

## Introducing Ebola (EVD): An Unnecessary Surprise

**Abstract** Chapter 4 tackles the Ebola (Ebola Virus Disease, EVD) pandemic of 2014/2015. It notes that coming in the wake of the ongoing HIV pandemic, the rights of those infected with Ebola to be identified and treated were largely uncontested. The questions of who would be treated, by whom, with what, remained however extremely contentious. The international response to the pandemic also saw, for the first time, not only non-state actors involved in mediating and mitigating a health crisis, but also military intervention. This chapter lays out both the uses and the dilemmas of military response. It explores the impact of these interventions in this Ebola pandemic, with a view towards possible future military deployments against health threats, and offers an initial analysis of the consequences thereof on the relationship between individual and state rights and responsibilities.

**Keywords** Ebola (EVD) · Non-state actors · State responsibility · Military intervention

### EBOLA VIRUS DISEASE

Once Ebola (EVD) exploded in West Africa in 2014 and 2015, the fear factor increased exponentially. Fear accompanied the continued spread of the virus, even though tried and tested methods of keeping the agent under control have been known since 1976.

The 2014–2015 outbreak of Ebola Virus Disease (EVD) in West Africa (again) caught the world off guard. It should not have. On the one hand, HIV and AIDS should have served as a warning of emerging infectious diseases (EIDs), and on the other, Ebola had actually been recorded in West Africa before. Yet the outbreak still surprised and very quickly overwhelmed all levels of response: local, national and international. By the time it abated (small clusters of cases continue to be identified), 28,639 people had been registered as infected, and 11,316 had died.<sup>1</sup>

The 2014–2015 Ebola pandemic in West Africa morphed into a global crisis beyond health. Although locally concentrated, it demanded global intervention. The continued spread of the disease is subject to changing prognoses, contradictory reports, and deep angst. Fears pertain to medical as well as political and economic implications. Ebola, and further emerging infectious diseases (EIDs), are associated with a host of negative consequences in terms of life expectancy and development in affected societies, states and economies, and also pose a threat to peace and security directly and beyond the region of West Africa.<sup>2</sup>

The three West African countries most affected by the 2014–2015 EVD outbreak were Guinea, Liberia and Sierra Leone. All three share porous

<sup>1</sup> See WHO Ebola Situation Reports, available at: <http://apps.who.int/ebola/ebola-situation-reports>.

<sup>2</sup> Author's translation of "Die Ebola-Pandemie Westafrikas wurde insbesondere in den Jahren 2014 und 2015 zu einer Krise globalen Ausmaßes und Anlass zu weltweiter Sorge. Räumlich konzentriert, verlangte sie lokale Maßnahmen mit weltweiter Reichweite. Ihr Verlauf war und ist Thema wechselnder Prognosen, widersprüchlicher Nachrichten, und auch großer Ängste. Besorgnisse richten sich sowohl auf medizinische als auch politische und wirtschaftliche Implikationen. Ebola, sowie weitere sogenannte "emerging infectious diseases" (EID) sind verbunden mit gravierenden Folgen für die Lebenserwartung und Entwicklung der betroffenen Gesellschaften, Staaten und die Ökonomien sowie eine Bedrohung für Frieden und Sicherheit innerhalb und jenseits der unmittelbar betroffenen Regionen Westafrika." In Šehović, Annamarie Bindenagel und Stephan Klingebiel (2016). "Eine funktionsfähigere globale Gesundheitspolitik: Empfehlungen vor dem Hintergrund der Ebola-Krise," in Herdegen, Matthias, Karl Kaiser and James Bindenagel (eds). (2016). *Internationale Sicherheit im 21. Jahrhundert. Deutschlands Internationale Verantwortung*. V&R unipress, Bonn University Press, pp. 203–212.

borders; each ranks among the lowest on the Human Development Index (HDI); in addition, all three are still recovering from nearly decade-long civil war(s) that raged throughout the 1990s.

However, it is worth noting that from 1976 to 2013, numerous outbreaks of EVD were recorded throughout the African continent, notably on the borders between bat and human habitats. It should have been no surprise then that the zoonosis EVD jumped the bat–human barrier (again) in 2014, leading to infection. The local outbreak became an epidemic and then a regional pandemic as a result not so much of the potency of the infectious agent as the bungled response to it.

