnexis-com.zorac.aub.aau.dk/hottopics/lnacademic/?
[Accessed 30th April 2019].

Kosinski, M., Matz, S. C., Gosling, S. D., Popov, V., & Stillwell, D (2015)
'Facebook as a research tool for the social sciences: Opportunities,
challenges, ethical considerations, and practical guidelines' *American
Psychologist*, Vol 70(6)  <https://psycnet.apa.org/doiLanding?
doi=10.1037%2Fa0039210

Laer, T.V (2018) 'Tough Times Ahead for UN Mission in Congo' [Online] April
26th Available from The Global Observatory
<https://theglobalobservatory.org/2018/04/tough-times-ahead-
monusco-congo/> [Accessed 25th May 2019].

Levers, M (2013). Philosophical Paradigms, Grounded Theory, and
Perspectives on Emergence. *Sage Open*.3.

Lloyd, J (2017) 'The truth about the post-truth age' Online Available from
Financial Times website. <https://www.ft.com/content/
53b00158-409c-11e7-82b6-896b95f30f58>Access 23 May

Lucard, M (2019) 'Ebola isn't real' [Online] April available from
rcrcmagazine.org <https://www.rcrcmagazine.org/2019/04/ebola-isnt-
real/> [Accessed 22 May 2019].

Malvy, D, McElroy, A,K  Clerck, H. Günther, S Griensven, J (2019) 'Ebola virus disease' *Lancet* vol 393 (10174)

Maliro, AK (2019) 'Militants Attack Congo Ebola Treatment Center Hours After WHO Staffer Killed in Another Incident' ' [Online] April 22nd available from time.com <http://time.com/5575275/militants-attack-congo-ebola-center/>  [Accessed 25th April 2019].

Matsa, K. Shearer, E (2018) 'New use Across Social Media Platforms 2018 [Online] 10 September available from Pew Research Centre website <https://www.journalism.org/2018/09/10/news-use-across-social-media-platforms-2018/>  [Accessed 25 March 2019].

Matthews, S (2004) 'Post-Development Theory and the Question of Alternatives: A View from Africa'. *Third World Quarterly*, 25(2)

McLaughlin, T (2018) 'How Whatsapp Fuels Fake News and Violence in India' [Online] 12th December. Available from wired.com <https://www.wired.com/story/how-whatsapp-fuels-fake-news-and-violence-in-india/> [Accessed 28th April 2019].

Molteni,M (2018) When Whatapp's Fake News Problem Threatens Public Health  [Online] 3rd September available from wired magazine <https://www.wired.com/story/when-whatsapps-fake-news-problem-threatens-public-health/?mbid=social_twitter> [Accessed 28th April 2019].

MSF (2014) 'Watch Liberia's Talented Young Brothers use music and coordinated dance moves to teach the public about Ebola' [Online] 11th December 2014  <https://www.doctorswithoutborders.ca/article/watch-liberias-talented-young-brothers-use-music-and-coordinated-dance-moves-teach-public> [ Accessed May 15 2019]

MSF (2019) 'Ebola Outbreak Crisis Update - April 2019' [Online] 19th April available from MSF.ORG <https://www.msf.org/drc-2018-ebola-outbreak-crisis-update> [Accessed 19th April 2019].

MSFa (2019)  Medical activities suspended after Ebola treatment centre attack [Online] 19th April available from MSF.ORG <https://www.msf.org/medical-activities-suspended-after-ebola-treatment-centre-attack> [Accessed 19th April 2019].

MSFb (2019) North Kivu: Ebola centre inoperative after violent attack [Online] 19th April available from MSF.ORG <https://www.msf.org/msf-ebola-centre-north-kivu-inoperative-after-violent-attack-democratic-republic-congo> [Accessed 19th April 2019].

