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**First draft of an epidemic: how key media players
framed Zika**



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I suppose, in the end, we journalists try—or should try—to be the first impartial witnesses to history. If we have any reason for our existence, the least must be our ability to report history as it happens so that no one can say: “We didn’t know—no one told us.”

Robert Fisk

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ABSTRACT

Maria Esperidião's paper on reporting Zika is based on content analysis, interviews and literature review. She grounds her research in studies on framing and seeks to discuss what were the main narratives adopted by CNN, BBC and Al-Jazeera during the Zika outbreak, in 2016, when shocking images of tiny-headed new borns were brought into living rooms across the world. This appeared to be the starting bell for yet another frightening epidemic in a tropical paradise preparing to host the Olympic Games. In this "exotic" scenario, a mosquito jeopardized pregnancy and therefore human reproduction. After analyzing the prevalence of 7 news frames on 211 videos posted in these media outlet websites, she concludes that in regards to Zika and Microcephaly (congenital Zika syndrome), Risk and Uncertainty was the most seen frame on news feeds. It also seems that the virus became irrelevant once it was no longer a global outbreak, but, above all, another disease of poverty. She also gives some advice for reporting epidemics.

The results from this survey can only be used for academic purposes.

And as with all Fellows' research papers, any opinions expressed here are those of the author not to the Institute.

INTRODUCTION

Between late August and early September 2015, the Brazilian press was locked in on one of the biggest political crises in the country's history. It was precisely around this time that rumors began circulating about an unusual upsurge in the birth of babies with brain malformations in states of the Northeast, not coincidentally one of the poorest and most vulnerable regions in Brazil. The media, as one expects, only began showing major interest in the story after public health authorities released official statements. By the time the government finally recognized that there might be a link between the Zika virus and the recent cases of microcephaly and other types of neurological damage¹, shocking images of tiny-headed babies were already being broadcast into living rooms across Brazil. Alerts were issued² not long after, culminating in the declaration of a Zika-related *Public Health Emergency of International Concern* (PHEIC) by the World Health Organization (WHO), on February 1, 2016.

This appeared to be the starting bell for yet another frightening global epidemic, this time not in Africa, where Ebola was first reported, but in a tropical paradise that was preparing to host the first Olympic Games ever held in South America. The idea that, in this exotic setting, a mosquito (*Aedes aegypti*) need only bite a pregnant woman to seriously jeopardize the health of her fetus triggered alarm. The menace of this powerful disease "helped build a narrative of human frailty and vulnerability around a central issue, which is reproduction",³ in the words of Brazilian professor Debora Diniz.

For a public health crisis to go truly global and capture attention worldwide, it must seem plausible for a disease from a remote area to spread widely (Moeller, 1999). Above all, the international media must feature the topic relentlessly and point out the possibility that the disease might impact large numbers of people, beyond any territorial borders on our interconnected planet (Cottle, 2009).

Virus mapping indicated that Brazilian victims were from cities with low human development indexes. The author's home state of Pernambuco was in the limelight as the epicenter of an earthquake of uncertainties. Local scientists believed that the virus, apparently less harmful than dengue, could have devastating effects on the health of women and their children. In addition to the duties the author has as international desk editor, we began editing reports on the epidemic. This allowed to observe how global broadcast networks, alongside top newspapers with worldwide readerships, like *The Guardian*, *El Pais* and *The New York Times*, were reporting on the scope of the disease.

Now, more than two years after publication of these images that moved the world, Brazil has shifted to other concerns. Epidemic yellow fever has returned, killing at least 415

¹ According to Centres for Disease Control and Prevention in the US, [Microcephaly](#) "is a birth defect in which a baby's head is smaller than expected when compared to babies of the same sex and age. Babies with microcephaly often have smaller brains that might not have developed properly". Retrieved February 11, 2018, from https://www.cdc.gov/zika/healtheffects/birth_defects.html

²The author refers to these two alerts from PAHO. Retrieved January 20, 2018, from http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&Itemid=270&gid=32405&lang=en and CDC (<https://emergency.cdc.gov/han/han00385.asp>)

³ Oral communication on January 30, 2018.

people between July 2017 to June 2018. In 2017, chikungunya proved the deadliest of the diseases carried by *Aedes aegypti*, accounting for 173 deaths compared to 2 for Zika⁴. Furthermore, Brazil's political crisis deepened when President Dilma Rousseff was impeached and a new administration came into power. The so-called *mystery disease* gradually left the stage, despite indications that a worrisome number of cases are not reported to the authorities, a fact that has been blamed on a series of errors by municipal, state and federal officials (Diniz, 2017b). The tragedy of poor, black, and indigenous women became yesterday's news in the face of the new catastrophes besetting Brazil's urban areas, such as violence and human rights abuses. The fact that Brazil and the WHO declared the end of the public health emergencies laid the grounds for assigning the issue to oblivion. In Brazil and globally, **congenital Zika syndrome** is currently viewed as a threat only to people living in unsanitary conditions and in places that favor the uncontrolled proliferation of the mosquito. Nevertheless, it is fair to notice that some Brazilian media outlets have been reporting this unfolding crisis with in-depth reporting⁵.

The Brazilian and international media covered the peak of the epidemic extensively. But this was followed by a sharp drop-off in related reports. As with so many tragedies that assail poor countries and are forgotten after weeks of intense coverage, the topic has practically disappeared from the news (although it still has a marked presence in medical publications)⁶. Even though Brazil recorded more than 90 per cent fall in number of cases, between 2016-2017 more than 3,000 children in Brazil suffer some type of neurological complication because of the virus, and 31 countries out of 85 have reported cases of Zika associated with microcephaly or central nervous system malformations, linked to the virus⁷.

The purpose of this paper is not to track the path of congenital Zika syndrome in the Brazilian media. Recent research already evaluated local and regional differences in the media's narrative frames (Libório & Brotas, 2017) or the presence of fear and risks on newspaper covers (Aguiar & Araujo, 2016). One of these studies has criticized the "war on the mosquito," whose strategies for eradicating the vector had the effect of masking social and gender inequalities (Ribeiro et al., 2018). Other international papers have focused on

⁴ According to the Brazilian Ministry of Health. Retrieved February 15, 2018, from <http://portal.arquivos2.saude.gov.br/images/pdf/2018/janeiro/30/2018-002.pdf>

⁵ See Recife's main newspaper Jornal do Commercio special segment. Retrieved March 26, 2018, from <http://especiais.jconline.ne10.uol.com.br/zikaemildias/>. TV Globo also aired a special report after 1000 days of Zika, focusing on the first generation of Zika's children (up to 2 years old). Retrieved April 08, 2018, from <https://globoplay.globo.com/v/6646246/>. Portal UOL also gives some follow-up stories. Retrieved April 20, 2018 from <https://tab.uol.com.br/catarina/> and <https://www.uol/noticias/especiais/as-familias-do-zika-htm#tematico-1>. O Globo newspaper had printed as well. Retrieved June 27, 2018 from: <https://blogs.oglobo.globo.com/to-dentro/post/de-recife-e-amsterda-maes-de-criancas-com-microcefalia-contam-suas-historias.html>.

⁶ PubMed registered in 2007 no scientific paper about Zika. In 2016, there were 1596 (Diniz, 2016; Libório & Brotas, 2017). Up to February 15, 2018 there were 4.180 papers, and 1055 addressing Zika and microcephaly.

⁷ "Brazilian team finds clue to congenital Zika syndrome". Retrieved February 28, 2018, from <https://www.ft.com/content/807ec1b0-0054-11e8-9e12-af73e8db3c71>. The CDC in the US has different numbers. Retrieved March, 10, 2018, from <https://wwwnc.cdc.gov/travel/files/zika-areas-of-risk.pdf>

language, discourse analysis or media shortcomings (Tarkkanen, 2017; Govender, 2017; Yee, 2017).

The essential goal here is to discuss and determine the primary frames adopted by three global English-language television broadcasters, the BBC, CNN, and Al-Jazeera, during a news cycle running from 2016 to late 2017. This focus covers certain events and dates that were selected in advance, either for their symbolic nature or because they were linked to public announcements concerning the potential for a pandemic outbreak. This produced a corpus that could be examined within the allotted time.

The author grounded the research in studies on framing because we also believe that *how we say things* and *what we highlight* is as important as *what we say* (Rathje, 2017). By relying on this methodological approach, researchers can, for example, assess whether a debate on the legality of abortion was conducted from the perspective of women's rights over their own bodies (human rights) or whether the discussion framed abortion as the murder of a defenseless child or the ending of a life (religion and morality). Kaufman, Elliott and Shmueli (2017) cite this example as a typical "interpretation of events". The prevalence of each type of framing is also crucial to advancing public health policy and educating the public about the disease (Gislason, 2013; Tang cited in Hilten, 2016).

This paper thus intends to answer the following research question:

What were the main frames adopted by CNN, BBC and Al-Jazeera reporting on Zika?

Sub-question: **Did the Zika virus lose its editorial importance or relevance once it was no longer framed primarily as a "global risk/ threat?"**

The research strategy focused on a review of the literature, interviews, quantitative and qualitative analyses of news reports generated by the three networks in question.

CHAPTER ONE: COVERING EPIDEMICS

Two masters of world literature wrote works of fiction that, in a way, can illuminate the characteristics - and the problems - inherent to the journalistic coverage of epidemics. In "Blindness," the Portuguese author José Saramago (2012) explores the emergence of a new disease that, within the first twenty-four hours, intensely manifests numerous cases with the same symptoms - a disease that science had not yet identified. Sooner or later, Saramago writes, everyone will be infected. In addition to the panic arising from the possibility of becoming blind from one moment to the next, Saramago's story describes how the government's public announcements, transmitted through megaphones, legitimize drastic measures that are morally and ethically questionable.

Susan Moeller (1999) cites "The Book of Laughter and Forgetting" by Milan Kundera to demonstrate the fragility of our memories in the face of so many urgent events. Forty years ago, the Czech author's novel anticipated the effects of the informational deluge from our current media ecosystem:

The assassination of Allende quickly covered over the Russian invasion of Bohemia, the bloody massacre in Bangladesh caused Allende to be forgotten, the din of war in Sinai drowned out the groans of Bangladesh, the massacres in Cambodia caused the Sinai to be forgotten, and so on, and on and on, until everyone has completely forgotten everything (Kundera, 1996, p.9-10).

The feeling that uncontrollable things can happen, the dependency on an official narrative, and the use of tragic images that eventually overwhelm us, causing in the long-run feelings of indifference and impotence -- these all comprise the media interlace of epidemics. On this first chapter, we examine some aspects that are bound into most media coverage of global health issues.

1.1 Understanding a framework

For our purposes here, this paper refers to epidemics as defined by the World Health Organization: when an outbreak located in an area begins to be identified in several other regions of the same territory, with a higher incidence of cases than normally expected⁸.

Simon Cottle (2009, p.17) emphasizes that a disease's endemic calamity or potential does not in itself guarantee attention from the world's media. Lack of attention in the global media in turn results in a lack of global and public policy responses. The debate over the media geopolitics of diseases and tragedies has been ongoing for decades, and the most common criticism is the controversy about the "news values," or criteria used by the press, such as the hierarchy of countries and regions (Esperidião, 2011; Galtung & Ruge,

⁸ "Definitions: emergencies". Retrieved February 15, 2018, from <http://www.who.int/hac/about/definitions/en/>

1969). Although this debate is not the focus of our analysis here, it reflects how there is still active discussion about these issues, in the newsrooms and in the academy. And it is amplified whenever there emerges disproportionality in coverage. One recent example was the criticism about the intense attention in the world press given to terrorist strikes in Europe compared to the attack that left 148 dead at the University of Garissa in Kenya in 2015.

Within the specific context of public health, the challenges for the media are particularly enormous. Robert G. Picard and Minhee Yeo (2011) believe that one of the greatest challenges is reconciling the interests of all the actors involved. The public health authorities, always critical of the media, claim that journalists rely on a precarious base of evidence, focusing on conflicts and risks. Researchers, in turn, want to use the media to ensure the public can better understand scientific evidence. They also want positive press for their research initiatives because it generates public support, which in turn increases the momentum for new funding. Health professionals want coverage to be geared towards more pragmatic, educational objectives of reducing risks and infections, divulging treatments, and enhancing trust in institutions. On their part, journalists, "want coverage that informs the public about medical and health advances and debates, protects the public against risks, and exposes inefficiencies or corruption in medical and health institutions or delivery" (p.3).

Besides having to find a middle ground that accommodates all these nuances, some epidemics end up disappearing quietly from the news cycle or appear to have never even existed. It was Susan Moeller (1999) who coined the term "compassion fatigue" to explain the fissures commonly found in large international coverage. The phenomenon of compassion fatigue explains, for example, the reason why a situation may be ignored because of its geographic location, despite the magnitude of the tragedy "locally."

Compassion fatigue also manifests itself as the moment in which the media and journalists turn their back, in a sort of "I've seen this before syndrome," rejecting what is considered not dramatic enough. In the author's words, this is a fundamental factor in explaining the limited longevity and permanency of epidemics in the news:

Compassion fatigue encourages the media to move on to the other stories once the range of possibilities of coverage have been exhausted so that boredom doesn't set in. Events have a certain amount of time in the limelight, then, even the situation has not been resolved, the media marches on. Further News is pre-empted (ibid., p.2).

We also see what happens to the public in the face of a situation that seems to be irresolvable in the short term. One of the effects of this fatigue for the pain of others is the feeling of powerlessness regarding situations, whether it is famine in the Sudan or ethnic cleansing in Tajikistan.