### WHAT IS IT? HOW IS IT TRANSMITTED?

EVD is hosted by Pteropodidae bats,<sup>3</sup> who themselves do not fall ill. It belongs to the family of filoviruses. As with HIV transmission, or any zoonosis, the virus jumps the animal–human barrier. In this case it does so when infected saliva, including on fruit, blood, urine or feces mingle with human secretions. As with HIV, this is most likely to happen where animal and human settlements collide: at the borders of cities, in camps lacking hygiene and sanitation facilities, where the human population encroaches upon the forest.

EVD had been seen in West Africa previously. As early as the 1980s, Ebola antibodies were detected in the blood of West African patients. These findings were published in a 1982 issue of the journal, *Annals of Virology*, and further confirmed in 1986. According to these results, Liberia should have been included in the so-called “Ebola Zone.”<sup>4</sup> This did not happen. In addition, researchers in the region were themselves unaware of the findings, which were not shared, and subscription to the journal was not affordable.<sup>5</sup> As the virus neared the border regions in 2013 and 2014, the governments of Guinea, Liberia and Sierra Leone initially ignored the

<sup>3</sup> See WHO Ebola virus disease Fact Sheet No. 103, available at: <http://www.who.int/mediacentre/factsheets/fs103/en/>.

<sup>4</sup> See Thomas, Kate. “Ebola Deeply: The West African Ebola Outbreak, a Retrospective,” available at: <http://www.eboladeeply.org/article>; and Dahn, Bernice, Vera Mussah and Cameron Nutt. (2015). “Yes, We Were Warned about Ebola,” *New York Times* (April 7), available at: <http://www.nytimes.com/2015/04/08/opinion/yes-we-were-warned-about-ebola.html>.

<sup>5</sup> Dahn et al. (2015). “Yes, We Were Warned about Ebola.”

danger, fearing international travel sanctions which could cripple their tourist-dependent economies still struggling to gain ground after the years of civil war.<sup>6</sup> It was a fatal combination of disjointed priorities.

West Africa has various regional characteristics that exacerbated the challenge. The ratio of doctors to patients is about 2 per 100 000. Civil war and state-wide turmoil, mainly in the 1990s, still leave footprints in the damage to hospital facilities and to roads, and in a whole cohort of young adults who missed out on schooling and limit their trust in political leaders. But most of all, the populations of West Africa are rampantly mobile. To have relatives that need regular visiting in nearby countries is commonplace, and people zip around, unimpeded by porous national borders. “Ebola stood still for us in the past, and we could set up an operational machine in one area,” explains Armand Sprecher, a public health specialist with MSF who has worked in all three countries during this outbreak. “If you have a contact tracing system, what do you do when your contact picks up and moves 60 km away one morning without telling you? If Ebola moves from location A to location B, suddenly you need to duplicate everything.” This explains a large part of why the control systems were overrun so quickly.<sup>7</sup>

Once the virus gained a foothold, which occurred in Guinea, it spread like wildfire. It was propelled not only by particular customs, but by porous borders, social mistrust of politicians, and political mistrust among the regional leaders in this fragile post-conflict zone.

This intersection of war and recovery, of human and animal, of city and forest, of zoonotic transmission, is precisely where and what happened when the so-called “index case”, patient zero, a small boy in Guinea, came into contact with a fruit bat, likely eating it or at least injuring it and coming into contact with its bodily fluid(s). The little boy died within a few days in Guinea in December 2013.

The Ebola Virus is a simple virus. Mimicking sugar, it is absorbed by the human body entering the bloodstream, where it replicates rapidly. Once

<sup>6</sup> Despite the fact that the World Health Organization’s International Health Regulations (IHRs) of 2005 (which went into effect in 2007) aim to bolster just such disease reporting, while delegitimizing measures such as trade and travel restrictions.