MSFc (2019) North Kivu: Ebola centre inoperative after violent attack  [Online] 26th February available from msf.org

<https://www.msf.org/msf-ebola-centre-north-kivu-inoperative-after-violent-attack-democratic-republic-congo> [Accessed March 15 2019]

Newman, N. Fletcher, R. Kalogeropoulos, A. Levy, D Nielsen, R.K (2018) 'Reuters Institute Digital News Report 2018' [Online] Available from digital news report <http://media.digitalnewsreport.org/wp-content/uploads/2018/06/digital-news-report-2018.pdf?x89475> [Accessed March 25 2019]

Nissenbaum D. Dolan, M (2014) 'Ebola alert sparks false alarms at pentagon, elsewhere' [Online] Available from Dow Jones Institutional News m <https://search-proquest-com.zorac.aub.aau.dk/docview/2072958295?accountid=8144> [Accessed 13th May 2019].

Norton, H (2018) 'Ebola Outbreak Couldn't Have Come at a Worse Time for DRC' [Online] 21 May. Available from fairoberver.com <https://www.fairobserver.com/region/africa/democratic-republic-congo-ebola-outbreak-joseph-kabila-africa-news-14261/> [Accessed May 25]

Nossiter, A (2014) 'Fear of Ebola Breeds a Terror of Physicians' [Online] 27th July available from nytimes.com <https://www.nytimes.com/2014/07/28/world/africa/ebola-epidemic-west-africa-guinea.html [Accessed 19th May]

Ohlheiser, A (2016) This is how Facebook's fake-news writers make money in the Washington Post [Online] November 2016 Available from The Washington Post Website<https://www.washingtonpost.com/news/the-intersect/wp/2016/11/18/this-is-how-the-internets-fake-news-writers-make-money/?noredirect=on&utm_term=.2262485277fa> [Accessed 9 March 2019]

Olivero, J. John, E. Fa, J. Real, R. Márquez, A, Farfán, M. J. Vargas, M, Gaveau, D, Salim,M. Park, D. Suter, J. King, S. Leendertz, S. Sheil, D. Nasi, R (2017) 'Recent loss of closed forests is associated with Ebola virus disease outbreaks' Scientific Reports vol 7 (14291)

Owen, D (2017) 'The Age of Perplexity: Rethinking the World we Knew. Radically Reassessing "The Economic"'. Madrid, BBVA, OpenMind, Penguin Random House Grupo Editorial.

Oyeyemi, S.O. Gabarron,E .Wynn, R (2014) 'Ebola, Twitter, and misinformation: a dangerous combination?' *BMJ* 2014 014;349:g6178

Palma, Helena. (2008). Aspects of Multilingualism in the Democratic Republic of the Congo. In book: Conversarii. Dynamics of Language Contact in the Twenty-First Century, Chapter: Aspects of Multilingualism in the Democratic Republic of the Congo, Publisher: Guerra Ed., Editors: Carla Vergaro, pp.93 - 110

Paravicini, G Paravicini (2018) 'Three Congo opposition areas excluded from presidential election' [Online] December 26th Available from reuters.com <https://www.reuters.com/article/us-congo-election/three-congo- opposition-areas-excluded-from-presidential-election-idUSKCN1OP0J9>[Accessed May 15].

Pavon-Guinea, A (2019) Hacking Westphalia: ICT Infrastructures, Fake News and Global Politics. [Online] January 21st. Available from E.IR.COM <https://www.e-ir.info/2019/01/21/hacking-westphalia-ict-infrastructures-fake-news-and-global-politics/>

PEN (2016)  'Discourse in Danger: Attacks on free expression in Putin's Russia. [Online] Available from Pen.org <https://pen.org//sites/default/files/ PEN_Discourse_In_Danger_Russia_web.pdf>  [Accessed 13th May 2019].

Progressive Digital Media Technology News (2014) 'Yahoo news' twitter feed hacked to spread ebola misinformation'.[Online] Available from proquest-com <https://search-proquest-com.zorac.aub.aau.dk/docview/ 1552716930?accountid=8144 [Accessed 13th April 2019].

Rochlin, N (2017) 'Fake news: belief in post-truth' *Library Hi Tech*, vol.35(3)

Ruggie, J. (1998). What Makes the World Hang Together? Neo-Utilitarianism and the Social Constructivist Challenge. International Organization, 52(4), 855-885. Retrieved from http://www.jstor.org/stable/2601360

Sachs, Wolfgang (1992). The Development Dictionary: A Guide to Knowledge as Power. Zed Books.

