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The Ebola Virus Prevention and Human Rights Implications

Florence Shu-Acquaye

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The Ebola Virus Prevention and Human Rights Implications

Florence Shu-Acquaye

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ABSTRACT
The Ebola virus and its now infamous 2014 West African outbreak have constituted the deadliest and most terrifying epidemic of recent memory. Not only does the epidemic now carry an already ghastly backdrop in the public mind when discussions around it begin, but, like the AIDS epidemic, cultural practices have contributed to the entrenchment of Ebola in Africa, compounded by weak human rights laws and stigmatization, all of these factors having contributed to the multi-faceted and complex nature of addressing the problem of eliminating this disease in Africa. This article examines the African countries that have been plagued by the recent outbreak, as well as the U.S. response to Ebola when brought to its shores. It also considers the human rights implications that are invariably intertwined with the prevention of Ebola, as well as the various ethical aspects that have surrounded the response. The article further examines the possible extent to which sub-Saharan African states may be able to leverage the flexibility of the so-called Agreement on Trade Related Aspects of Intellectual Property Rights (“TRIPS”) to provide access to Ebola medical advances for their citizens. Lastly, this article will look at the Siracusa Principles, which outlines the circumstances within which restriction of human rights are justified, and will analyze the conduct of international responders, including the African Union, the CDC, WHO, and others.

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I. **INTRODUCTION** ........................................................................................................................................... 4
   A. Origin and Transmission.................................................................................................................. 8
      1. The Apparent Origin of Ebola.............................................................................................. 8
      2. Transmission and Treatment.............................................................................................. 11

II. **EXAMINING THE COUNTRIES PLAGUED BY EBOLA IN 2014** .......................................................... 12
   A. Guinea ...................................................................................................................................... 12
   B. Sierra Leone ........................................................................................................................... 13
   C. Liberia ....................................................................................................................................... 16
   D. Nigeria ....................................................................................................................................... 17
   E. Mali ............................................................................................................................................. 19
   F. Senegal ....................................................................................................................................... 20
   G. The United States .................................................................................................................... 20

III. **HUMAN RIGHTS OF PATIENTS AND WORKERS VERSUS PROTECTING SPREAD OF DISEASE** .......................................................... 22
   A. Siracusa Principle..................................................................................................................... 22
   B. Human Rights and Quarantine of Ebola Patients.................................................................. 26
   C. Gender Discrimination and Ebola......................................................................................... 31
   D. The Rights to Information...................................................................................................... 34

IV. **THE RESPONSE OF THE INTERNATIONAL COMMUNITY** .............................................................................. 36
   A. WHO ......................................................................................................................................... 39
   B. The African Union ................................................................................................................... 42
   C. The CDC ................................................................................................................................... 45
      1. Protecting the Borders by Screening .................................................................................. 46
      2. Mobilizing Laboratories ..................................................................................................... 47
      3. Strengthening Health Care to Prevent Infections ............................................................. 48
      4. Burying the Dead ............................................................................................................... 49
      5. Contact Tracing ................................................................................................................... 49
   D. UNESCO, Bioethics, and Ebola ............................................................................................. 50

V. **LESSONS LEARNED AND PREEMPTIONS FOR THE FUTURE** ........................................................................... 52

VI. **THE RACE FOR DRUGS AND VACCINES** ............................................................................................ 57
   A. Conduct of Clinical Trials ....................................................................................................... 58
   B. The Drug Companies Versus Africa: Who Benefits? .......................................................... 61
   C. Leveraging TRIPS for the Benefit of Africans? ..................................................................... 62

VII. **CONCLUSION** ........................................................................................................................................... 65
I. INTRODUCTION

The Ebola virus is one of several viruses that cause hemorrhagic fever.¹ Ebola was found in 1976 in the Democratic Republic of Congo, a country known as Zaire at the time of Ebola’s discovery.² The initial Ebola outbreak was in a village near the Ebola River.³ It is after this river that the disease is named.⁴ There are five viral strains that have been identified.⁵ According to the Center for Disease Control and Prevention, there are four known strains that cause disease in humans: the Ebola virus (Zaire ebolavirus); the Sudan virus (Sudan ebolavirus); the Taï Forest virus (Taï Forest ebolavirus, formerly Côte d’Ivoire ebolavirus); and the Bundibugyo virus (Bundibugyo ebolavirus).⁶ The Ebola Zaire virus is the deadliest of the five viral strains, having not only the highest mortality rate, but also the distinction of causing the most outbreaks.⁷ The fifth strain, the Reston virus (Reston ebolavirus), has not caused death in humans, but has been found to affect nonhuman primates and pigs.⁸ The World Health

¹ See CTRS. FOR DISEASE CONTROL AND PREVENTION, Signs and Symptoms: Ebola Hemorrhagic Fever 1 (2014), http://www.cdc.gov/vhf/ebola/symptoms/ [https://perma.cc/ZD6W-EWBT]. Ebola symptoms can appear anywhere within a range of two to twenty-one days after exposure; but on average, they appear within a range of eight to ten days after exposure to the virus. Id.