<sup>7</sup> Petherick, Anna. (2015). “Ebola in West Africa: Learning the Lessons,” *The Lancet* (11 February), Volume 385, No. 9968, 591–592.

the immune system recognizes the virus not as a sugar molecule but as an infection, it mounts an immune reaction which quickly becomes an over-reaction.<sup>8</sup> As the body fights the virus, infection proceeds in two phases. Phase one provokes symptoms of fever and muscle aches/cramps. Phase two elicits the loss of bodily fluids, up to 5 liters a day. While previous Ebola outbreaks also featured haemorrhaging,<sup>9</sup> the 2014–2015 pandemic in West Africa was characterized more by vomiting, diarrhea and hiccups. The causative mechanism of the last symptom is unknown. An infected person either dies within ca. 3 days of exhibiting symptoms, or lives, taking roughly 13 days (after developing symptoms) to initially recover. The only known antidote, which sometimes helps and sometimes does not, is the provision of fluids. While different Ebola strains, during separate outbreaks, have had varying mortality rates, the average appears to be 50 percent. At death, the corpse harbors the highest viral load of the course of infection. Touching, or ritually cleansing the body is thus when most transmissions take place.

By contrast, HIV and AIDS remains nearly 100 percent deadly. However, whereas HIV needs to be transmitted intravenously, via sexual contact, or from mother to child, Ebola can be transmitted through the skin by contact with contaminated bodily fluids. Yet whereas HIV infects on average an additional 2.29 people, Ebola infects “only” 1.5 to 2. This is largely because unlike HIV, which can take up to 10 years (on average) to reach the stage of AIDS, without the provision of ARVs, Ebola reaches its final stage within 21 days.<sup>10</sup> One “advantage” of Ebola infection is that those who have become ill, and infectious, are visibly sick. Those with HIV are not always so identifiable.

When the little boy died, the Ebola virus went on to infect his mother and sister and grandmother, all of whom subsequently died. Their funerals, aided and abetted by cleaning rituals, served as catalysts for the first transmission chains of the Ebola outbreak of 2014–2015. All this occurred before the cause of the infection, EVD, was identified, or confirmed. Lacking this first responsive step, no further could reliably follow.

<sup>8</sup> See “Liberia’s Ellen Johnson Sirleaf Urges World Help on Ebola,” (19 October, 2014), *BBC News*, available at: <http://www.bbc.com/news/world-africa-29680934>.

<sup>9</sup> See WHO Ebola Virus Disease Fact Sheet No. 103.

<sup>10</sup> See WHO Ebola Virus Disease Fact Sheet No. 103.

The fact that so many of the symptoms of Ebola are also those indicative of malaria, which is endemic in the region, delayed initial identification.<sup>11</sup> Yet the cluster of dead indicated an infection other than malaria, whose infection pattern is erratic: following mosquitoes' flight rather than human interaction. High death rates and the close clustering pointed away from malaria, but not to the actual culprit. The delay in identification, medically but especially politically, enabled the virus to spread.

Transmission was all but guaranteed, due to funeral rituals initially, and then through the porous borders between Guinea, Liberia and Sierra Leone: as people travelled to and from funerals, as well as to trade and to work, the virus accompanied them. By the time the NGO Médecins Sans Frontières (MSF) sounded the first alarm in March 2014, and through to the WHO's declaration of a Public Health Emergency of International Concern (PHEIC) under the 2005 International Health Regulations (which came into effect in 2007), uncontrolled outbreaks were raging in each of the three countries: Ebola Virus Disease had reached pandemic proportions.

Despite the low statistical likelihood of transmission, the sheer size of the pandemic, once it was identified and acknowledged, overwhelmed local, national and international response. Yet as the virus continued to spread globally, due to air travel especially, the response bordered on overreaction.<sup>12</sup>

### TIMELINE OF THE EBOLA RESPONSE 2014–2015

March 22, 2014: Guinea declares an Ebola epidemic after eight cases are confirmed by the NGO Médecins Sans Frontières (MSF).

March 31, 2014: MSF declares that the outbreak is “unprecedented” in terms of its geographic spread.<sup>13</sup>

<sup>11</sup> See USCDC, “Anopheles Mosquitoes,” available at: <http://www.cdc.gov/malaria/about/biology/mosquitoes/>.

<sup>12</sup> The infection was spread to Germany, France, Italy, Norway, Switzerland, Spain, the UK and the USA before it was brought under control.

<sup>13</sup> See MSF, “‘An Unprecedented Year’—Médecins Sans Frontières. Response to the Largest Ever Ebola Outbreak,” March 2014 to March 2015,” (1 June, 2015), available at: <http://reliefweb.int/report/sierra-leone/unprecedented-year-m-dec-ins-sans-fronti-res-response-largest-ever-ebola-outbreak>.