Compassion fatigue, Moeller argues, also creates the sensation of something being the "same-as-it-ever-was," creating a self-perpetuating loop: the public loses interest as times passes and the perception of the media is that the public is no longer interested. The pace and volume of reporting diminish as the public "believe that the crisis is either over or is a lesser emergency and so on and so on" (ibid).

One of the most striking consequences of this vanishing media attention leads to "non-action" (p.52). After the media "surge," the feeling that a problem is irresolvable eventually leads to generalized apathy.

The media's approach to epidemics follow a classic structure. First, coverage entails a ritualization of empathy, flooding the public with constant information. The subject remains in the news until it fades in a matter of days or months. For an epidemic to continue to garner media attention, it needs to gain some new element. This becomes evident in the significant distortions of perceptions. How else to explain, for example, that although millions of children die of diarrhoea and tuberculosis, little is said about it. The demographic profile of those affected is also key to maintaining a disease in the news. While there is a sense that lepers in India are part of the "natural" vulnerability of the country, an outbreak of leprosy in England would certainly prompt the public to press for action, especially the Americans (p.58)

Trudie Lang, professor of Global Health Research at the Nuffield Department of Medicine at University of Oxford, and Fellow of Green Templeton College, echoes these ideas when she analyses Zika and Ebola's coverage in the west:

Disease of poverty are grinding, daily reality – malnutrition, worm infections, respiratory infections. They don't impact the west and so they are not interesting to the readers and viewers. The issues are just the same as all we experienced with Ebola and Zika – but not the sudden flare up and dramatic symptoms. Mostly, because people don't get on a plane and bring malnutrition back to the UK. In the main, they focus on the relevance to people in the UK (or US etc). So, the questions seem irrelevant and missing the real point. They are interested in the nurse back into the UK and unwell, rather than the 1000's impacted in the county where it is happening. Perhaps these diseases of poverty they are there all the time and not as dramatic as the Zika (malformed babies) and Ebola (haemorrhagic fever)⁹.

To sum up, in Moeller's view,

Diseases, especially epidemic diseases, is not only a biological phenomenon but a social, cultural, and political one. How societies respond to catastrophic outbreaks of disease is measured by the level of emotion and fear, their trust in science and medicine, their experience of pain and illness and their reaction to disability and death (Moeller, 1999, p.57).

⁹ Written communication. March, 2018.

Researcher Celina Maria Turchi from Oswaldo Cruz Foundation in Recife, who became a key source for the international media, used a strong metaphor to describe what happened when brain-damaged babies were identified. Four or five cases were usually seen in one year, but this time the same number presented in one week:

If I was a film-maker offering a scenario like this, people would say I was mad – a congenital disease transmitted by a vector that is everywhere and could also be sexually transmitted? From the first moment, I had this feeling of being in a *horror* movie and having no cure for it (emphasis added)¹⁰.

1.2 Fear, risk, threat

When reporting on epidemics is steeped in risks, emotions, threats, and fear, the public has difficulty reflecting on and comprehending the infection statistics and rationally perceiving, for example, the real causes of diseases: inequalities and lack of public policies and opportunities.

Daniel Kahneman's work provides insights into how we develop perceptions about the unexpected, and why, when engrossed by the emotions of images, audiences become interested in a specific issue. He explains that our mind is comprised of two systems: System 1 is our fast, intuitive, and automatic thinking. System 2 manifests itself more slowly and responds through deliberate reflection, through the ability to solve complex problems.

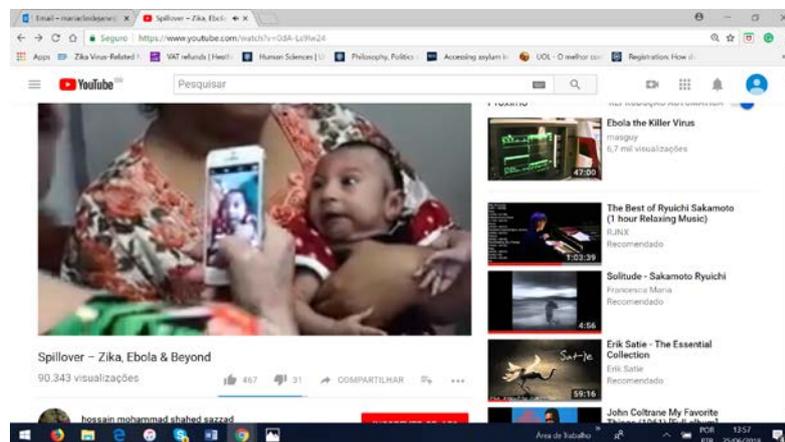
Dramatic images of helpless victims, such as children with microcephaly and pregnant women, activate system 1, which then shapes our interpretation of what is happening (Kahneman, 2011, p.139). But the interpretation is not necessarily a reflection or a correlate of reality. Our expectations can be distorted by the intensity of the messages the media presents (ibid., p, 38), like this taken on a hospital in Recife with a tiny head baby with a circumference below normal:

¹⁰ Cited in Boseley, Sarah. "On the frontline in Brazil's war on Zika: 'I felt I was in a horror movie'". Retrieved on March 06, 2018 from: <https://www.theguardian.com/global-development/2016/apr/12/on-front-line-brazil-war-zika-virus-i-felt-horror-movie-no-cur>.



Photo: Clara Gouvea/February 02, Recife, 2016

Or is this example here¹¹:



Paul Slovic's landmark studies about risk perception also demonstrate the public's instant interest in any subject involving risk, which can be defined as "a concept that human beings have invented to help them understand and cope with the dangers and uncertainties of life" (Slovic cited in Kahneman, 2011, p.15). Slovic was the author of a study about the risk perception of diseases that produced interesting results. At the time, heart attacks killed twice as many people as all accidental causes, but, surprisingly, 80% of respondents in the study said that accidents killed more people. And although diseases generally killed eighteen times more people than accidents did, the perception among respondents was that the statistics for the two were comparable (ibid, p.138).

In recalling another major global epidemic, that of Ebola in 2014, however attenuated the surrounding circumstances, it is noteworthy how the narrative of the global media was in many cases that of yet another tragedy in which the white American man succeeded in

¹¹ "Spillover: Zika, Ebola and beyond" available on <https://www.youtube.com/watch?v=0dA-Ls9Iw24>. Retrieved on March 6, 2018.

helping Black Africans, poor and without resources. It is also important to highlight how the images of men dressed as astronauts exaggerated the actual risks of global infection and created the iconographic memory of the epidemic (McNeil, 2017) ¹².

Serusha Govender (2017) went deeper in her critique about the Ebola outbreak, showing that journalists were unprepared to report, with clarity and accuracy, on a situation that was evolving and spreading rapidly. The focus adopted by most local and national media groups was on viral transmission and its high potential for infection, as well as the high mortality rates. This framing fuelled the fear and stigmatization of people who were infected, reinforcing stereotypes. Especially at the beginning of the coverage, the tone was one of disinformation, rumour, and sensationalism. In Govender's words, "the public paid more attention to the information communicated by the media rather than common sense intuition about how to contain the spread of infection" (ibid., p.8)¹³. Quinn Mulholland (2014) refers to "Ebola hysteria," which, in the United States, had a greater impact than the death toll and was leveraged politically to attack the government. The disproportionality of the media coverage led schools to reject students from other regions in Africa, such as Nigeria, which were not even affected by Ebola. CNN even went so far as to analogize Ebola to terrorism:



¹² McNeil, Donald G. "How the Response to Zika Failed Millions", Retrieved January 20, 2018, from <https://www.nytimes.com/2017/01/16/health/zika-virus-response.html>

¹³ Another paper written by a Reuters Institute journalist fellow, Heini Maksimainen (2017), offers some guidelines to improve quality Health Journalism, such as the use of independent experts. Retrieved March 20, 2018, from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-09/Maksimainen%2C%20Improving%20the%20Quality%20of%20Health%20Journalism_0.pdf

CHAPTER 2: COVERING ZIKA: EXAMINING NATIONAL AND GLOBAL CONTEXTS

Media coverage of the Zika epidemic has been shaped by images of the suffering of “others” and the perception of a large-scale threat that crosses territorial barriers via sexual intercourse and the bite of a mosquito. For a brief time, newborns with small, sometimes elongated, heads were seen as presenting a collective risk. *New York Times* science reporter Donald McNeil put it in these terms: “Those mother-and-baby pictures, normally records of happy occasions, now a series of *postcards from hell*, became the signature of Zika” (McNeil, 2016, p.53, emphasis added).

When Zika broke out in 2015-2016, another complex factor became apparent, suggesting that this infectious disease would challenge science in more ways than one. What changed were the actors who were in the spotlight. According to Debora Diniz, professor at the University of Brasilia School of Law, scientists from the world’s leading institutions found themselves under pressure to acknowledge their colleagues from Northeast Brazil. While these Brazilian scientists have a small presence in international publications, they had discovered something remarkable, contributing to what Diniz calls the decentralization of legitimate science (Diniz, 2017, p.6). This was true inside Brazil as well, since the country’s first cases of Zika were announced by researchers and physicians in the states of Pernambuco, Bahia, and Paraíba, far from the country’s richest areas, in the south.

This chapter analyzes the key features of media coverage of the Zika epidemic.

2.1 Zika virus: links to microcephaly and other neurological disorders

According to the World Health Organization (WHO), Zika is a flavivirus, usually spread by mosquitoes, that was first isolated from a monkey in 1947 and from humans in 1952, in the Zika forest of Uganda, central-eastern Africa. It was only in 2007 that the first major Zika outbreak in humans outside of Africa was reported, on the Pacific Island of Yap, in the Federated States of Micronesia. Between 2013 and 2014, outbreaks occurred on other Pacific islands: French Polynesia, Easter Island, the Cook Islands, and New Caledonia. On its webpage, WHO declared that no outbreaks and only 14 cases of human Zika virus disease had been recorded globally before this event. In February 2015, Brazil began advising WHO about a new illness in which patients from the country’s northeastern region complained about skin rashes, although no deaths were reported.¹⁴

In April 2015, Grupo Globo’s website, G1, posted a story informing that researchers Gúbio Soares and Silvia Sardi, from the state of Bahia, had finally identified this “mysterious disease”, which they believed had arrived in Brazil during the World Cup, in 2014¹⁵. The virus was transmitted by the *Aedes aegypti* mosquito and symptoms included skin rash, joint pain, fever, and conjunctivitis. However: “The Zika virus is not as serious as dengue or

¹⁴ “The history of Zika virus”. Retrieved March 18, 2018, from <http://www.who.int/emergencies/zika-virus/timeline/en/>

¹⁵ Most scientists and health authorities later acknowledged that the virus had entered the country one year earlier, during the FIFA Confederations Cup, brought by athletes from French Polynesia. However, the virus stabilized during the World Cup, when it found its primary vector (Libório & Brotas, 2017).

chikungunya, not leading to the patient's death. It seems to present as an allergy; it is milder, and the treatment is the same"¹⁶. Former Brazilian Minister of Health, Arthur Chioro¹⁷, said it was a "benign disease" that could be cured and that the concern was dengue, which was deadly.

Months later, in September 2015, Dr. Adriana Melo, a specialist in fetal medicine from the state of Paraíba, realized that she had been observing a sharp rise in cases of microcephaly, detected on CT scans. She decided to confirm her suspicions by sending amniotic fluid from two pregnant patients to a Fiocruz laboratory, where testing might establish a plausible link between the Zika virus and babies born with small heads. Prior to this, two neuropediatricians, Ana Van der Linden and her daughter Vanessa Van der Linden, had informed public health officials in Pernambuco about their own observations at public and private maternity wards in Recife. In February 2016, WHO, based on scientific consensus, concluded that "Zika virus infection during pregnancy is a cause of congenital brain abnormalities"¹⁸. Around the same time, the U.S. Centers for Disease Control and Prevention (CDC) confirmed that Zika can also be sexually transmitted.

More than half the world's population currently lives in areas infested by *Aedes aegypti*, which can infect people with such viruses as Zika, chikungunya, dengue, and yellow fever¹⁹. WHO drew up an international protocol to assess whether a baby has microcephaly by measuring its head circumference within 24 hours of birth. However, many of these children born with an ordinary head size can also develop other neurological problems during infancy. In severe cases, these children can also suffer from convulsions, muscle pain, epilepsy, and sight and hearing loss, as well as dysphagia, a condition in which the infant lacks oral and upper respiratory sensitivity and presents problems with swallowing, thereby increasing the risk of aspirating food, as explained by a team of female Brazilian medical experts²⁰. Babies born with this condition, now called congenital Zika syndrome, will require care throughout their lives.