Safi (2019) WhatsApp 'deleting 2m accounts a month' to stop fake news [Online] 6th February 2019 Available from theguardian.com <https://www.theguardian.com/technology/2019/feb/06/whatsapp-deleting-two-million-accounts-per-month-to-stop-fake-news> [Accessed April 20th].

Sanford,B-H (1989) 'The 1876 Brussels Geographical Conference and the Charade of European Cooperation in African Exploration' *Terrae Incognitae,* vol. 21(1)

Sawyer, I (2018) 'Overview of the Political Crisis in DR Congo and the Human Rights, Security, and Humanitarian Consequences' [Online] Available from The Human Rights Watch website <https://www.hrw.org/news/2018/04/09/overview-political-crisis-dr-congo-and-human-rights-security-and-humanitarian> [Accessed 10 March 2019].

Schaap F (2019 ) 'An Epidemic and a War Doctors Face Two Enemies in Fight Against Ebola' [Online] March 21 2019  available fromspiegel.de <https://www.spiegel.de/international/world/congo-world-s-second-biggest-outbreak-of-ebola-unfolds-a-1258439.html>  [Accessed April 20th].

Shako, JC (2019) 'First Person: To stop Ebola, ask the rebels to help' [Online] February Available from thenewhumanitarian.org  <https://www.thenewhumanitarian.org/opinion/2019/02/20/first-person-stop-ebola-ask-rebels-help?utm_source=Honeyguide+Media&utm_campaign=3f99a71403-> [Accessed 10th April 2019].

Shako, JC quoted  in Schaap F (2019 ) 'An Epidemic and a War Doctors Face Two Enemies in Fight Against Ebola' [Online] March 21 available fromspiegel.de <https://www.spiegel.de/international/world/congo-world-s-second-biggest-outbreak-of-ebola-unfolds-a-1258439.html>  [Accessed April 20th].

Spinney, L (2019) 'Fighting Ebola is hard. In Congo, fake news makes it harder' [Online] January 14th Available from Sciencemag website <https://www.sciencemag.org/news/2019/01/fighting-ebola-hard-congo-fake-news-makes-it-harder>  [Accessed 25 March 2019].

Spurgeon, H (1859) quoted in Ratcliffe, S (2011) Concise Oxford Dictionary of Quotations, OUP OXFORD UK

Stearns, J (2019) 'Who Really Won the Congolese elections?' [Online] January 16th available from Congo Research Group <http://congoresearchgroup.org/congolese-election-leaks/>[Accessed 13th May 2019].

The Ebola Outbreak Epidemiology Team (2018) 'Outbreak of Ebola virus disease in the Democratic Republic of the Congo, April–May, 2018: an epidemiological study' *The Lancet* vol.392(10143)

Tewksbury, D & Rittenberg, J (2008) 'Online News Creation And Consumption' in Chadwick, A (ed) Routledge Handbook of Internet Politics. London Routledge.

Townsend,L. Wallace, C (2016) 'Social Media Research: A Guide to Ethics' Economic and Social Research Council

Tiezzi, S (2014) "China's 'Sovereign Internet" in The Diplomat [Online]  24th June Available from The Diplomat website <https://thediplomat.com/2014/06/chinas-sovereign-internet/> [Accessed 1 March 2019].>

Traniello, JFA & Bakker,T.C.M (2017) 'Behavioral ecology and sociobiology in post-truth society' Behav Ecol Sociobiol 71: 76. DOI 10.1007/s00265-017-2303-7

Tsongo, E (2019) 'Health workers just fill their pockets': mistrust mars Congo's Ebola response' [Online] Available from theguardian.com <https://www.theguardian.com/global-development/2019/may/15/health-workers-just-fill-their-pockets-mistrust-mars-congo-ebola-response?CMP=Share_iOSApp_Other> [Accessed 17 May 2019].