³ Id.


⁵ About Ebola Virus Disease, CTRS. FOR DISEASE CONTROL AND PREVENTION (Feb. 18, 2016), http://www.cdc.gov/vhf/ebola/about.html [https://perma.cc/HP7Z-BDWU].

⁶ Id.

⁷ Doucleff, supra note 2.

⁸ This strain infects primates, pigs, and humans, but it causes few if any symptoms and no deaths in humans. Davis, supra note 4.
Organization has determined that the virus responsible for the now infamous 2014 West African Outbreak belongs to the Zaire strain.9

“Infectious diseases remain an important and often global health care challenge and in a globalized and highly mobile and interconnected world diseases like . . . Ebola . . . are likely to be spread more quickly than in the past.”10 Unlike many other viruses, the Ebola virus spreads through the transfer of bodily fluids, and, as a result, Ebola spreads through “human-to-human transmission by direct contact”.11 That means that “blood, secretions, organs or other body fluids containing the virus must come into contact with broken skin or the mucous membranes of a healthy individual in order for the virus to be transmitted.”12 Ebola’s hemorrhagic fever often has complications, including organ failure, severe bleeding, jaundice, delirium, shock, seizures, coma, and death.13 It is one of the worst infectious humanitarian crises of recent times.14 “On August 8, 2014, the WHO formally declared the Ebola epidemic an ‘international public health emergency of international concern.’”15 As of September 2014, there were about 5,232 reported cases with 2,630 deaths across most regions of Guinea, Liberia, and Sierra Leone.16 As of July 5, 2015, there have been a total of 27,573 reported, confirmed, probable, and suspected cases of Ebola Virus Disease in the countries of Guinea, Liberia, and Sierra Leone, with 11,246 reported deaths.17 Likewise, during the week

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11 Bradford, supra note 9.

12 Id.


16 Id.

leading to July 5, 2015, a total of 18 new confirmed cases were reported in Guinea, 3 in Liberia, and 9 in Sierra Leone.\(^\text{18}\) Each of these countries has had decades of violence and instability, including ruthless armed conflicts in Liberia and Sierra Leone, and an authoritarian regime in Guinea and, as a result, the present heads of state and the governments of these countries lead nations with shattered infrastructures, with weak or virtually no rule of law, with governance issues, with abusive security forces, and with high poverty and unemployment rates.\(^\text{19}\) It is with this backdrop, that the presence of the deadly disease Ebola becomes an even greater challenge when attempting to address its spread. The Ebola crisis is like the AIDS epidemic in the sense that cultural practices have contributed to the entrenchment of the disease in Africa, compounded by weak human rights laws and the stigmatization associated with HIV/AIDS—all of which have contributed to the multi-faceted and complex nature of addressing this disease in Africa.\(^\text{20}\)

Human rights implications are invariably intertwined with the prevention of HIV/AIDS and Ebola. Hence, looking at issues of human rights and quarantines, the protection of healthcare workers, gender discrimination in view of Ebola, the right to information, the conduct of state security forces, and the role of the international community would aid in highlighting many lessons and strategies for dealing with potential Ebola outbreaks.\(^\text{21}\) Because of the severity of the outbreak, there are suggestions that the use of unlicensed products be allowed to curtail it, such as through offering therapies and vaccines with unknown efficacy and possible adverse effects as treatment or

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\(^{18}\) [Id. “The new cases are the first in Liberia since the country was declared free of the disease on May 9. . . . The new cases raise questions about whether Liberia was actually Ebola free during May and June, or if there was a ‘shadow epidemic’ of cases that went undetected by officials.” Rachael Rettner, *Ebola Returns to Liberia: Where Did It Come From, and Could It Spread?*, LIVESCIENCE (July 2, 2015, 2:38 PM), http://www.livescience.com/51433-ebola-liberia-return.html [https://perma.cc/2VW5-9BNY].