2.2 Science in transition

In our analysis about the Zika coverage, focused on CNN, one aspect that needs to be pointed out is the fact that the achievements of Brazilian scientists in discovering the

¹⁶ "Identificado vírus causador de doença misteriosa em Salvador e SMS". Retrieved March 18, 2018, from <http://g1.globo.com/bahia/noticia/2015/04/identificado-virus-causador-de-doenca-misteriosa-em-salvador-e-rms.html>

¹⁷ Cited in Aguiar, Raquel & Araujo, Inesita. "The media among the Zika virus 'emergencies': issues for the communication and health field". Retrieved March 15, 2016, from <https://www.arca.fiocruz.br/handle/icict/16952>

¹⁸ According to WHO Media centre. Retrieved March 18, 2018, from <http://www.who.int/mediacentre/factsheets/zika/en/>

¹⁹ "A global brief on vector-borne diseases". Retrieved March 16, 2018, from http://apps.who.int/iris/bitstream/10665/111008/1/WHO_DCO_WHD_2014.1_eng.pdf

²⁰ Leal et al. (2017) "Characteristics of Dysphagia in Infants with Microcephaly caused by congenital Zika virus Infection, Brazil, 2015", Aug; 23(8): 1253–1259. doi: 10.3201/eid2308.170354. Retrieved February 20, 2018, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5547788/>

initial puzzle of Zika and its relation to Microcephaly were rarely mentioned²¹ in the videos we watched (see next chapter). It could be just a matter of methodology, but out the 133 videos, most of the scientist heard were Americans, reinforcing what Debora Diniz (2017, p.6) calls for a cultural skepticism on everyday science that is not from Europe or the US. “Not only were these North easterners mistrusted because of their geographic origins; many were also the target of suspicion because they were clinicians, professors, and healthcare providers lacking the usual scientific credentials listed in the bios published in high-impact journals” (ibid).

Dr. Adriana Melo, president of IPESQ, a research institute in Campina Grande, state of Paraíba, and also the obstetrician who removed amniotic fluid from two of her patients, stated that:

I think the greatest resistance to our discovery was that it came from a region, from a city, from a service that were not recognized by the research network—the fact that the initial discovery was made by a private, not-for-profit institute with no ties to any university or major research center. We actually warned about the matter in November; in January we published a paper; but it was only in February, after a paper was published in Eastern Europe, about an Italian patient who had lived in Natal, that the world accepted the idea that Zika really causes microcephaly²². There was a lot of resistance because we inverted the ritual of discovery a bit. Usually, when you make a scientific discovery, you publish first and then go to the media. We sort of inverted that. And this may have shocked some researchers. But, as matter of fact, this was our team’s choice, considering the risk of patient contamination. It was during mosquito season for us and we knew there would be an enormous risk; we wanted to warn the public about using insect repellent, taking precautions. So, we anticipated the need for publication and went to the media first, and this prompted a certain bias, as if our team were more of a media-oriented group than a scientific one²³.

One might argue that the language barrier presented a key stumbling block, which prevented local scientists from making their voices heard, since English is not even a second language for Brazilians. However, the author believes that the West’s reluctance to accept the initial findings by Brazilian experts had more to do with excluding them from the narrative of scientific discoveries and thereby disempowering them as the “serious” science are in the hands of western scientists. Some scientists remember that even after Dr. Adriana Melo announced her findings, the “CDC would not accept it until they had done it themselves”, in the words of Peter J. Hotez, dean of the National School of Tropical Medicine at Baylor College of Medicine (cited by McNeil, 2017, p.5). “I saw this as hubris”, he criticizes. Another critic was Dr. Ernesto Marques Jr., of the Oswaldo Cruz

²¹ Of course there are exceptions, such as this feed:

<https://edition.cnn.com/videos/health/2016/01/27/zika-virus-babies-brazil-darlington-pkg.cnn>

²² She is referring to an article published in *The New England Journal of Medicine*. Jernej Mlakar et al., Retrieved March 18, 2018, from <http://www.nejm.org/doi/full/10.1056/NEJMoa1600651>

²³ Interview via WhatsApp on 19 March 2018.

Foundation in Brazil, who stated: “the local researchers’ role was mainly to collect samples” (cited by McNeil, 2017, p.5)²⁴.

The foreign experts who were caught by surprise when Zika was proven to cause microcephaly found themselves having to research and learn things in months that they would normally have spent years working on, according to Professor Trudie Lang, head of the Global Health Network:

With Zika we knew very little. In any infectious disease, you need to understand the pathogen, how it works on the host, how it is transmitted, what the signs and symptoms are. Typically, this has been learnt over decades or more. Here we needed to understand all this at once if we were to stop infections, understand how to prevent infection, know what advice to give and of course design vaccines and drugs. However, these outbreaks occurred in places where the research capacity is missing, and so we have to work with the nearest experts and try and bring this into the regions to get these answers. This needs international cooperation and leadership²⁵.

2.3 Brazil and the world in transition

In order to understand how Zika coverage transpired, we must also take note of the political elements that were woven into the social fabric of coverage and thus contributed to an emphasis on one narrative over another. Poor public health infrastructure, the under-reporting of diseases, and a free but deficient public health system are a regular part of life in Brazil. Murder rates surpass those in war zones, with 60,000 violent deaths per year. The country is constantly bombarded with news, most of it bad. Zika dropped out of Brazil’s headlines because this extremely polarized country found itself grappling with tremendous challenges, including a new government that took power without any support and with approval ratings below 5%. With so many calamities besetting Brazil, the Zika issue was lost in the cracks.

Meanwhile, one year before the Zika outbreak, Operation Car Wash—originally focused on black-market dollar dealers who laundered money through small businesses—mushroomed into the country’s biggest-ever political scandal, revealing a network of corruption unprecedented in modern Brazil. The international press picked up on the most painful, nuanced aspects of the situation. Members of the courts, congressmen, mayors, and businessmen were reviled in Brazil’s public arena.

The epidemic began sparking global fear when athletes from 130 countries prepared to travel to Brazil for the 2016 Olympics. Would the alarm bells have sounded as loudly were it not for this event which will host 500 thousand tourists?

Shasta Darlington, former CNN’s Brazil Bureau Chief, now a freelancer for The New York Times based in Sao Paulo, points out:

²⁴ McNeil, Donald G. “How the Response to Zika Failed Millions”, Retrieved January 20, 2018, from <https://www.nytimes.com/2017/01/16/health/zika-virus-response.html>

²⁵ Written communication, March 2018.

In a nutshell, I think the Zika story was compelling regardless of the proximity of the Olympics and would have been covered by many news outlets. But the Games certainly amplified the coverage and prompted coverage by some news outlets that might not have had stories otherwise²⁶.

Lucia Newman, from Al-Jazeera based in Buenos Aires, says that “certainly the Olympics raise global concern and the awareness. But when the first Zika cases arrived in Texas that’s when people started really freaking out”. She added: “I remember hearing the Rio health authorities say that the weather during the Olympics was colder and therefore there would be fewer mosquitoes. That did not sound very encouraging!”²⁷.

We also cannot overlook the fact that in the two years following the epidemic—from 2016 to 2017—international news coverage shifted to other menaces that seemed to have turned the Western world upside down, such as political radicalization, the entrenchment of “fake news,” the election of Donald Trump, Brexit, terrorist attacks in Europe, and the resurgence of populism.

Also noting to say that, as with other epidemics, Zika syndrome fed Internet rumors and theories about contamination via larvicides or vaccines²⁸.

Looking closely to the “new threat”, and comparing to other epidemics, we believe that one of the most aspect of the Zika media coverage was, indeed, the visualization of the tragedy, in other words, the compelling demonstration of the disease, which played a central role in shaping the disease both abroad and in Brazil. As Daniel Khahneman (2011, p.138) points out, “frightening thoughts and image occur to us with particular ease, and thoughts of danger that are fluent and vivid exacerbate fear”.

Health reporter from Jornal do Commercio, Cinthya Leite²⁹, who was one of the first journalists in the country to perceive the dimension of Zika in Brazil, sees that the lack of reporting in the beginning of the outbreak needs to be put on context:

Because we were closer to the epidemic – in fact, we were based at the epicentre of the epidemic - we had long been publishing about the rise of microcephaly cases. We were at the place where the families were, the children, the doctors. Therefore, it was easier to see how serious was the situation. I remembered that I only felt the importance and the size of this new occurrence when I saw the first babies. Before that, everything was very 'distant' to me. I imagine that, for journalists from other states or countries, it was difficult to report, to write, to find something that was very far from them and with no scientific references. Many times, I wondered if I was really doing a good job, if I was clarifying everything correctly, in the right tune, without exaggerations and without causing panic. I even wondered why none of prestigious newspapers from southern Brazil were paying attention. Today I see that this

²⁶ Interview with the author via email, May, 2018.

²⁷ Interview with the author via email, May, 2018.

²⁸ One of these examples can be seen here: <https://www.youtube.com/watch?v=mZ5pVgC45tU>

²⁹ Interview with the author via email, May 2018.

work of covering the congenital syndrome, done with a lot of love and dedication, was essential to show how we should all be prepared to cover epidemics and outbreaks we have never seen. It was also essential to give a voice to families, doctors, researchers, all professionals who were close to the children.

In an online debate organized by Duke University, in the US, Patricia Campos Mello, senior reporter for *Folha de S. Paulo*, and Simon Romero, reporter for *The New York Times* in Rio de Janeiro, pointed out that coverage was only taken seriously in Brazil after the print and broadcast media began publishing images of children. Mello stated that the photograph that was released by the Associated Press, showing a baby being comforted inside a bucket, played much the same role as the image of the Syrian boy on the edge of the sea in Turkey³⁰.



Photo: Felipe Dana/ AP. December 23, 2015.

The author's experience editing these reports and observing how they portrayed Brazil prompted her to question whether ethical boundaries were breached during coverage. What is the best way to protect family privacy while at the same time denouncing neglect?

The first dilemma we experienced was this idea of neutrality associated with journalism. We were in the middle of an economic crisis and no one seemed to care about this grave

³⁰ The debate can be seen online from: <https://www.youtube.com/watch?v=PdYqu3kAimg>. Retrieved 18 January, 2018.

risk in the middle of the hottest season, when the mosquitoes are flying about all day. The first pictures we saw were shocking. We had seen newborns with microcephaly, but this time babies had triangular faces and strange head formations. Local reporter Beatriz Castro sent us these relentless images, after coming back from hospitals. The author had to follow the editorial guide in order to avoid a possible exploration of suffering when children are in the scene, by selecting only hands and other parts of the bodies that were not affected. However, by hiding these dire portraits to prevent dramatization were we heading in the opposite direction? In other words, were we heading towards the minimization of the outbreak? One year after that, the crucial selection of images returned to our discussion, when the author was editing how the victims were coping with treatment and therapy.³¹

A fine line separates certain rights: the right of journalists to report and potentially save lives, and the right of victims to have their faces protected (whether women or children)—and this gives rise to criticisms and demands responses.

Felipe Dana, Associated Press photographer whose pictures of a Zika “bucket baby” circled the world, recalls this period:

I took that picture at the beginning of the outbreak, when we didn't know the real cause of the growing number of microcephaly cases and its connection to Zika. At the time, there were only a few photos of victims. Personally, it felt like one of my most important assignments. Besides getting a lot of attention and helping to reveal what was going on with hundreds or thousands of babies, that visibility eventually helped the boy and his family. I stayed a long time with the families, and other mothers would come to me to ask the causes of the disease, and if their children had what they had seen on TV. I had a lot of doubts about what to publish and if it would expose those babies and families. I had many doubts about what to do and what pictures to publish. However, today I am very happy with these pictures because I know they had a direct and positive impact on their children's lives. I continue to relate to them³².

The following image taken in Olinda, Pernambuco, also grabbed the world's attention:

³¹ Unfortunately, there is only a Portuguese version of these three reports: <http://g1.globo.com/jornal-nacional/noticia/2016/09/familias-e-medicos-descobrem-novas-complicacoes-do-virus-da-zika.html>

³² Interview via email with the author. On April, 2018. The story of the “bucket baby” reached many media outlets. Here are some events: <https://globalnews.ca/news/2497368/in-photos-photographer-reflects-on-bucket-baby-brazil-child-born-with-zika-virus-linked-microcephaly/>; <http://www.bbc.com/news/av/world-latin-america-35643345/the-story-of-the-brazil-s-zika-bucket-baby>; <http://www.itv.com/news/2016-02-05/zika-bucket-baby-mother-says-nothing-is-impossible/>. Retrieved on March, 20, 2018.



Photo: Nacho Doce/Reuters. 15 September, 2015.

Reuters cinematographer Nacho Doce offered his reflections:

When I obtain families' consent, I always use the utmost respect and try to cause the least amount of pain for them. Family consent for photos is obviously very important and essential. I don't know if these mothers or families have managed to get government aid now, to help them economically, since the majority are poor. In this case, here's my question: would these families let their babies or videos be exposed if they thought it would serve no purpose.³³

Freelance photographer Clara Gouvêa, from Recife, was hired by London-based newswire Barcroft Media to register the epidemic at a public hospital. Gouvêa took this powerful picture³⁴:

³³ Interview via email on May, 2018.

³⁴ Another sensitive picture can be seen here: <https://www.theguardian.com/world/2018/jul/20/zika-epidemic-sheds-light-on-brazils-invisible-children#img-1>. Retrieved on July 24, 2018.



Photo: Clara Gouvêa/ February 02, Recife, 2016.

She also emphasised the dilemmas and limitations encountered in a crisis environment:

I tried to respect families' space and be as discreet as possible when taking pictures. Most of the photos were taken during children's appointments. So I couldn't direct the scene much or talk with the people.

In the same online debate we mentioned earlier, Patricia Campos Mello reported that this issue often came up for discussion in her newsroom. "In the end, the mothers authorized publication. But in our newsroom, we debated the differences between sensationalism and service," she recalled. In Brazil, the Statute of Children and Adolescents is meant to ban the release of images that can identify children. Romero also remembered that 30 correspondents from around the world were at one point crowded into a public hospital in Recife, where 10 uninformed women were holding their babies in their arms, virtually cornered and completely unaware that their rights would be violated. "I don't think it was the best moment for our profession", Romero stated.