Twain, M (1894) 'The Tragedy of Pudd'nhead Wilson. The Project Gutenberg EBook

UNICEF (2018) Press Release 'More than 300,000 people reached with awareness-raising campaign to contain deadly Ebola outbreak in DRC' in Unicef.org [Online] 5th June Available from uncef.org <https://www.unicef.org/press-releases/more-300000-people-reached-awareness-raising-campaign-contain-deadly-ebola-outbreak>[Accessed 10 March 2019].

United Nations (2014) 'World's population increasingly urban with more than half living in urban areas' [Online] 10th July available from UN.org <https://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html> [ Accessed May 22]

Vernon, J L (2017) 'Science in the Post-Truth Era' [Online] available from American Scientist <DOI: 10.1511/2017.124.2> [ Accessed May 12]

Vogel, C. Mathys G. Verweijen, J. Benton, A. Sweet, R. Marijnen. E (2019) 'Cliches Can Kill in Congo' - The country's Ebola outbreak is spreading out of control—but it's not because of a fight over "conflict minerals." [Online] April 30th Available from Foreignpolicy.com <https://foreignpolicy.com/2019/04/30/cliches-can-kill-in-congo-grand-nord-north-kivu-tropes-conflict-ebola-response/> [Accessed 13th May 2019].

Viaene, V (2008) 'King Leopold's Imperialism and the Origins of the Belgian Colonial Party, 1860–1905' *The Journal of Modern History* vol 80(4)

Vinck, P. Pham, P. Bindu K. Bedford J Philc Nilles EJ (2019 ) Institutional trust and misinformation in the response to the 2018–19 Ebola outbreak in North Kivu, DR Congo: a population-based survey. The Lancet Infectious Diseases [Online] Available 27 March 2019 <https://doi.org/10.1016/S1473-3099(19)30063-5Z> [Accessed 17 May 2019].

Wang, A (2016) 'Post-truth' named 2016 word of the year by Oxford Dictionaries' [Online] 16th November available from washingtonpost.com

<https://www.washingtonpost.com/news/the-fix/wp/2016/11/16/post-truth-named-2016-word-of-the-year-by-oxford-dictionaries/?utm_term=.2da5302ba94a> [Accessed 13th May 2019].

Weber, L (2018) 'WHO Fears Ebola In DRC Will Spin Out Of Control Due To Political Violence' [Online] 25th September Available from Huffington Post Website <https://www.huffpost.com/entry/ebola-drc-congo-perfect-storm-who_n_5baa6616e4b0f143d10ddff9> [Accessed 19 April 2019].

Wembi, S. Goldstein, J (2019) 'ISIS Claims First Attack in the Democratic Republic of Congo' [Online] April 19th. Available from nytimes.com <https://www.nytimes.com/2019/04/19/world/africa/isis-congo-attack.html?smid=nytcore-ios-share> [Accessed 19th May 2019].

Wendt, A (2000) 'A Social Theory of International Politics' *Social Theory of International Politics*. 26 (10)

Whatapp (2019) 'Tips to help prevent the spread of rumors and fake news' [Online] Available from whatsapp.com <https://faq.whatsapp.com/en/android/26000216/?category=5245250> [Accessed May 10 2019]

Wilkinson, A., & Fairhead, J. (2017). 'Comparison of social resistance to Ebola response in Sierra Leone and Guinea suggests explanations lie in political configurations not culture'. Critical public health, 27(1), 14–27. <doi:10.1080/09581596.2016.1252034>

World Bank (2018) 'Democratic Republic of Congo Urbanization Review : Productive and Inclusive Cities for an Emerging Congo. Directions in Development—Environment and Sustainable Development' Washington, DC.

Worldbank (2018) 'The World Bank in DRC' [Online] May 16 Available from The worldbank website  <http://www.worldbank.org/en/country/drc/overview> [Accessed 1 March 2019].