August 8, 2014: Five months after the first cases were identified, the WHO declares a Public Health Emergency of International Concern (PHEIC) for Ebola in West Africa.<sup>14</sup>

September 2, 2014: MSF “calls for military medics to help tackle West Africa Ebola”:

“World leaders must immediately deploy civilian and military medical teams to fight the world’s biggest outbreak of Ebola in West Africa,” the head of an international medical charity said in New York on Tuesday. “The international response has so far relied on overstretched health ministries and nongovernmental organizations to tackle the exceptionally large outbreak of the disease,” Médecins sans Frontières President Joanne Liu told UN member states at their New York headquarters.<sup>15</sup>

September 12, 2014: President of Liberia, Ellen Johnson Sirleaf, in an unprecedented move, requested help from the United States, including explicitly the US military, to the Ebola epidemic. She

Warned that without American assistance the disease could send Liberia into the civil chaos that enveloped the country for two decades. . . . “I am being honest with you when I say that at this rate, we will never break the transmission chain and the virus will overwhelm us.” She requested 1,500 additional beds in new hospitals across the country and urged that the United States military set up and run a 100-bed Ebola hospital in the besieged capital, Monrovia.<sup>16</sup>

<sup>14</sup> See WHO, “Statement on the 1st Meeting for the IHR Emergency Committee on the 2014 Ebola Outbreak in West Africa” (8 August, 2014), available at: <http://www.who.int/mediacentre/news/statements/2014/ebola-20140808/en/>.

<sup>15</sup> See Reuters, “MSF Calls For Military Medics to Help Tackle West Africa Ebola,” (September 2, 2014), available at: <http://www.msf.org/article/reuters-msf-calls-military-medics-help-tackle-west-africa-ebola>.

<sup>16</sup> See Cooper, Helene. (2014). “Liberia President Pleads With Obama for Assistance in Combating Ebola,” *New York Times* (September 12), available at: <http://www.nytimes.com/2014/09/13/world/africa/liberian-president-pleads-with-obama-for-assistance-in-combating-ebola.html>.

Until President Johnson Sirleaf's request, the head of a sovereign state asking the head of another sovereign state to intervene militarily in order to combat a disease was unheard of. In doing so, the President did two things: first, she acknowledged the security threat to her population—explicitly citing the physical, economic and political (civil war) threats—and her state (its integrity, especially in the event of a recurrence of ensuing political violence); and second, she voluntarily invited a foreign state violate her state's Westphalian (border/ territorial) sovereignty by sending not humanitarian aid workers, but the military.<sup>17</sup> Working under the direction of the national government, Liberia's domestic sovereignty and its responsibility for security and health (security) remained untouched.

September 18, 2014: Building on the precedent set in the global response to the HIV and AIDS pandemic, the United Nation's Security Council (UNSC) passed Resolution 2177 (2014), in which it called upon immediate measures to respond to the spreading outbreak.<sup>18</sup>

Resolution 2177 (2014) placed the onus for Ebola response on the national state. Yet President Johnson Sirleaf's request highlighted the incapacity and inadequacy of many such responses.

September 19, 2014: The UN called into being the UN Mission for Ebola Emergency Response (UNMEER). UNMEER, like UNAIDS before it, represented a first: the first UN emergency health mission. Preceding its establishment, beginning on August 1, the UN's Ebola emergency response operated under the oversight of the WHO, under the "direct authority of the WHO Director-General,"<sup>19</sup> Margaret Chan.

Coming into its own, UNMEER was set up as "a temporary measure to meet immediate needs related to the unprecedented fight against Ebola," and was responsible for deploying "financial, logistical and human

<sup>17</sup>This has caused all kinds of theoretical and practical controversy; the consequences of Johnson Sirleaf's request are still being grappled with.

<sup>18</sup>See UNSC, "With Spread of Ebola Outpacing Response, Security Council Adopts Resolution 2177 (2014) Urging Immediate Action, End to Isolation of Affected States" (September 18, 2014), available at: <http://www.un.org/press/en/2014/sc11566.doc.htm>.

<sup>19</sup>See UN Mission for Ebola Emergency Response (UNMEER), available at: <http://ebolareponse.un.org/un-mission-ebola-emergency-response-unmeer>.

resources to Guinea, Liberia and Sierra Leone to support the push to zero cases.”<sup>20</sup> Its main duty was to coordinate and scale up the response “in support of the nationally led efforts.”<sup>21</sup>

September 22, 2014: In yet another unprecedented move, Defense Minister Ursula von der Leyen called for volunteers in the German military to deploy to West Africa.<sup>22</sup>

October 1, 2014: Chancellor Merkel of Germany appointed a Special Representative for Ebola, Ambassador Walter Lindner.