The two journalists both agreed that the media in southeastern Brazil—home to the country's leading newspapers—were slow to recognize the problem. Romero added that:

There seemed to be more coverage internationally of the virus and how it was affecting people in Brazil than there was in Brazil. And I think the government was caught off-guard by this. I think they felt like they maybe came under pressure and scrutiny over their response. And, in a sense, they had to mobilize faster. Some of what happened was really valuable. I think it exposed flaws in

Brazil's preparedness to deal with not just new viruses that can leap from one part of the world to another. Zika exemplifies that.

To broaden the scope of this tension, we shall mention the opinion of Germana Soares, founder of Mothers of Angels Union (UMA), a Brazilian association that provides support for families coping with microcephaly. For her, the foreign and Brazilian press were both remiss because they failed to lend continuity to their coverage of the epidemic:

We always had the impression that the little that the Brazilian government did here in terms of improvements and measures was primarily the result of pressure by the international media. But the national media approached the outbreak as if it were something unprecedented, as if microcephaly had never existed before and came into existence because of the outbreak. It approached the matter as if the children were *extraterrestrials*, something from another world. Much of what these families went through had a lot to do with what was conveyed by the media: knowing what the babies were like. The difference is that they have tiny little heads, but they're children like any others. The international press approached with a great deal of concern. Not about the Brazilian public. Their concern was with their own countries, right? I think the question now is that nobody is concerned about these families. Of the nearly 400 families to whom we provide assistance, 76% of the women that we have received were abandoned by their husbands. Since the pathology was discovered, 92% have quit their jobs³⁵.

A large percentage of women in Brazil are not the beneficiaries of any income transfer programs (Diniz, 2017b, p.46). While it is impossible to prove that reluctance to accept Brazilian findings effectively slowed response to the situation, the author believes that Zika will continue to garner no attention, even though WHO has admitted that "transmission is however still ongoing, and it is possible that some new areas may emerge with increased incidence"³⁶.

Therefore, it seems clear that this is yet another humanitarian tragedy, and the media must take responsibility, a claim supported by Debora Diniz³⁷:

The first step is realizing that an epidemic like Zika is a never-ending story. We had to understand that when we had the first wave of the epidemic, in 2016, there was extensive coverage by the international and national media, basically because it was a moment when the risk of a global threat was felt. It was important to have major newspapers like *The New York Times* and *The Guardian* covering these stories, the numbers of families affected, and, most importantly, showing women who had to face the consequences of an epidemic like Zika in a country where abortion is illegal. So how do we cover something where there was a huge outbreak, a scandal, but where the fear of a global threat is no longer present?

³⁵ Interview via WhatsApp on 19 January 2018.

³⁶ Written communication between the author and WHO's spokesperson, Tarik Jasarevic, 7 March 2018.

³⁷ Interview via WhatsApp on 4 March, 2018.

CHAPTER THREE: FRAMING ZIKA

This chapter presents our findings on how Zika was framed. It seeks to answer our research questions and offer a qualitative analysis of the data.

3.1 Methodology and theoretical framework

Even though the application of Content Analysis (CA) to any media study is open to debate, since many criticize it as being merely a technical tool that ignores social mediation, this method has been widely adopted worldwide in different fields to compare content provided by the communication industry. Method advocate and author Klaus Krippendorff (2004) suggests that CA affords valid and reliable inferences and “new insights” on a given phenomenon. The main argument in favor of the method is its replicability (ibid, p.18).

That said, the author of this paper acknowledges that subjectivity and interpretation constitute the foundations of texts and images. The social construction of reality is a complex theoretical framework that requires time for thorough investigation. CA seems to offer a feasible, practical approach for revealing new data, but unless the latter are contextualized, they are meaningless. A scholar can, for instance, count how many times a word has been cited in an article, but this analysis must be complemented with a qualitative approach. Therefore, it is relatively easy to code articles, mapping out different narratives from each media feed.

In addition to employing CA, this paper uses *framing* as a useful perspective for laying the groundwork to a better understanding of the media’s portrayal of diseases. Framing is a concept and method of investigation applied by Erving Goffman (1974) in a now classic work, where he argues that people use interpretive frameworks to help them make sense of the world. Frame analysis is the same as establishing an analysis guide, and it becomes a discursive strategy for judging occurrences, which are normally influenced by interest groups, who usually attribute different importance to news. Richard Stanton (2007) reminds us that the pandemic threat of avian influenza can be a story socially constructed by a reasonable number of framings: for example, foreign aid by Western governments, the action of local health authorities, and new testing by the pharmaceutical industry.

Entman (1993) produced a classic text about framing, treating it much more as a paradigm than a simple approach or theory on the effects of the media, as defended by Dietram Scheufelle (1999). In Entman’s view, “to frame is to select some aspects of a perceived reality and make them more salient in a communicating text” (p. 52).

There is no intention here to list the vast literature on framing as a theory or tool or its effects on public opinion over the last 40 years. However, we have chosen Gamson and Modigliani’s (1989) seminal article to help us interpret how the Zika crisis was presented outside Brazil. The authors stated that “public discourse is carried on in many different forums. Rather than a single public discourse, it is more useful to think of a set of

discourses that interact in complex ways” (p.2). In their view, “media discourse can be conceived of as a set of interpretive packages that give meaning to an issue. A package has an internal structure. At its core is a central organizing idea, or frame, for making sense of relevant events, suggesting what is at issue” (ibid, p. 3). Drawing from the foundations laid by these two authors, we arrived at a method for defining each of the frames.

Similar to Semetko & Valkenburg (2000) and Vitoria & Liborio (2017), we applied this *deductive* approach to the CA of frames, focusing on three different media companies. Prior to conducting the research, which would draw from a large number of news reports, we identified certain frames to focus on and thus arrive at a manageable data set.

Our investigation to assess the prevalence of certain frames was thus based on **seven news frames**, as follows:

1. **Global Epidemic:** a potential pandemic, sharp increase in the spread of the disease, potential for global disaster.

Coding questions for each news item:

Does the story refer to Zika as a potential pandemic/epidemic?

Does the story suggest an increased number of cases?

Does the story imply that a global health catastrophe might occur?

2. **Morality:** religious and ethical issues, moral perceptions, applicable when one raises questions related to abortion or controversial advice recommending that couples avoid pregnancy.

Coding questions for each news item:

Does the story feature a discussion of women’s rights within the context of each country’s dominant religion?

Does the story mention or question the efforts of local or international officials who advise or warn women or couples to avoid pregnancy?

Does the story feature any discussions about abortion?

3. **Responsibility:** lack of treatment resources, government shortcomings, unreported and discarded cases.

Coding questions for each news item:

Does the story describe no funding for treatment and research?

Does the story expose local and/or national authorities’ failure to tackle Zika?

Does the story alert for inequalities and unreported data and cases?

4. **Women’s and Children’s Health:** dramatic pictures/images of children and deformed babies in poorest areas.

Coding questions for each news item:

Does the story show a mother with a baby?

Does the story show children in their homes or hospital rooms being treated?

Does the story emphasise women or children's physical and emotional problems?

5. **Risk, fear and uncertainty:** whenever the word "risk" appears explicitly or the text generates insecurity but provides no information about causes and consequences.

Coding questions for each news item:

Does the story contain the word "risk" in the text?

Does the story imply or explicitly cite Zika as a sudden epidemic and/or unexpected pandemic?

Does the story mention fear?

6. **Scientific Progress:** vaccines, new studies and findings, scientific papers, new medications and treatments.

Coding questions for each news item:

Does the story mention new treatments or therapy?

Does the story report on any new link between the cause of the disease or how it spreads?

Does the story outline any kind of vaccine testing?

7. **Regional Tragedy:** tropical disease from warm and poor areas caused by exotic mosquitoes.

Coding questions for each news item:

Does the story highlight the fact that the effected population is low income?

Does the story point out that the virus is found only in tropical areas?

Does the story explicitly state that some areas of the globe will not be affected?

3.2 How did we collect the data?

The decision to examine news from the BBC, CNN, and Al-Jazeera English reflects a number of factors. The first is personal: The author has been a television producer for 20 years and therefore is quite familiar with broadcast formats. Furthermore, previous experience with CA makes her familiar with the limits of the method. Secondly, most researchers prefer to work only with texts, since it is hard to obtain access to transcriptions and newsrooms³⁸. Selecting three companies with multimedia platforms,

³⁸ Some access is allowed though. Retrieved on April 17 from: <http://transcripts.cnn.com/TRANSCRIPTS/>, http://www.bbc.co.uk/faqs/radio/radio_transcript or <https://www.aljazeera.com/programmes/headtohead/transcripts.html>

which distribute content online, will afford a better idea of Zika coverage, including both the real-time television audience and those who later view content online³⁹.

BBC World News is the most important source of news in the UK and is a main source for global media firms. CNN International is also a global media player and represents a traditional legacy brand. Both outlets have a global presence and have invested heavily in non-English websites (BBC in Portuguese and CNN in Spanish). We also chose Al-Jazeera, as a counter-hegemonic news organization.

As argued above, to follow live production from these three outlets would have demanded extensive observation time. Instead, we concentrated our investigation on their international pages. Since the idea was to focus only on English feeds, the BBC Brasil service was not selected.

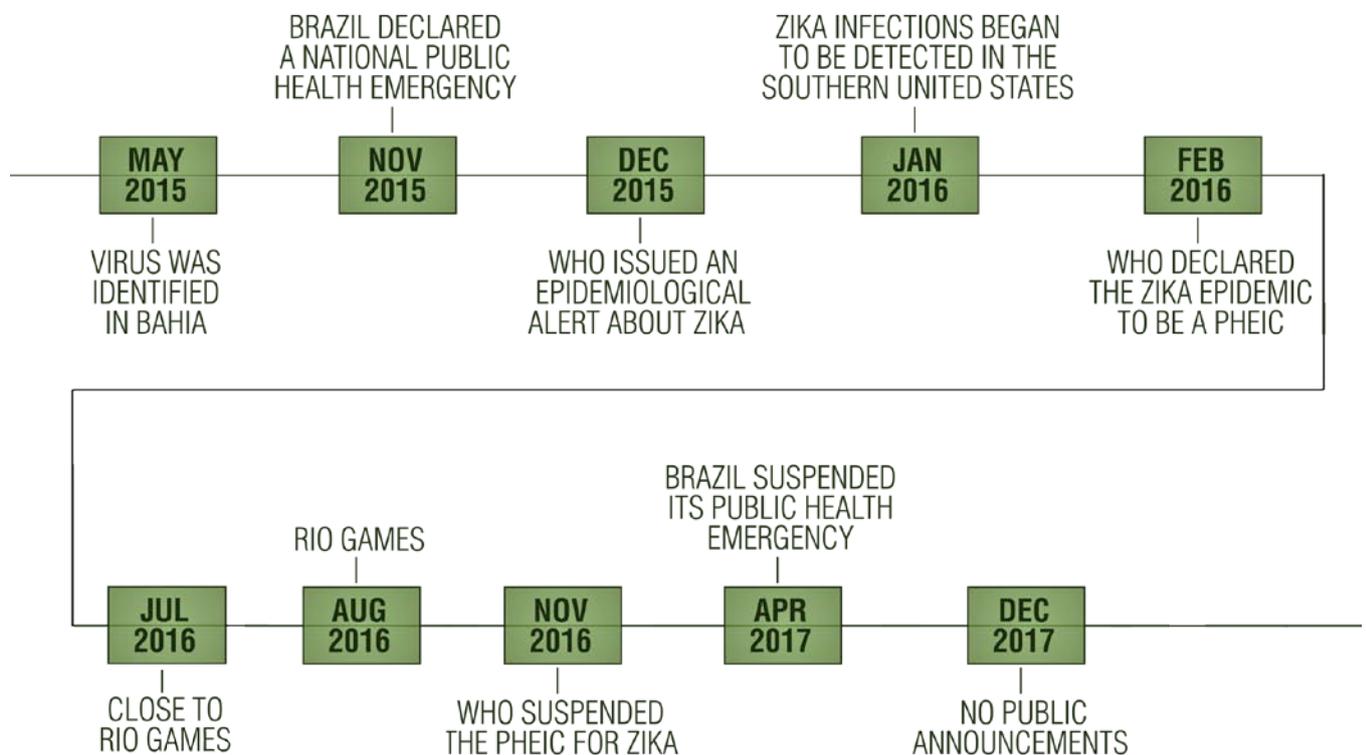
On their websites, we searched **“Zika and microcephaly”** and **“Zika and congenital syndrome”**. We excluded stories that contained only brief mentions of Zika (3 to 5 lines) or texts where a reference to Zika was merely tangential to the main story line (e.g., a report on Nobel Prize Chemistry winners, who developed tools applicable to medical research overall, including the identification of Zika; a story about an international NGO that offered abortion services on a boat off the Mexican coast).

Other limitations were apparent in our investigation: sometimes the text did not reflect the video and vice versa. Other times, the same video was used more than once, generating the same audiovisual content. These were therefore excluded. The videos were not exclusively from Brazil but came from different parts of the Americas and Africa.

Although the international media occasionally covered the Zika virus prior to the outbreak in Latin America, we looked only at months when important announcements were made during the main events of the 2016-2017 Zika outbreak and at months when no specific events occurred but which were important for other reasons.

To reiterate, our research goal was to investigate the type of news coverage accorded an event that occurred locally, went national, reached a number of continents, and, lastly, went back to being a local issue. Our idea was to ascertain how coverage of the Zika virus evolved before, during, and after the public health emergency. Therefore, we created a timeline that identified periods of focus during which key events unfolded in the public health crisis triggered by Zika:

³⁹ The research can also be tough when explore their websites. CNN and Al-Jazeera, for instance, have a chronological index, whereas BBC don't, making harder to separate the stories according to the date



Our analysis encompassed 37 reports by Al-Jazeera, 179 by the BBC, and 161 by CNN.