World Health Organisation - WHO (2017) 'How to conduct safe and dignified burial of a patient who has died from suspected or confirmed Ebola or Marburg virus disease' [Online]  October 2017 available from who.int <https://www.who.int/csr/resources/publications/ebola/safe-burial-protocol/en> [Accessed May 10 2019]

World Health Organisation - WHO (2019) 'Ebola virus disease – Democratic Republic of the Congo' [Online] February 26th. Available from WHO.Int <https://www.who.int/csr/don/21-february-2019-ebola-drc/en/ > [Accessed May 1 2019]

Yao, M (2019) in Yuhas, A (2019)  'Crippling' Attacks Force Doctors Without Borders to Close Ebola Centers in Congo [Online] Available from New

York Times website <https://www.nytimes.com/2019/02/28/world/africa/congo-ebola-doctors-without-borders.html> [Accessed 19th April 2019].

Zhang L, Wang,H (2014)  Forty years of the war against Ebola Zhejiang Univ-Sci B (Biomed & Biotechnol) 2014 15(9)

Zuckerberg M in Weedon, J. Nuland, W and Stamos, A  (2017) 'Information Operations and Facebook'. Initial Public Release, 27APR2017 Available: https://fbnewsroomus.files.wordpress.com/2017/04/facebook-and-information-operations-v1.pdf [Accessed 19th April 2019].

# 12. Appendix

## 12.1 Appendix 1.A)

Map highlighting instances of Ebola during the current epidemic (WHO 2019)
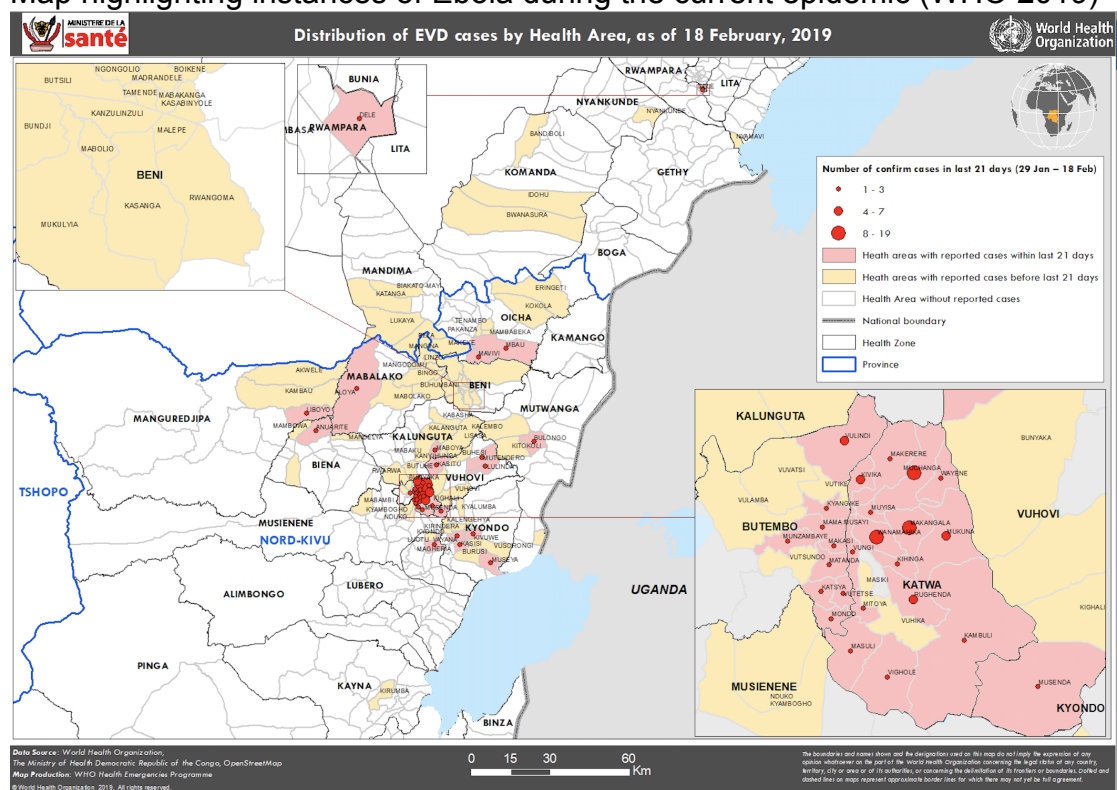


(WHO 2019)

**Appendix 1.B)**

Map Illustrating the close proximity of Virunga National Park, a site of deforestation and Butembo, the epicentre of the ebola epidemic.