October 17, 2014: President Obama appointed Ronald “Ron” Klain as Ebola “czar.” His assignment pointed directly to the concern over security driving the US Ebola response:

He will report directly to the President’s Homeland Security Advisor, Lisa Monaco, and the President’s National Security Advisor, Susan Rice, as he ensures that efforts to protect the American people by detecting, isolating and treating Ebola patients in this country are properly integrated but do not distract from the aggressive commitment to stopping Ebola at the source in West Africa.<sup>23</sup>

October 19, 2014: Liberia’s President Ellen Johnson Sirleaf read a letter to the world on the UK’s BBC urgently requesting help for the country to fight Ebola and its toll of economic devastation.

October 20, 2014: German Federal Foreign Minister suggested sending “white helmets” under the auspices of the European Union (EU) to combat Ebola in West Africa.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> See “Von der Leyen sucht Freiwillige aus Bundeswehr,” *Handelsblatt* (September 22, 2014), available at <http://www.handelsblatt.com/politik/deutschland/kampf-gegen-ebola-von-der-leyen-sucht-freiwillige-aus-bundeswehr/10735184.html>.

<sup>23</sup> Miller, Zeke J. (2014). “Obama Appoints Ron Klain As Ebola Czar,” *Time* (17 October), available at: <http://time.com/3516888/obama-ron-klain-ebola-czar/>.

December 2014: Treatment centers commence being built in Guinea, Liberia and, to a lesser extent, Sierra Leone. However, they are completed only after the epidemic has crested.

July 31, 2015: Mission accomplished: UNMEER ceased its activities, having achieved its goals.<sup>24</sup>

With the dissolution of UNMEER, international attention to the Ebola pandemic largely dissipated. The pandemic, and especially its aftermath, no longer have policy prioritization. This is despite the mounting clinical evidence that the infection can linger, causing long-term health complications, and can also be transmitted (notably through seminal fluid) months after someone has recovered from the infection. Furthermore, the long-term consequences and costs to social cohesion, to economic investment, development and productivity, (including impact on food security, for instance) and to political stability (where one state or subregion (re)gains investment and/or tourism while another does not) remain under-acknowledged, underresearched, and underappreciated. With each, the likelihood of a future outbreak—or related crisis—rises.

January 14, 2016: In a move that would prove premature, the WHO declares the official end of the 2014–2015 Ebola outbreak in West Africa.<sup>25</sup> Additional cases and clusters continue to emerge, underscoring the difficulty in eliminating the virus.

March 18, 2016: New cases of Ebola are confirmed in Guinea.

March 29, 2016: As per the International Health Regulations, “the 9th meeting of the Emergency Committee” concluded that “the Ebola situation in West Africa no longer constitutes a Public Health Emergency of International Concern and the temporary recommendations adopted in response should now be terminated.”<sup>26</sup>

<sup>24</sup> *Ibid.*

<sup>25</sup> See WHO, “Latest Ebola Outbreak Over in Liberia; West Africa is at Zero, But New Flare-ups are Likely to Occur,” (January 14, 2016), available at: <http://www.who.int/mediacentre/news/releases/2016/ebola-zero-liberia/en/>.

<sup>26</sup> See WHO, Emergencies Preparedness, Response, “Latest Updates on the Ebola Outbreak,” available at: <http://who.int/csr/disease/ebola/top-stories-2016/en/>.

March 31, 2016: Following the successful testing of the experimental vesicular stomatitis virus-ebola (VSV-EBOV) vaccine in a trial conducted by Guinea's Ministry of Health, WHO and partner agencies in 2015, the vaccine was administered to ca. 800 people in Guinea.<sup>27</sup> This represents a success: success of what was introduced in the previous chapter on HIV and AIDS, namely, of the uncontested right of patients to health treatments. Beyond that, the myriad experimental vaccine and treatment initiatives that proliferated during the Ebola response illustrated the potential and possibility of conducting high-caliber research and implementation of interventions amidst a crisis. The successful vaccine administration further indicates an ethical standard and an anthropological acceptance that was not foreseeable at the outset of the epidemic (when Ebola teams were being attacked).