After that, we selected only the segments which contained video:

24 from Al-Jazeera, 54 from BBC, and 133 from CNN.

Considering 2 minutes as the average duration of the videos, we coded more than 400 minutes in 211 videos.

3.3 Findings: from global threat to regional disaster

3.3.1 The case of Al-Jazeera

Our analysis started with newsfeeds from the site of Al-Jazeera English, which is the English-language channel of the Arab news broadcaster. Launched in 2006, Al-Jazeera has become a leading news outlet for the Middle East. The channel offers an alternative to the Western press by providing an Arab viewpoint of events and by choosing topics and regions generally neglected by European and US networks. Al-Jazeera has also become one of the most controversial news organizations in the world both because it is supported by the Qatar government and also because its alleged biased coverage of

certain Middle Eastern countries. It has begun investing heavily in news from Latin America and currently has bureaus in Buenos Aires, Caracas, and São Paulo, from where its reporters travel the region.⁴⁰ It has adopted the BBC model of hiring highly qualified correspondents.

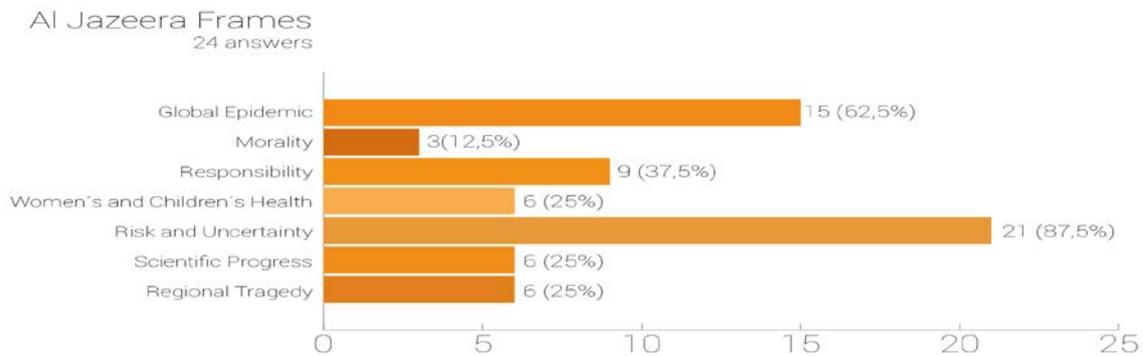
As mentioned earlier, each report identified on the site was classified on a form so it could be coded. Section 1 of the form indicated whether the item included video or not. Section 2 provided title, sub-titles, date of publication, link to report, name of author or correspondent of the text or video, news desk/department, length of video, type of report, sources heard or quoted in the text, sources of any sound portions of the videos (interviews/soundbites), frames, and analytical commentary. After this first step had been completed, 26 videos from Al-Jazeera English were viewed.

While our timeline began in 2015, no videos were found from our focus months for that year (May, November, December). Our search strategy also failed to turn up any examples from July 2016. The videos varied greatly in length. The most solid, in-depth reports, like in-studio debates and documentaries, were over 20 minutes long, while we also analyzed shorter reports of around 2 minutes, which had likely been shown on Al-Jazeera's 24/7 updates.

It is worth calling attention to the most prevalent type of interviews. Experts and scientists were featured in 60%; health administrators and mothers in 28%; and physicians in 20%. This is an all too familiar: the authority to speak and be heard remains in the hands of science and not victims.

It is essential to note that visual resources played a substantial role, which is to be expected with this kind of coverage. Images and photos accounted for 80% of these resources, while the remaining 20% was comprised of infographics. Although Brazil was the epicenter of the crisis, we also found reports on El Salvador, Mexico, Colombia, the United States (Los Angeles and Miami), and Venezuela. The following figure provides insights into framing, the key concern of this study:

⁴⁰ Retrieved on March 27, 2018, from: <https://www.aljazeera.com/aboutus/>



The frame of Risk and Uncertainty pertained to more than 80% of the stories. Global Epidemic also appeared as a frame in most of the reports (61.5%). These two categories were followed by Responsibility (38.5%), Women's and Children's Health and Regional Tragedy (26.9% each), Scientific Progress (23.1%), and Morality (11.5%). Many of these frames overlap, such as the reports published on January 22 and 26, 2015, early in the epidemic, which were classified in three frames: Global Epidemic, Responsibility, and Risk and Uncertainty⁴¹.

Another example of this overlap was found in a 2.19-minute segment on El Salvador signed by John Holman, where five frames were identified: Global Epidemic, Morality, Responsibility, Women's and Children's Health, and Risk and Uncertainty. The aired report showed the viewpoint of women as well as that of the State, which is extremely Catholic. To some extent, it also raised the issue of women's Responsibility, as far as catching the disease and failing to use birth control. On the positive side, the report discussed how abortion must be brought into the context. As often observed in this study, there was a difference between the volume of information presented in the online video and the text. The video was not the same as the text, which offered updated information issued by the WHO along with recommendations for women:

Zika virus: WHO emergency talks to decide response
UN health agency set to determine whether virus outbreak should be declared a global health emergency.
 The World Health Organisation (WHO) is meeting in Geneva to discuss whether the Zika virus outbreak should be declared a global health emergency. Monday's meeting comes after warnings by the UN health agency that the mosquito-borne virus, which is strongly suspected of causing birth defects, was "spreading explosively" in the Americas - WHO is expecting up to four million cases in the region this year. Senior WHO officials, joined by representatives of affected countries and experts from around the globe, will

⁴¹ <http://www.aljazeera.com/news/2016/01/zika-virus-women-told-delay-pregnancies-years-160122040824263.htm>
<http://www.aljazeera.com/news/2016/01/zika-virus-spread-americas-160125140747987.html>

meet behind closed doors to determine if Zika should be considered a "public health emergency of international concern". Tarik Jasarevic, a WHO spokesman, said that the meeting "will look really into what we know and will also see what level of health emergency this represents". A decision is not to be made public until Tuesday at the earliest.

WHO under pressure

WHO is under pressure to act quickly in the fight against Zika, after admitting it was slow to respond to the recent Ebola outbreak that ravaged parts of West Africa and killed more than 11,000 people. Zika virus is a mosquito-transmitted infection related to dengue, yellow fever and West Nile virus. Symptoms are mild and include fever, rashes and joint pain. Yet the disease is "strongly suspected" to be linked to microcephaly, a birth defect characterised by incomplete brain development and an unusually small head. Brazil is the hardest-hit country and sounded the alarm in October, when a rash of microcephaly cases emerged in the northeast. Since then, there have been 270 confirmed cases of microcephaly and 3,448 suspected cases. A number of countries, including Colombia, Ecuador, El Salvador, Jamaica and Puerto Rico, have warned women to delay pregnancies until the Zika outbreak is brought under control amid worries over the recent surge in cases. Worries over Zika have spread beyond the affected areas to Europe and North America, where dozens of cases have been identified among people returning from vacation or business abroad. There is no vaccine or specific medicine currently available and treatment is normally focused on relieving the symptoms. Research is being done to develop a rapid test which could look for antibodies after a patient has recovered from the virus, making it possible to test for immunity. Only one in five people infected becomes ill, while treatment in hospital is uncommon and deaths are rare.

The debates sponsored by the news outlet also deserve attention. Inside Story⁴² brought scientists together for a discussion that contextualized the disease. Led by anchorwoman Fauziah Ibrahim, the program lasted nearly 25 minutes. The guests were a pediatrician, a professor of molecular medicine, and a virologist, all of whom worked at top academic centers in Europe. The program became a kind of dossier on the disease, with a run time that even free-to-air channels in Latin America would be unlikely to risk. The scientists debated the development of Zika, a possible virus mutation, and neurological changes. They explained the historical context and evolution of infectious diseases like rubella – whose transmission is now relatively under control, particularly since patients can be isolated – and compared it to Zika, whose mosquito cannot be controlled.

The program was not classified as presenting a Scientific Progress frame because the guest experts did not work directly with microcephaly or Zika research. The discussion also questioned to what extent the local health care systems in the most affected countries were capable of addressing the epidemic. It was suggested that richer nations should make public health investments in poorer nations with a view to controlling this kind of epidemic. The WHO was praised for its international response, which, according to the panelists, had been more efficient and faster than the agency's response to Ebola.

⁴² <http://www.aljazeera.com/programmes/insidestory/2016/01/global-efforts-zika-virus-succeed-160131142521737.html>

In a video⁴³ for the program UpFront, where a host interviews one individual live in the studio, the conversation was with Celso Amorim, former Minister of Foreign Relations under the Dilma Rousseff administration. Amorim recognized that Zika associated with microcephaly represents a disease of poverty and social inequality. This former member of the Brazilian government also admitted that while abortion is illegal, many middle-class women can afford to end their pregnancies at clandestine clinics. In other words, the focus of the program was on women's health issues, with the channel calling into question the recommendation made by Latin American governments that women should delay pregnancies during this period. Another topic of discussion was whether it is moral to continue criminalizing abortion. It was ultimately left clear that poor Brazilian women live in situations of vulnerability.

It should also be noted that Al-Jazeera was informative, educational, and instructive and did not adopt a sensationalist tone. Furthermore, it presented many infographics and posed hard-hitting questions to government and other authorities. We cite a report, drawn from a set of interviews, which summarizes the central concerns at the time the emergency was declared:

...the Brazilian government is also being blamed for helping to create the problem, after failing to continue an eradication programme started in the 1940s which eradicated the mosquito responsible for spreading Zika. "That mosquito had been wiped out of Brazil but the Brazilians let down their guard, the mosquito came back and created a tinderbox for which Zika was just the match," said Amir Attaran, professor at the Faculties of Law and Medicine at the University of Ottawa⁴⁴.

Al Jazeera made an effort to send their small number of correspondents to the affected regions. While they relied heavily on images and sources from international agencies like Reuters, the Associated Press, and Agence France Presse, their own correspondents were sent to the field to speak directly with local experts and families⁷ and report on the tremendous challenges facing these populations in 7 of the 26 videos. In one of these videos, the correspondent presented a study on genetically modified male *Aedes* mosquitoes conducted by the British biotech firm OXITEC, which did some testing in Piracicaba, São Paulo. The text, however, offered a different perspective, focusing only on the decision by the International Olympic Committee to keep the games in Rio de Janeiro in 2016⁴⁵.

3.3.2 The case of the BBC

BBC generally presents reports with didactic, informative and critical elements characterizing its international coverage as a whole. With the support of a broader scope of correspondents in Africa, Asia, Europe and the Americas, the outlet managed to cover

⁴³ <http://www.aljazeera.com/programmes/upfront/2016/02/brazil-losing-battle-zika-virus-160212100550663.html>

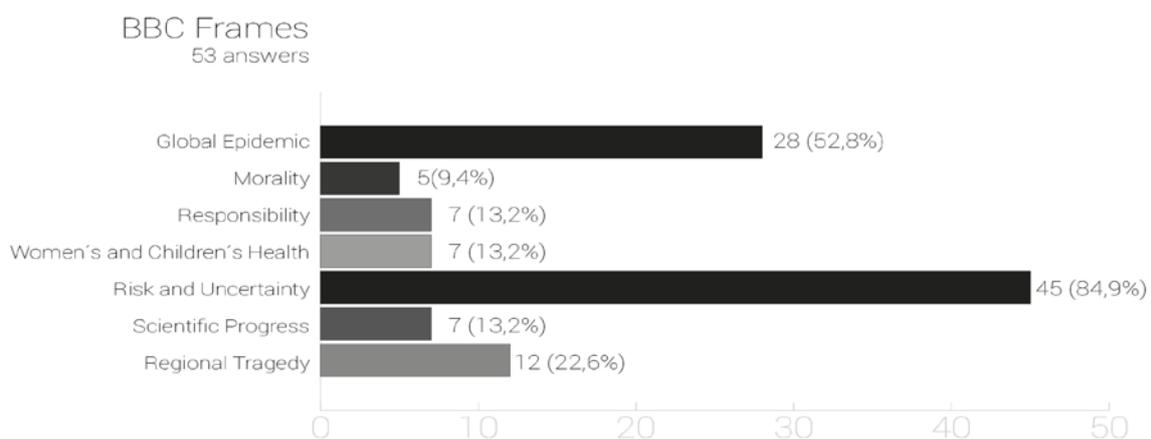
⁴⁴ <https://www.aljazeera.com/news/2016/02/zika-emergency-force-countries-cooperate-160202122352680.html>

⁴⁵ See <https://www.aljazeera.com/news/2016/01/zika-virus-cases-spread-latin-america-caribbean-160116135607887.html>

Zika, focusing not only on Brazil, but also on showing where the virus was first detected in the world.

There is an advantageous aspect over competitors that helps when interviewing families directly impacted by the disease. Born and raised in Brazil, Julia Dias Carneiro is BBC bilingual correspondent more likely to understand the striking social nuances in the country. The fact that she is Brazilian, in a way, ends up by not intimidating those with lesser articulation due to intellectual capacity and to poverty. As Bielsa and Bassnett point out, translating is a process permeated by ambiguities, which may lead to misunderstandings and bearing a complex relationship between language and culture, which might have implications when one “compares the different ways in which the same story is told.” (2009, p.13)

Generally, priority framings were similar to Al-Jazeera’s framings. In BBC, Global Epidemic, Risk and Responsibility were the most frequent framings. However, a few differences may be pinpointed. In Al-Jazeera, the Responsibility frame was responsible for 40% of the coverages whereas in BBC the third frame occurrence was Regional Tragedy. Other differences: in BBC, the Women’s Health frame prevailed in 13% of occurrences whereas in Al-Jazeera the number of occurrences doubled (26%). The Scientific Progress narrative also varied significantly: in BBC, it accounted for 13% whereas in A-Jazeera for 3% of narratives.