Google map, annotated by the author.
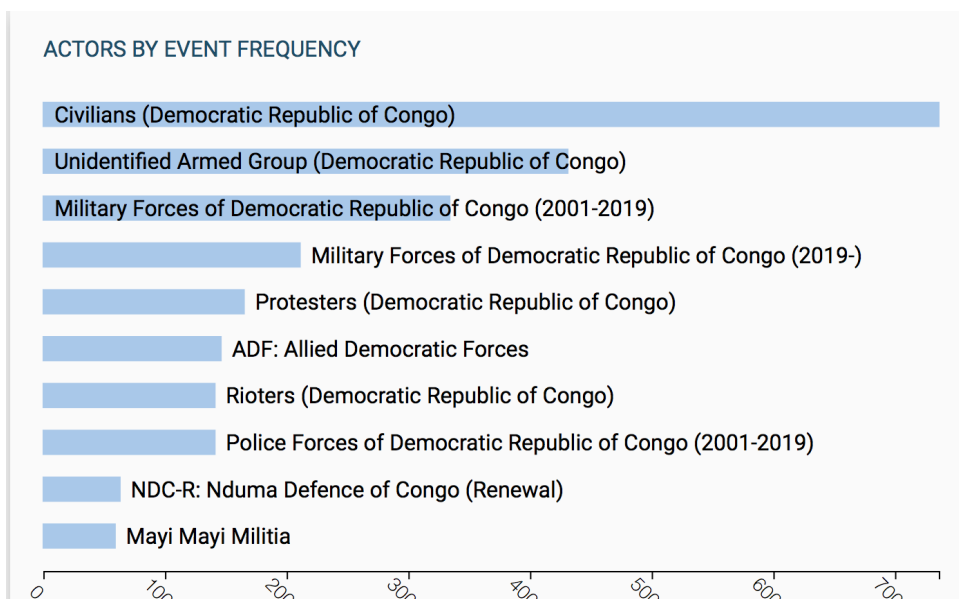
## 12.2. Appendix 2

Centre for Disease Control and Protection public health graphic shared on twitter.



(CDC 2014 - https://twitter.com/cdcgov/status/521307514009563136)


## 12.3 Appendix 3.

Infographic Highlighting the diversity of actors involved in security incident in the DRC from May 1st 2018 to April 20th 2019 (AcleData.com 2019b)



(AcleData.com 2019b)

## 12.4 Appendix 4.

## Whats App tips to help prevent the spread of rumours and fake news

1. **Understand when a message is forwarded**
   Messages with the "Forwarded" label help you determine if your friend or relative wrote the message or if it originally came from someone else. Double check the facts when you're not sure who wrote the original message. To learn more about forwarding messages, please read these articles.

2. **Check photos and media carefully**
   Photos, audios, and videos can be edited to mislead you. Look at trusted news sources to see if the story is being reported elsewhere. When a story is reported in multiple places, it's more likely to be true.

3. **Look out for messages that look different**
   Many messages or website links you receive containing hoaxes or fake news have spelling mistakes. Look for these signs so you can check if the information is accurate. To learn more about suspicious links, please read these articles.

4. **Check your biases**
   Watch out for information that confirms your preexisting beliefs and review the facts before sharing information. Stories that seem hard to believe are often untrue.

5. **Fake news often goes viral**
   Even if a message is shared many times, this does not make it true. Don't forward a message because the sender is urging you to do so.

6. **Verify with other sources**
   If you're still not sure if a message is true, search online for facts and check trusted news sites to see where the story came from. If you still have doubts, ask fact-checkers or people you trust for more information.

7. **Help stop the spread**
   If you see something that's fake, tell the person that sent it to you and ask them to verify information before they share it. Don't share a message because someone tells you to do so. If a group or a contact is constantly sending fake news, report them. To learn how to report a contact or a group, please read this article.