June 2016: In a second attempt, the WHO declares the end of Ebola virus transmission in the Republic of Guinea and in Liberia.<sup>28</sup>

Even prior to the June declaration of the end of the Ebola pandemic in West Africa, the world's attention turned elsewhere – away from sustaining the specialized Ebola treatment units that were set up to respond to the acute crisis as multipurpose medical centers (as requested by Sirleaf Johnson, among others). Also in peril are long-term commitments to health systems strengthening (HSS) initiatives which would invest in and build, literally, the facilities, and from the purchase, maintenance and use of the equipment.

The international community has also failed to consider the costs of (not) training and retaining professionals. Instead, the private (NGO) sector, and international programs (such as through the UK's National Health Service, NHS) court have long trained technicians, nurses and doctors, and lured them from local health systems with lucrative contracts abroad. In the case of the NHS this is especially egregious, since the postcolonial structure of many African health systems means that medical staff trained there adhere to UK standards: so staff hired away do not need additional training or certification to be able to practice in the UK. Similarly, if intended to be more short-term, the German Government has an agreement with the Egyptian Government: the latter sends doctors

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

to work in German hospitals, their salaries paid by the Egyptian Government. In both cases, the local (West African or Egyptian) health systems are left bereft of medical professionals. The host (national) health systems benefit, but little or no transfer of knowledge takes place. This leads to perverse situations wherein, for instance, there are more Malawian doctors practicing medicine in London than in Malawi; it is more likely that someone with malaria will be properly diagnosed in London or Frankfurt than in East Africa because of the concentration of expertise in identifying malaria symptoms. Given the high mortality rate for EVD in West Africa, this is likely to be the case with Ebola infection as well: that medical specialists in Atlanta and Madrid are attuned to Ebola, while no doctors are even available in, notably, Sierra Leone.<sup>29</sup> The world's wandering attention also means waning focus and funding for establishing and monitoring the supply chains of necessary surveillance, and medications necessary to keep Ebola, and other diseases, at bay.

The myriad systems' failures arising from the world's averted attention to the post-Ebola reality of West Africa also fails to address the concomitant shortages and medical challenges which undermine effective local and national response to an epidemic /pandemic threat. In addition, from this vantage point—that of the “end” of the Ebola pandemic in West Africa—it appears that the only epidemics /pandemics to which an international or global response will be mounted are those with resonance in the developed world—including in Germany.

### EBOLA IN GERMANY

Germany treated three patients infected with Ebola during the 2014–2015 pandemic. These were transferred to and isolated in specialized treatment units in Frankfurt am Main, Hamburg and Leipzig.<sup>30</sup> Despite the fact that EVD is relatively difficult to transmit, and only infectious in the last acute phase of the disease trajectory, and then only via direct contact with infected bodily fluids, extraordinary precautions were taken to ensure the virus's containment. Thus the transportation alone of the EVD patients—via

<sup>29</sup> Sierra Leone lost its one specialist for infectious disease to the Ebola outbreak.

<sup>30</sup> See “Leipziger Patient gestorben,” *Süddeutsche Zeitung* (October 14, 2014), available at: <http://www.sueddeutsche.de/gesundheit/ebola-leipziger-patient-gestorben-1.2172720>.

specialized medical evacuation—made headlines. Such medically unnecessary measures, while effectively guaranteeing that the virus could not—and did not—spread, spiked the level of fear felt by the population. This combination of overcaution and fear did a disservice to the tasks of identifying the infectious agent, informing the public about real threats and genuine dangers, and of coordinating an effective, proportionate response.

Though not much publicly proclaimed—having kept the very presence of EVD on German territory more or less hushed (despite the photos of the special transports splashed across newspaper pages)—German clinical teams were able to cure two of the three patients. The level of medical intervention available to respond to EVD in Germany, as in Western Europe and the United States and Canada is incomparably better than that in West Africa. Still, it can be counted as progress in the wake of the HIV and AIDS pandemic that neither local, national and international experts nor publics questioned the right of people infected with EVD to be treated and cared for in as comprehensive way as possible.

Nonetheless, without adequate, timely identification of an infection, and a coordinated response, even the comprehensive German health system would reach a limit in terms of the number of patients it could treat at such a level of care: in isolation, with large medical teams present around the clock, and with plenty of protective suits and other equipment. Given growing international connectivity, another infectious disease outbreak is preordained. Anticipatory preparation is thus a must.