Meanwhile, a positive finding arose from both news outlets. Despite the fact mothers were heard as sources in only 4% of reports, when reporters interviewed people, these voices became present, jumping to 28% in Al-Jazeera and to 23% in BBC. As expected,

within the scope of power, mothers do not have the place of speech as recourse to obtain official information, but they do outstand as definite social actors in this crisis.

When examining how governments were used as sources, this movement goes in the opposite direction. In both news outlets, they represented approximately 30% of primary sources, but only 7% remained when the interviews were edited. This is evident when reporters recall, both in BBC and in Al-Jazeera, that some governments released anti-pregnancy campaigns whereas in El Salvador and in other Latin American countries the poor population does not have access to contraceptives

A few reports in BBC used words such as “battles”, “wars”⁴⁶, reproducing the Brazilian government narrative of simplifying the problem as if the end of the epidemic was tied to the elimination of the mosquito and as if that was the only solution, as ascertained by Ribeiro et al. (2018). More than 200 thousand soldiers, sent to the epidemic outskirts of cities, seem to suggest that by keeping the mosquito alive, families - since they accumulate stagnated water - are, in fact, responsible for the crisis.

The sexual transmission of the disease, which did not prevail in Al-Jazeera findings, figures more prominently in BBC since it is evident that the sexual transmission of the spread in the South of the United States and could reach Europe. A month from the Rio Games, one top golfers Rory Mclroy announced his decision to pulling out of Olympics. In this video segment, the reporter says that “the WHO insists the games should go ahead as planned”. Using the verb “insists” the WHO recommendation is placing under suspicion, even though a WHO expert was heard and was given a reasonable time for the interview. However, by closing the video with a professor fiercely criticized this advice, the audience got a terrified message:

“When the visitors come to Rio they can pick up the Zika virus through mosquitos or through sex. And then they go home...And it is entirely possible for the virus to spread that way. That’s how the virus got to Brazil: a single infected traveller came and now you’ve got 2000 brain-damaged children”⁴⁷.

Regarding the Olympic Games, there is also a report⁴⁸ about the “little-know” virus that also outlines foreign athletes’ apprehensions, personalized in Samantha Murray’s speech, a modern English pentathlete:

“Amongst the girls in our team, a lot of us have kind of raise concern, because when you read these headlines and things on the Internet, and you see the images in the news.

⁴⁶ See one of them here: <http://www.bbc.com/news/av/world-latin-america-35566111/zika-outbreak-200000-troops-deployed>

⁴⁷ See: <http://www.bbc.com/news/av/world-latin-america-36778558/mcilroy-defends-olympics-withdrawal-over-zika-virus-fears>

⁴⁸ See: <http://www.bbc.com/news/av/world-latin-america-35499485/zika-outbreak-will-rio-2016-olympics-be-affected>

It is scary and nobody ...The prospect of having this virus, and the implications of it, obviously is not nice to everybody”.

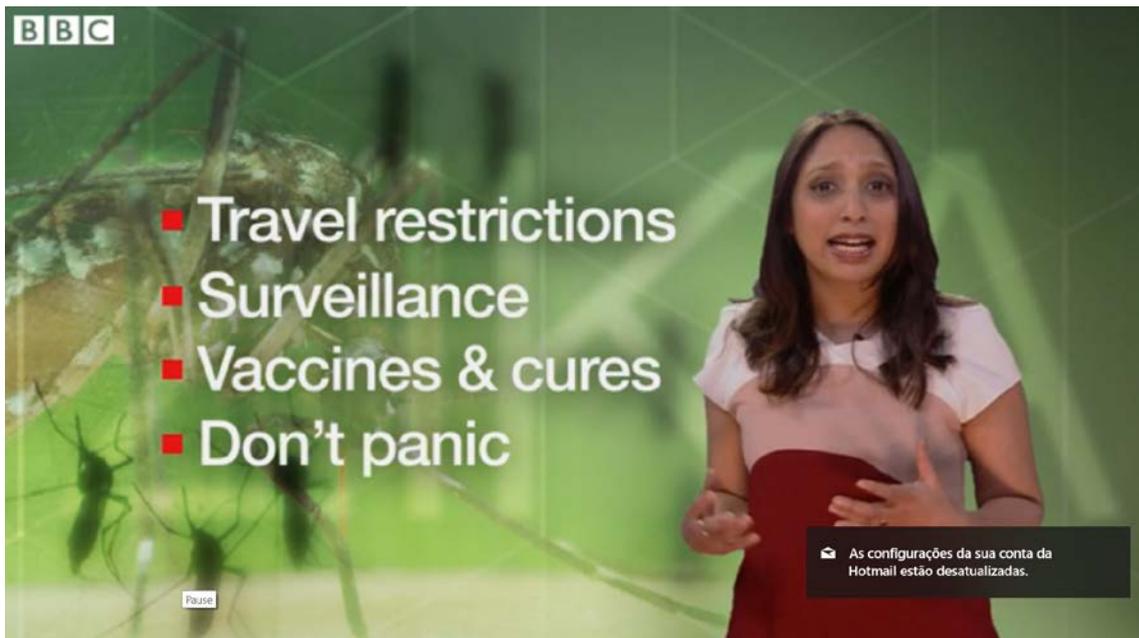
Many feeds explained how contamination happened and offered information in order to avoid panic by producing several infographics, making it clear that, in general, the virus was not dangerous, being worrisome only to pregnant women or to those planning to become pregnant. The tone is a lot less exaggerated when compared to the same type of video CNN distributed, in which the mosquito is portrayed as a “vampire”, the “most wanted”, the deadliest of animals in the planet, under the sound of dramatic soundtrack⁴⁹.

In BBC⁵⁰, these videos reproduce basic data only, without interviews, reporters or influencing soundtrack, in which the priority is to get the message spread without generating panic, as shown below:



⁴⁹ <https://edition.cnn.com/2017/04/20/health/florida-mosquito-wolbachia-trial-zika/index.html>

⁵⁰ <http://www.bbc.com/news/av/health-35456585/is-zika-a-public-health-emergency>



In CNN similar videos, narrated by Sanjay Gupta, chief medical correspondent, the narrative is presented as in a horror movie, as shown by the slides below:



Even one of them seemed to use Russian's president eyes to word "creature":



However, BBC also presented an explicit view of the fear and risk that refers to Ebola⁵¹:



We further stress an example of the inability to approaching the victims. In the Colombian report, it is disturbing the exposure to which the reporter subjects the victim, who would not even dream of the harm afflicting him. The victim is suspected of having Guillan-

⁵¹ <http://www.bbc.com/news/av/world-latin-america-35448816/ioc-says-olympics-will-be-safe-despite-zika-outbreak>

Barré syndrome while his wife is three-month pregnant. In spite of warning about “some disturbing images”, the questions asked by the report almost make the victim burst into tears, paralyzed in a hospital bed in total fear and devoid of information. I am not sure if this level of invasion, whose report title is “creeping paralysis”⁵², would be allowed in Europe.

There is also a feed in which a microcephaly survivor, who became a journalist, is heard and implies she is alive because her mother did not undergo abortion, reducing the discussion to a moral dichotomy that cannot be applied to a disease whose consequences are unknown when associated to Zika⁵³.

We reach the end of this analysis by making it clear that BBC also offered an exclusive and investigative material in which it denounces the lack of medicaments in Venezuela, an effort many news outlets failed to do in the region, exposing the Venezuelan public health system precariousness⁵⁴. Using a hidden camera in a Caracas University hospital, the reporter Wyre Davies debunks Caracas government argument that there are few cases of the disease in the country.

3.3.3 The case of CNN

Given the scale and strategic role that CNN plays globally, it is understandable that media scholars pay so much attention to its selection of images, its use of metaphors and language. In the 1990s, the conglomerate even inspired political scientists to label a new media phenomenon "The CNN effect" (Gilboa, 2005). In short, their 24-hour news channels were showing scenes of horror from around the world, which led to public outcry which then forced changes in US foreign policy, resulting in military humanitarian interventions. This term now seems meaningless in the face of the current historical context and the banalization of the horrors of modern warfare such as in Syria, as Friedman states (2018). However, CNN's coverage is still relevant when epidemics arise.

In the timetable we have already set up for this study, the first time the term Zika appears on CNN's website was on May 11, 2015, which only informed how diseases were named. By using our criteria of discharging items that are not related with Zika and microcephaly, we started coding CNN when the virus appeared in the website in December that same year, one month after Brazil declared a national emergency due to the Zika virus.

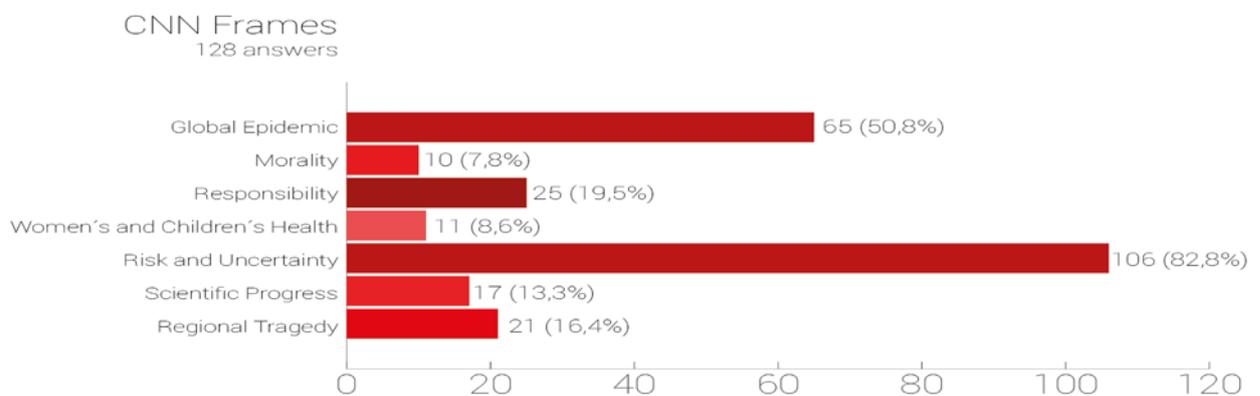
⁵² <http://www.bbc.com/news/av/world-latin-america-35566109/creeping-paralysis-possible-link-to-zika-virus>

⁵³ <http://www.bbc.com/news/av/world-latin-america-35472410/microcephaly-patient-ana-carolina-caceres-i-survived>

⁵⁴ See: <http://www.bbc.com/news/av/world-latin-america-35627275/venezuela-under-reporting-zika-cases>

As we previously emphasized, coding is not an easy process. According to Stanton (2007), framing is imperceptible to the ordinary citizen but less so by the social actors who deal with the news daily, such as journalists and the academics who study the media.

Every text contains a set of discourses and meanings as Macnamara reflects (2006), and our coding was based by verbal or non-verbal strategies. Whether it is through the repetition of a term, or word, either by image that is used to superimpose the text and build a narrative construction, or even by the choice of source to be interviewed. Frames are socially constructed, in the case of western media there is an overall idea that the press should offer neutral and unbiased coverage. Five CNN stories did not fit into any of our seven frames we have already defined. That indicates that there is always other possible narratives and analyses. Therefore, out of 133 videos we coded on CNN, we only got 128 answers.



In this paper, we admit that other elements for specific audiences (such as American viewers), stylistic conventions, and editorial agendas must be taken into account. The “Risk and Uncertainty” frame for instance, had a different pathway. It might need another word: “Fear”. While BBC and Al-Jazeera used a discursive strategy at times when there was a blatant lack of reliable information about Zika and microcephaly, CNN outlined the dangers of infection, using expressions like “fear”, “frightening”, as we saw early in this chapter when a CNN medical star described the female mosquito as a “blood sucker” or “the deadliest animal of the planet”. A health specialized journalist called the mosquitos an “eater of babies brain cells”⁵⁵.

⁵⁵ <https://edition.cnn.com/2017/04/01/health/iyw-unseen-enemy/index.html>



Headline: How you can fight an 'unseen enemy'

Lead/first paragraph only the text: There are enemies lurking in our society that could be just as deadly as a terrorist attack. They are known as viruses and diseases.

Interviewee/global health journalist: ...“what we now know is that this is a very dangerous virus. We grossly underestimated it. It is malaria and that it is transmitted by mosquitoes and can cause enormous outbreaks. It is HIV and that it is sexually transmitted and it's worse than all of the above. As we come to understand what this virus actually lives on, where does the virus go in pregnant women? It goes into this tiny forming *creature*, the fetus and it feeds on it and reinfects back into the mother's bloodstream *over and over again*. And what is it feeding on in that fetus? Baby brains cells. So, every single part of the brain of that developing child is damaged.