(Whatapp 2019)

## 12.5 Appendix 5.

Facebook posts that give examples of conspiracies theories about Ebola from the facebook analysis as categorised by (Zimdars in Rochlin 2017: 388).



Swine flu, Ebola and now Measles epidemic to fear monger the naive masses into getting forced vaccinated? OMG are people so naive that they actually Fear measles? The demoniac medical fraud system murders millions and why do they get away with it!!! The medical lies, the fraud, the demonic manipulations are so obvious, but the insanity of fearing measles is over the top. The so called cases of measles are in the vaccinated and they look horrid like those who have allergic reactions to vaccine poisoning. Wake the heck up. Pharma sorcery is not science and poisons of pharma are not medicines. These AMA pharma pushing doctors kill for pharma and do not heal.
Death by medicine
https://youtu.be/RwCUDCQMLwY
Vaccines are bio weapons
https://youtu.be/9WoMps4Pmpo

**YOUTUBE.COM**
**Death by Medicine a film by Gary Null**
Death By Medicine takes a hard examination at the dominant medical paradigm contributing to America's health crisis. Based on Gary Null's...

Thanks to the Zionist US,UK and WHO for their so called the new world oder(the agender of depopulation in Africa) ,for given birth to HIV virus, the catastrophic Ebola case, the Buku Harram insurgency of Nigeria, the Al-shabab manece in Somalia,the instability in South Sudan, their military secret mission in Mali, chad and other part of Africa.

"The world has 6.8 billion people... that's headed up to about 9 billion. Now if we do a really great job on new vaccines, health care, reproductive health services, we could lower that by perhaps 10 to 15 percent."
~ Bill Gates
Microsoft, Globalist, Member of Bilderberg Group

---

**Exposing The Matrix Of Lies**
November 1, 2018

The Orsini family were behind the Ebola propaganda and had developed deadly Ebola vaccines. The creator of the Georgia Guidestones which aim to regulate the population of humanity used the name RC Christian as an alias and was really Robert C Cook an American geneticist involved in population control and eugenics. RCC like Roman Catholic Church and like Rosy Cross. The Rosicrucians made a YouTube video placing a time cube with MM and 16 on it. MM for 2000 and 16 together meant 2016. They intended to unleash a fake outbreak in 2016 to bring down the United States and destroy society with their deadly vaccines. The depictions shown of the Ebola virus under a microscope look like an two eights. 8+8=16. The Japanese movie called Virus used a virus called MM88 designed by an American eugenicist. Once this was all exposed the Ebola propaganda ended within the week. They are behind Zika too. Vaccines are one of the most destructive tools the wicked use on humanity and are primarily designed to target the nervous system and weaken a persons spiritual armor or electromagnetic shield. The Orsini and Rosenberg families were also responsible for the Black Plague. They hired people to poison well water in order to spread the disease. The song Ring O Roses goes back to the times of the Black Plague. They used rose petals to mask the smell of death. I also found two people with the name Rosenberg that work in high level positions at Bayer today. The Colonna family of Rome work closely with the Orsini family and are also involved with pharmaceuticals. Stefano Colonna developed the Julia-Colonna Epoxidation which is used by Bayer and Evonik today. The Julia-Colonna Epoxidation is used for binding toxic chemicals with human enzymes.

September 27, 2018

WERE TALKING

Its sad to still learn that to this day "black people" still don't know that there are over 200 cures for HIV/AIDS but only for the elites that are shelved in closets in Health Institutions overseas... You see HIV/AIDS just like cancer, Ebola, and over 2000 other diseases is man made to create customers out of people to sell pharmaceutical drugs and make profits for companies like: Pfizer, Adcock Ingram, etc. who are getting more than R10 billion from South African government alone selling ARVs!!!

Dr Sebi could cure HIV/AIDS naturally and was killed off in 2016 by America!!!

**Man Found "Cures For All Diseases" AND Has The Supreme Court Ruling To Prove It!**
by Genevieve Muñoz | Jul 29, 2015 | News