It would benefit all actors involved, especially in high-stakes infectious disease outbreaks, to review and revise the elements of and the decisions involved in response in order to optimize a plan before the next outbreak.

### WHO DECIDES ON A RESPONSE? HOW?

As the timeline above indicates, decisions, and non-decisions, reflect multiple elements of health security: the rights of those ill to be treated; the rights of those offering help to be safe; the need for states to protect and provide both of those components to their citizens; and the need for citizens even of states which cannot offer such protection and provision to be met. Decision-making reflects all these factors, as well as the pressure to “do something” applied to both affected and aiding states. The decisions taken, or not, also change the relationships between each one of these elements.

At moments of epidemic danger, one naturally focuses on the actions of nations to control the outbreak. But turn that question around: what are the likely actions of an epidemic on a nation? *Epidemics change governments*. Political leaders could have no clearer signal that it is their responsibility to protect the health of their people (governments, not doctors, defeat epidemics). Those leaders understand that their nation's political, economic, and social stability depends on health.<sup>31</sup>

Liberia's President Johnson Sirleaf certainly demonstrated this understanding of the state's stability as dependent upon the state of the health of the population. She also understood the limitations of Liberia's ability to respond according to its state responsibility to its citizens. MSF itself admitted it was overwhelmed with its emergency response to the burgeoning epidemic and called for military intervention to shore up the response. Johnson Sirleaf herself asked for such intervention.

Thus, local, including NGO, responses at the acute level try to stem the tide of the outbreak and implement coping mechanisms. Where individual cases occur, as is the case now in the post-Ebola phase, and contacts can be traced, isolated and monitored, this response is sufficient and rests at this level. Where this is not adequate, further response measures are needed. They include the local, national, international and global levels of response.

At the national level, this means coordinating response plans and delegating specialists. Liberia, for one, wrote a policy plan and collected and coordinated as many medical professionals as possible to be deployed to respond as the epidemic expanded. Bridging the gap between local and national level were MSF and the Ministry of Health and Social Welfare. The exponentially rising infection rates and concomitant mortality rates, especially of frontline medical personnel, raised the alarm at the international level: sounding the siren at the WHO, the UNSC were the president of the country and the president of the much-respected MSF.

At the international level, the WHO and the UNSC, establishing UNMEER, furthered the cause. In addition, the United States, as well as Germany, appointed so-called "Ebola Tsars," charged with identifying needs on the ground, and advocating for and coordinating those country's bilateral and multilateral assistance to the countries who requested help.

<sup>31</sup> Horton, Richard. (2016). "Brazil: The Unexpected Opportunity that Zika Presents," *The Lancet*, Vol. 387, Issue 10019, 633 (February 13).

In keeping with the international system wherein sovereign states have the ultimate decision-making power, supplemented by both NGOs (advocacy) and influential external actors (such as Peter Piot and Richard Holbrooke for HIV and AIDS), the decisions on when, and how, to request help in responding to the Ebola outbreak lay with the most affected countries themselves. They did not have any prominent international actor to rely on to carry their cause—until President Johnson Sirleaf stepped into the spotlight. But, reflective of the system, she only pleaded (and only could have pleaded) for assistance for her struggling country.

That Johnson Sirleaf requested help from the United States is itself an interesting political decision. Liberia is the result one of the two settlements founded by freed American slaves. The country also received support from the UK. The other such freed slave settlement, which became Sierra Leone, received support from Cuba and the UK. The third West African country, Guinea, received some assistance from its former colonial master, France.<sup>32</sup> Given these fraught historical relationships, and the lingering mistrust between the three West African countries due to the 1990s civil wars fought there, it is all the more surprising that *military* aid was requested, both by MSF and Johnson Sirleaf. Such military support is also the most contentious of the post-Ebola political debates.

### IMPLICATIONS AND RESPONSES

The Ebola pandemic of 2014–2015 illustrates how rapidly an unexpected infectious disease can get out of control. The implications include excessive rates of morbidity and mortality, agricultural losses, food insecurity, productivity losses in everything from mining to production, and those for the tourist industry, as well as political instability. They also include social changes.