Another example of alarmist news during the Zika outbreak⁵⁶ is symbolized by the use of images of space-suited doctors during the Ebola crisis, four years before, with a headline “Seven reasons we’re at more risk than ever of a global pandemic”:

⁵⁶ <https://edition.cnn.com/2017/04/03/health/pandemic-risk-virus-bacteria/index.html>



The other context of this analysis is the issue of proximity. Once the Zika virus was detected in Florida and Texas, the CNN devoted its cameras to investigate heavily on this subject. And concentrated its efforts within the US. CNN used the broadcasting time to conduct live interviews or recorded interview with its correspondents, especially their medical correspondents. Al Jazeera and BBC, with fewer videos, had reporters sent to the field in Latin America, not only in Brazil. The BBC has local correspondents, which facilitated timely and non-repetitive coverage of the event, whereas CNN exhaustively explored the theme. In one story, CNN highlighted the bravery of the ones who raise children with microcephaly, with no links to the Zika virus:





This dialogue below suggests how language makes a difference:

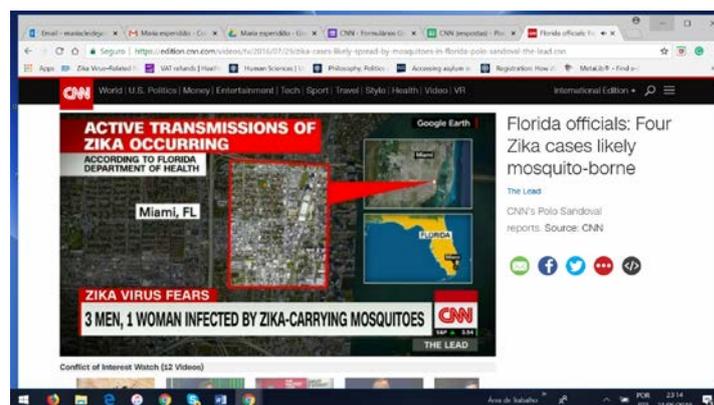
Presenter: So how do you stop those infected mosquitoes for coming into the United States?

Elizabeth Cohen: ...that is not as much the issue. It is that in fact people are coming into the US from Brazil and other places, and then this mosquito bites those people and then bites someone nearby.

Presenter: So, just the last question because *it sounds very scary. How afraid should we be?*

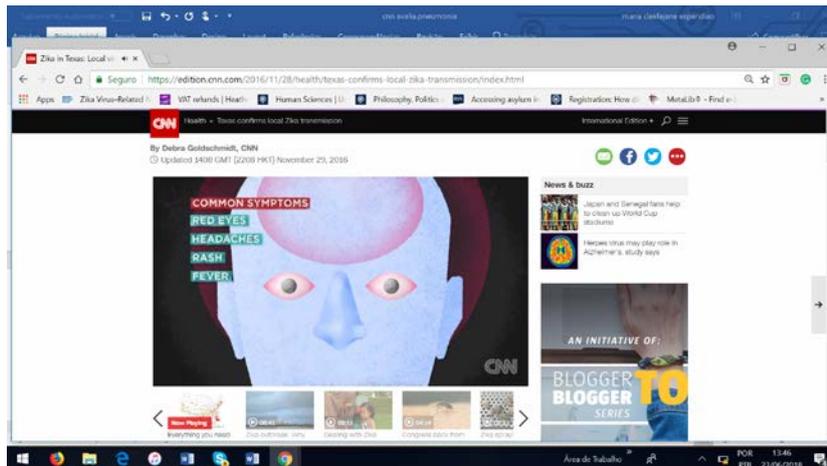
When Zika appeared in 4 patients in south Florida, the so-called American filter⁵⁷, made Zika a “pandemic in process”, as the following prints show:

⁵⁷ <https://edition.cnn.com/videos/tv/2016/07/29/zika-cases-likely-spread-by-mosquitoes-in-florida-polo-sandoval-the-lead.cnn>



Undoubtedly, it is fair to say that from the Hollywood-scare-drama driven initial coverage, CNN turned the tune towards Zika in a more informative style as time went by. These three videos bellow, with different soundtracks, serve to identify these shifts and language-changing, reshaping the most common problem in covering ongoing crisis⁵⁸:

⁵⁸ See the first one here: <https://edition.cnn.com/videos/health/2017/04/04/cdc-zika-still-a-threat.cnn>;

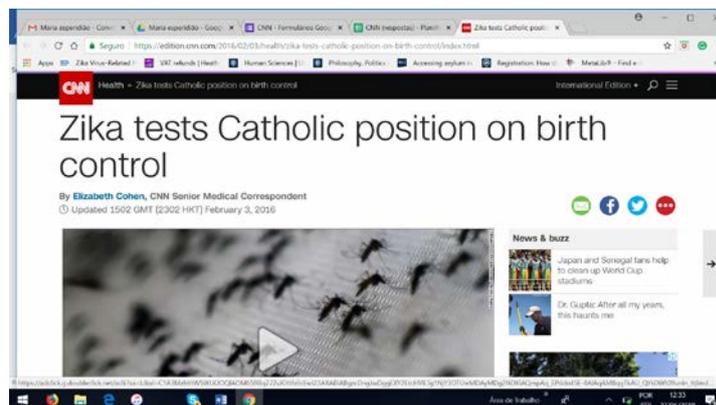


And the changes: <https://edition.cnn.com/2017/04/20/health/florida-mosquito-wolbachia-trial-zika/index.html>
<https://edition.cnn.com/2016/11/28/health/texas-confirms-local-zika-transmission/index.html>

Another positive sign is that Responsibility, Morality, Women’s and Children’s Health frames also prevailed on CNN, although proportionally less than Al-Jazeera put in the air with only 24 videos. However, it reported very good quality debates⁵⁹ about women’s rights and the controversial advices over the recommendations such as “Don’t get pregnant for 2 years” warned of El Salvador Authorities. As Byron and Howard (2016, p.1) observe, “advices are ethical choices with practical implications”. In one studio discussion, the presenter asked an activist in Colombia whether this kind of guidance is helpful because half of pregnancies are unplanned⁶⁰. And the women affected have no access of medicine. Women’s rights advocate Paula Avila-Guillen reminded that is Latin America⁶¹, mostly catholic countries, the risk of dying from an unsafe abortion is higher. And women don’t have resources they need to prevent pregnancy:



Other examples here, in which the Morality frames persisted:



⁵⁹ <https://edition.cnn.com/videos/tv/2016/01/29/exp-zika-virus-spreads-across-latin-america.cnn>

⁶⁰ In fact, is around 37%, according to WHO. Please see: <http://www.who.int/news-room/fact-sheets/detail/preventing-unsafe-abortion>. In Brazil, however, 55,4% of the pregnancies area unplanned. An the country fails to provide contraceptive methods. Please see: <https://www.bbc.com/portuguese/brasil-44549368>. Retrieved on 29 June, 2018.

⁶¹ As almost every government put the blame on women’s shoulders, that was also a debate about how men should take responsibilities as well. <https://edition.cnn.com/videos/tv/2016/02/17/zika-virus-warning-for-men-infect-partner-schaffner-lead.cnn>



It is worth mentioning that another live debate⁶² demonstrates the vital role of local correspondent in the field, to draw comparisons with other countries, to defy stereotypes, to challenge official statements and to engage into a contextualized conversation. Former CNN reporter Shasta Darlington, based in Rio, gave her personal account about what she had seen in the Northeast, that goes beyond no access to contraceptive methods:



In this segment, she was questioned about how the burden will be placed on the infrastructure in Brazil for years to come, because the state will have to look after these babies.

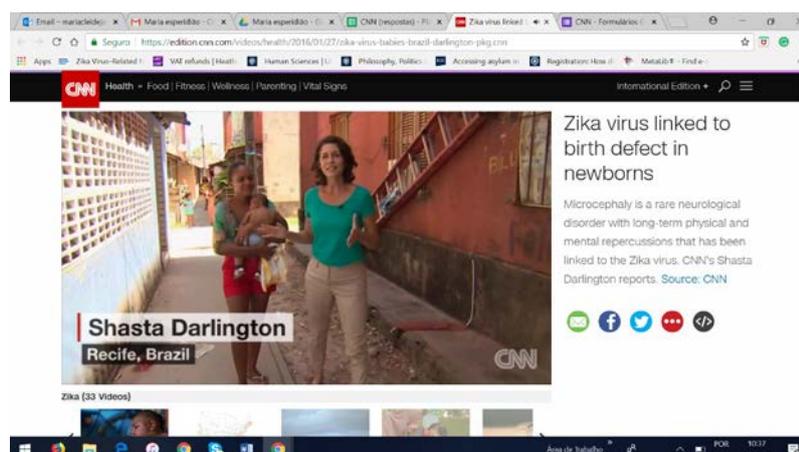
Presenter: What the people say? Do they feel defeated, hopeless?

Shasta: Absolutely, Michael. I think defeated is a very good word. When we were recently in Recife, the city that it is been hardest-hit, so many of the mothers that we met are single parents, out of lessons, people who already have children and come from very humble backgrounds, they don't have the money to go hire neurologist, to go on hire physical therapist, so they depend on the state to provide this care through the state health system. That is happening

⁶² Please see details here: <https://edition.cnn.com/videos/world/2016/02/03/brazil-zika-virus-rousseff-speaks-darlington-lok.cnn>.

very slowly, they are trying to respond, but because on average year, up until now, about 150 babies were born with microcephaly, they really don't have the institutions and specialists in place to help these women. There is another aspect as well. In order for these babies to develop the parts of the brain that weren't affected, they need early stimulation, they need that physical therapy. Every hour counts if you will. The first month is so important. These women have jobs. Sometimes they are the only bread winners they don't have the luxury for being able to care their children. I talked to a mother who said: "I go alone for the meetings, because if the father goes, we will have to pay two bus tickets. That's the little money we are talking, Michael.

Of course, the fact that CNN is a 24/7 news channel with more time to air many stories counts. It is also relevant to note that although unexpectedness and unpredictability dominate the news on CNN, there was room to raise an alert about the need to address Zika in developing countries, not only with biologists and physicians, but, above all, social and political scientists as well, because is a virus that reflects the negligence of governments:



In our research, we have found that celebrity medical reporter Sanjay Gupta signed more than 28% of the stories, accessing the headquarters of CDC in the US, hospitals and coming to Rio de Janeiro and Salvador, ground zero for the virus ⁶³:



⁶³ <https://edition.cnn.com/videos/health/2016/08/02/rio-olympics-health-overview-gupta-pkg.cnn> and <https://edition.cnn.com/videos/health/2016/08/03/zika-detectives-brazil-pkg.cnn>.

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

Overall findings

We analysed the prevalence of 7 news frame seen on 211 videos about the **Zika virus** that were posted online on CNN, BBC and Al-Jazeera, between May 2015 and December 2017. That means more than 400 minutes. We have selected 9 specific months to build a reasonable timeline.

By far, CNN had the largest number of videos, 133, in comparison with 24 from Al-Jazeera and 54 from BBC. This significant difference could be a matter of methodology, because as previously mentioned, our research strategy was focused on these channels' websites⁶⁴, not Google.

In relation to our research question, the main frames adopted by CNN, BBC and Al-Jazeera reporting on Zika and microcephaly (now congenital Zika syndrome) were as follows⁶⁵:

Risk and Uncertainty (more than 80% in the three channels);

Global Epidemic (between 50 and 60% of the stories);

Responsibility was the third frame which prevailed on CNN and Al-Jazeera, while **Regional Tragedy** ranked the third position on BBC;

In spite of the fact that Zika congenital syndrome was a breakthrough for science and families, **Women's and Children's Health** and **Scientific Progress** frames were not the most commonly used.

These results offer a clear pattern when the media report epidemics. It is expected that they choose frames and highlight them in one or more narratives, during a determined news cycle. This is a process that starts in the early stages of news-gathering procedures. News framing enables us to think about an issue in a certain way. When the media categorize, organize, and otherwise label narratives, the media "organize the world" for journalists and their audiences (Gitlin, 1980, p. 7).

Ulrich Beck (2009, p. 4) also provides a theoretical framework for understanding how epidemics provoke danger and insecurity -- feelings which have always been a part of the human condition and which shape our attitudes towards life. Moved by the complex interaction between reason and emotion and inundated by speculations, there is a constant sense of danger. Zygmunt Bauman (2006) called this sense of vulnerability in postmodern society "net fear," the fear that something out of our control could impact our physical integrity. Therefore, a potentially pandemic disease is comprised of all these

⁶⁴ In our method, for instance, we found a few videos available in Google, such as an interview, in the *Newsnight* show, with a researcher accused, by religious groups in Brazil, of using the epidemic to enact pro-abortion laws: <http://www.bbc.com/news/av/world-latin-america-35435947/zika-virus-activists-in-brazil-call-for-changes-to-abortion-laws>. This segment did not appear in our search.

⁶⁵ Please see appendices.

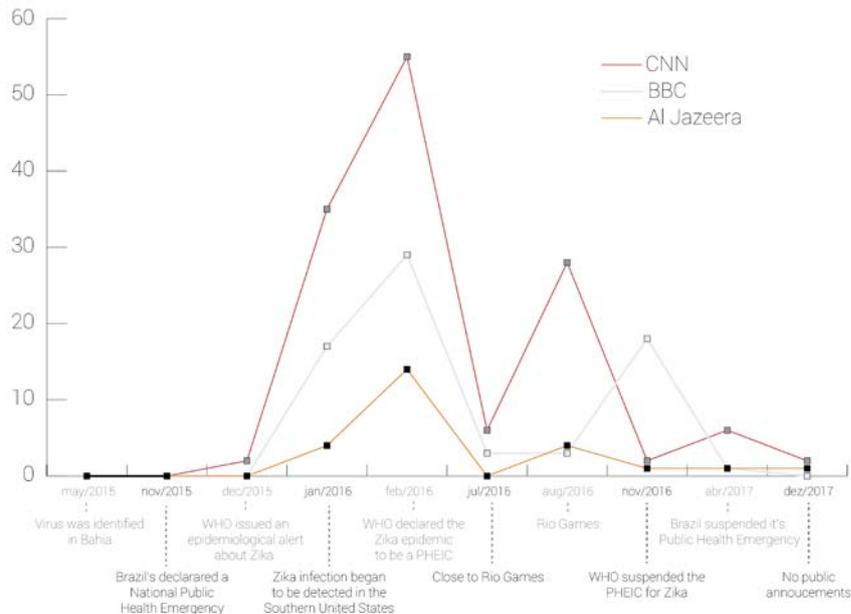
elements, and thus receives attention in the media precisely because it aligns with this classic criterion of newsworthiness as well as encompassing the elements of negativity, relevance, and unpredictability (O'Neill and Harcup, 2009).

It was blatantly evident that coverage by the news media outside Latin America at first focused on risks, fear, and scientific uncertainty. Zika was portrayed as a disease that could seriously impact the lives of families by spreading through the United States and Europe. The tone of the reports was not sensationalist, unlike the typical British tabloid⁶⁶. News stories by the BBC, CNN, and Al-Jazeera tried to go beyond the narrative that a tropical disease might strike athletes from around the world. However, their effort to avoid biased reports and rely on statistics sometimes missed the heart of the matter: Zika is a disease of poverty, which affects the lives of poor women who have limited access to public health care and contraception and are invisible and ignored in public policy making (Hare, 2016).

It should also be understood that the CNN media consumers were also exposed to what Moeller (2009) defines as the “americanization of crisis”, that means they turned their attention to themselves rather than the “others”, adopting sometimes a specific vocabulary, using words like *killer* and *panic* or implying that virus will devour babies' brains. BBC and Al-Jazeera, with fewer videos, differentiated themselves from CNN by offering a more informative approach and shied away from language reinforcing alarmism.

In regards to our sub-question, it is possible to state that the Zika virus loses its editorial relevance as it became clear there was no global risk. As the Rio Olympic Games went on without any major *catastrophe* and as the World Health Organization decided to end the emergency status, it seems that international media has lost interest in the matter. The graphic below endorses our claims that the number of news reports fell dramatically as it became clear that the epidemic was not moving beyond a regional disaster.

⁶⁶ See some examples here. Retrieved January 19, 2018, from <https://www.thesun.co.uk/archives/news/56863/pregnant-women-in-brazil-urged-to-be-cautious-with-kissing-due-to-zika-virus/>; <http://www.dailymail.co.uk/health/article-3509204/Living-effects-Zika-Inspiring-teenager-born-microcephaly-reveals-s-helping-families-affected-condition.html>; <http://www.dailymail.co.uk/news/article-3705511/Rio-no-Wills-Kate-Harry-refuse-attend-Olympics-fears-Zika-Virus-Princess-Anne-there.html>



Did the media get it right?

Yes and no.

It is tempting to crucify global media outlets for their role in abandoning Zika at the end of the outbreak. Despite mistakes such as moving from intense coverage to a gradual fade-out, we believe the three channels presented the consequences of the disease even though it would not spread globally. This is positive because researchers have shown that keeping a disease in the news can affect people's behaviour and reduce the number of infections (Hilten, 2016).

We acknowledge the fact that, for further research, these findings presented here should have been discussed with all participating managers and correspondents from the three networks.

Furthermore, we can ask if perhaps today there are too many more scares than in 2016 (Trump's election, Putin and North-Korea threats, Brexit, an immigration crisis in the US and in Europe)? Or was it simply fear mongering?

Another crucial question that ideally should be discussed with the journalists involved is why were the Brazilian scientists who discovered the link between the virus and microcephaly partially ignored? Some stories we watched failed to recognize these scientists' achievements, suggesting that CNN's coverage was an effective takeover of "legitimate" western science.

Recommendations

A part from the guidelines already published⁶⁷ for the media's practitioners, we believe there are other aspects to be cautions:

- **Don't leave the subject:** At the outset of the epidemic, sizeable grants were established to fund research. Since this work is long term in nature, these funds are only producing scientific results now. Most reports at the end of the news cycle showed the status of the impacted women and children while failing to offer any in-depth discussion of public health issues or the problems of underreporting or dwindling funds;
- **Listen local voices:** Like Araujo and Aguiar (2016) note, anyone who speaks about all the actors presented in a crisis, should be listened on only experts and authorities, but, the powerless voices: mothers, father and families of the babies who were miserly inflicted by the lack of public policy;
- **Listen regional bedside physicians and researchers:** Do not ignore the work that local scientists are making in a *long term never-ending* disease. Do not succumb to the temptation to see science as a privilege dominated by the US and Europe.
- **Prepare yourself and your team:** Any generalisation is harmful. Speculations could be linked to ethical implications. Much have said to the lack of training for journalists who cover science and health. Please hire someone or giving the assignment for those who are familiar with local context and local languages. We understand Journalism now faces such budget constraints that it is no longer viable to sustain a presence across borders and in the field. However, when you are familiar with regional context you avoid driving away from the real causes and consequences.

We hoped that these findings will attract interdisciplinary approaches to examine how diseases of poverty is treated by the mainstream media after an outbreak. As we typing our final words, important studies came out⁶⁸, showing that Zika's fake news were more shared than accountable news; there was a decline in births in Brazil during the national epidemic declaration; and the effects on Zika in adults' brains might appear on years to come. There is also a cross-country research collaborative project in Brazil, and that might be the first aid to help thousands of babies⁶⁹.

That indicates that we still need to pay attention for new investigations and we should never abandon the victims of Zika. Rather, we should open our minds to tackle the so-called "*compassion fatigue*" and the other side of the coin: the rise of social inequality.

⁶⁷Retrieved on January 20, 2018 from: <https://journalistsresource.org/studies/society/public-health/covering-zika-virus-outbreak-journalism>

⁶⁸ Retrieved on June 9, 2018, from: <http://www.niemanlab.org/2018/06/zika-rumors-got-three-times-more-shares-than-real-zika-stories-what-can-health-educators-do/>; <https://noticias.uol.com.br/saude/ultimas-noticias/redacao/2018/05/30/zika-contribuiu-para-queda-no-numero-de-nascimentos-no-brasil-diz-estudo.htm> and <http://www.pnas.org/content/early/2018/05/22/1718476115>; and <https://cadeacura.blogfolha.uol.com.br/2018/06/07/zika-adulto/>.

⁶⁹ <https://www.theguardian.com/world/2018/jul/20/zika-epidemic-sheds-light-on-brazils-invisible-children>. Retrieved on July 24, 2018.

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APPENDICES

Timeline for the study:

May 2015: The virus was identified by researchers Gúbio Soares and Silvia Sardi, of the Virology Laboratory at the Federal University of Bahia's Institute of Health Sciences.

November 2015: Brazil declared a National Public Health Emergency in response to an unusual upswing in the number of infants born with neurological anomalies and increased cases of microcephaly, whose mothers presented a history of Zika infection during pregnancy.

December 2015: Given an increase in cases of Zika outside Brazil and the associated possibility of newborns presenting microcephaly, the WHO issued an epidemiological alert about Zika.

January 2016: Zika infections began to be detected in the southern United States, bringing greater public attention to the topic and consequently prompting the US press to provide more attentive coverage.

February 2016: The WHO declared the Zika epidemic to be a Public Health Emergency of International Concern (PHEIC).

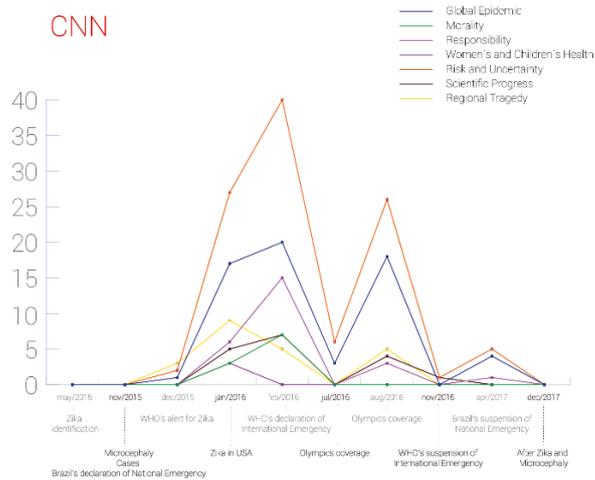
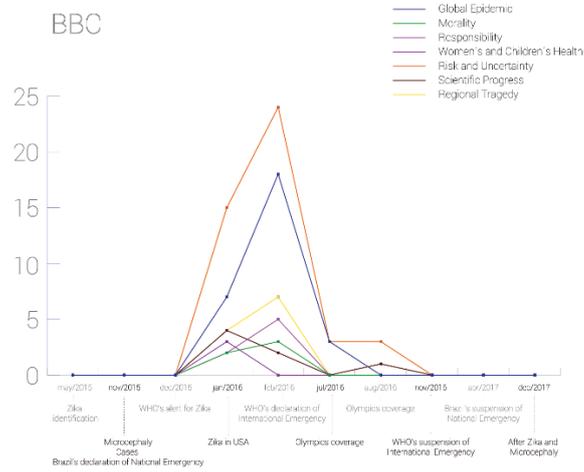
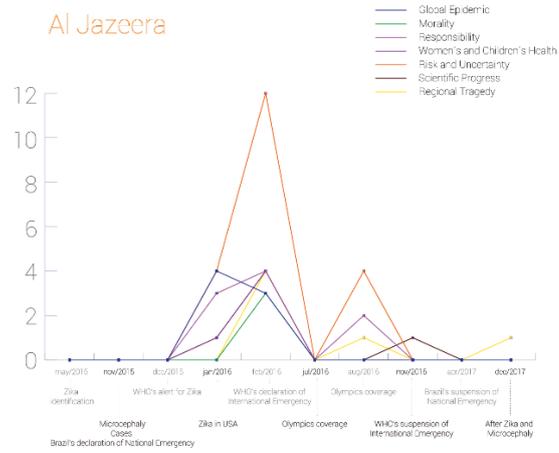
July and August 2016: International media outlets placed Brazil on their news lineups because of Zika, the country's political crisis, and the fact that Rio de Janeiro was hosting the Olympics.

November 2016: The WHO suspended the PHEIC for Zika, declaring that the medical and scientific community had become aware of the risks. From then on, public health measures and policies related to Zika, microcephaly, and associated neurological disorders became medium- and long-term concerns.

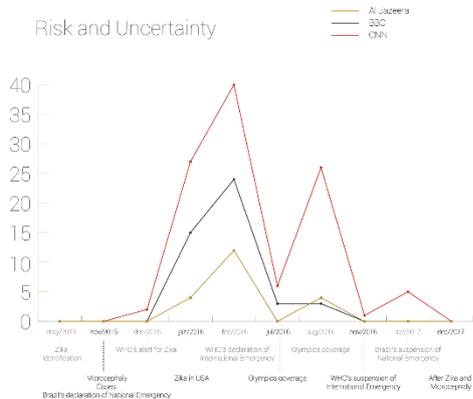
April 2017: Brazil suspended its public health emergency and declared Zika an endemic virus.

December 2017: This month was chosen for verifying whether coverage still continued on the virus, related research, or victims of either the virus or microcephaly.

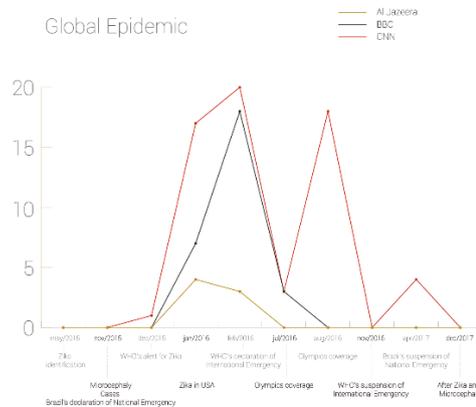
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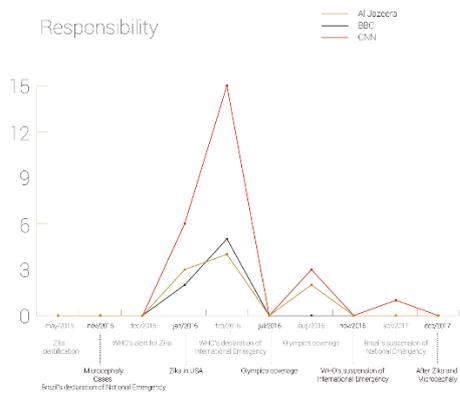
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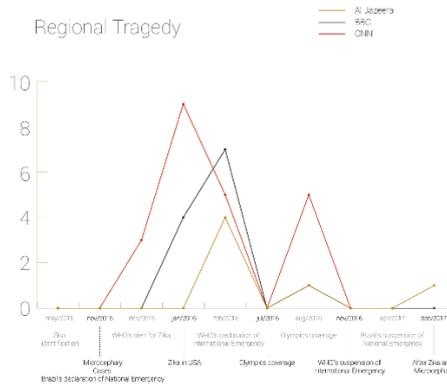
Global Epidemic



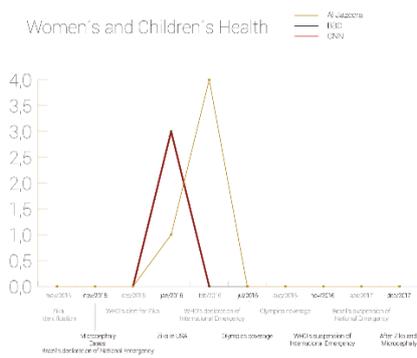
Responsibility



Regional Tragedy



Women's and Children's Health



Morality