Bonds of trust suffer at all levels of personal interaction. Medical burial teams wore protective gear to disinfect and prepare EVD infected corpses for burial. These burials, deemed necessary to break the viral transmission chains, violated the cultural practices of the region. Failure by external aid workers and/or professionals to adequately explain and support their adoption resulted in mob attacks on these workers. In August 2014 a

<sup>32</sup> See Petherick (2015). “Ebola in West Africa: Learning the Lessons.”

mob stormed a clinic and accused the foreign medical staff working there of having imported Ebola into Guinea.<sup>33</sup> Hidden burials were common at some times and places, which inevitably resulted in more Ebola infections. Taking local customs into account is vital for effective disease response.<sup>34</sup>

The national response needs to take these social practices into account and to cue both the local populations, for instance by cooperating with local healers,<sup>35</sup> and external actors in order to render any response culturally palatable as well as medically and politically effective. In order to be politically and medically effective in turn, national governments need to realize, invest and negotiate the capabilities and capacities they require in order to anticipate, identify and react to infectious diseases, of which EVD is a case in point. This includes, at the national level, investment in the Global Outbreak Alert Response Network (GOARN),<sup>36</sup> the WHO system which draws on government information sharing, but also allows NGOs and social media platforms access in order to report and monitor, in real time, (im)pending disease outbreaks.

GOARN is meant to operate as an event-management system, the event being an outbreak of potentially international health concern. When it works optimally, it features:

- Comprehensive databases on epidemic intelligence, verification status, laboratory investigation and operational information.
- Tracking and recording outbreak history, critical decisions, important actions by WHO and partners and key documents.

<sup>33</sup> See “Ebola Clinic in Guinea Evacuated After Attacked: Angry Mob Claims Doctors without Borders Introduced Deadly Disease to Country,” *AP* (April 5, 2014), available at: <http://www.cbc.ca/news/world/ebola-clinic-in-guinea-evacuated-after-attack-1.2599555>.

<sup>34</sup> Heymann, David L. (2015). “Ebola: Burying the Bodies,” *The Lancet*, Vol. 386, Issue 10005, 1707–1794 (October 31) doi: [http://dx.doi.org/10.1016/S0140-6736\(15\)00684-4](http://dx.doi.org/10.1016/S0140-6736(15)00684-4).

<sup>35</sup> This was done in South Africa with regard to HIV and AIDS. Author’s professional collaboration with Professor Ruben in the context of AfriCare in Eastern Cape Province, South Africa, 2005.

<sup>36</sup> See WHO, “Guiding Principles for International Outbreak Alert and Response,” available at: <http://www.who.int/csr/outbreaknetwork/guidingprinciples/en/>.

- Management of logistic support and specialized response equipment, materials and supplies.
- Integrated database on the skills, experience and availability of international experts for response teams.
- Profiling of technical institutions in the GOARN concentrating on readiness and capacity to support international outbreak response.
- Standardized information products for member states, public health officials, media and the public.
- Communications with GOARN to enhance operational readiness.

At the international /global level, GOARN provokes a response by the WHO, which in turn can issue guidelines and alter, evaluate and if deemed necessary declare a PHEIC in order to set into motion a cascade of informational support and technical expertise. Also at the international level, the International Health Regulations (IHRs) ideally inform and coordinate global infectious disease response. The latest IHRs, announced in 2005 and which came into force in 2007, stipulate the reporting requirements for emerging infections, and outline the necessary measures to be taken in response. However, they have two shortfalls: while a treaty obligation, they rely primarily on voluntary compliance; they have been invoked overwhelmingly with regard to airborne diseases such as Avian Flu and SARS, the subject of the following chapter; and they have no additional, automatic enforcement mechanism(s). The IHRs were of little help in the midst of the Ebola pandemic.

In the wake of the Ebola outbreak in West Africa, and in anticipation of future EID outbreaks in particular, the remarks of David Nabarro, the UN's special envoy on Ebola remain undisputed:

There will be more: one, because people are moving around more; two, because the contact between humans and the wild is on the increase; and maybe because of climate change. The worry we always have is that there will be a really infectious and beastly bug that comes along.<sup>37</sup>

Indeed, such a beastly bug might yet emerge from Avian Flu and SARS should their airborne transmissibility become more efficient.

<sup>37</sup> Garrett, Laurie. (2015). "Ebola's Lessons: How the WHO Mishandled the Crisis," *Foreign Affairs* (September/October 2015), Vol. 94, Issue 5, 80–107.