\(^{21}\) HUMAN RIGHTS WATCH, *supra* note 19, at 1.
This article will look into the ethical considerations of doing so. Is safety being compromised? What about the manner and process for conducting such clinical trials? Would any such vaccines reach the more affluent West first before the African countries can have access to them? How could equitable distribution be done in a way that the poorer and much more affected African countries can get a fair deal, especially so in regards to costs? I will examine the possible extent to which sub-Saharan African states may be able to leverage the flexibility of the so called Agreement on Trade Related Aspects of Intellectual Property Rights (“TRIPS”) to provide access to Ebola medical advances for their citizens, as is the case with HIV/AIDS.

This article examines the African countries that have been plagued by the recent outbreak of Ebola in 2014: Guinea, Sierra Leone, Liberia, Nigeria, Mali, and Senegal. Most of its focus is on the three countries with the greatest Ebola infection rates: Guinea, Sierra Leone, and Liberia. This article will also explore how the United States dealt with Ebola when brought to its shores from Sierra Leone. This article will also explore how the United States dealt with Ebola when brought to its shores from Sierra Leone. The goal will be to pinpoint the factors that propagate the diseases, and to examine human rights issues in relation to patients and health workers against the backdrop of their efforts to protect and prevent the spread of this disease. Hence, this article will weigh circumstances within which human rights protections are justified against the legitimate and objective interests of the public.

In Part III.A, this article will look at the Siracusa principle, which outlines the circumstances within which restriction of human rights are justified, especially in light of the above stated human rights issues.

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23 “Trazavirin, an Ebola vaccine that was created by the Ural Biopharmaceutical Technology Center, was approved for emergency use by Russian Health Ministry. The [European Union] has pledged EUR 24.4 million euros for research to develop a vaccine against Ebola. WHO estimates several hundred thousand vaccines could be produced by the end of 2014, and several more by the end of 2015.” USA, Mali, Nigeria, Senegal, China – Ebola Updates, DG ALERTS (Oct. 24, 2014) http://dgalerts.docguide.com/ebola [https://perma.cc/94ME-QZXJ].
Furthermore, it will analyze the response of the international community in an attempt to gauge what lessons have been learned, with an eye on the role of traditional actors such as the African Union, WHO, the CDC, and UNESCO’s role in bioethics, as well as the international community’s and its embrace of the wider health and humanitarian communities. For example, some doctors have advocated for blood transfusion to curb the spread of Ebola, but those efforts have widely been regarded as an academic rather than a realistic proposal given the magnitude of the epidemic.24

A. Origin and Transmission

1. The Apparent Origin of Ebola

As stated in Part I, Ebola first appeared in 1976 in simultaneous outbreaks in Sudan and the Republic of Zaire (now the Democratic Republic of the Congo).25 However, the real question is how the virus got to Guinea, a place where the people never had this disease.

In 2005, researchers looking for the source of Ebola tested more than a thousand small animals in Gabon and the Republic of Congo.26 Researchers tested 679 bats, 222 birds and 129 terrestrial vertebrates.27 “The only animal found to be an Ebola virus carrier was the bat, or rather, to be more specific, three species of bat: the hammer-headed bat, the Franquet’s epauletted fruit bat, and the little collard fruit bat.28 The second of these three fruit bat species is found in Guinea, where the 2014 Ebola Outbreak originated.29 If indeed it is that bats are the

24 See Bradford, supra note 9. The survivors of Ebola are so few and the mortality is so high that the probability of mustering enough survivors to make a difference in the high mortality was very low. Id. Likewise, the nutritional status of the few survivors will not inspire anyone to make blood donors out of them, let alone procure enough blood as recommended by WHO. Id.

25 Id. During the 1976 outbreak, 280 people became infected through close contact with one another and through the use of contaminated syringes and needles in clinics and hospitals. Id. Out of those 280 people, only 20 percent of the patients survived. Id. The virus infected 284 people in Sudan. Id. Out of these, 151, or 53 percent of all infected patients died. Id.


27 Id.

28 Id.

29 Id.
source of this virus, then how did the virus transfer to the human species? People may become infected from bats eaten as meat or prepared as an ingredient in soups, which are a delicacy in Guinea.\(^{30}\) Such a means of infection is the likely reason why after the outbreak in March 2014 the consumption of such bats was banned.\(^{31}\) But this does not adequately answer the question as to how the Ebola Zaire strain got to Guinea, or West Africa, in the first place. Did Ebola Zaire jump over the Gulf of Guinea from Central Africa, from Gabon and the Democratic Republic of Congo?\(^{32}\) To say that the virus could have traveled through an infected person seems implausible, as anyone with Ebola’s contagious symptoms is very unlikely to make it through the 12 hour-drive over the rough terrain.\(^{33}\) Disease specialists are wondering if the bats migrated to West Africa, or if bats in the region had always harbored this virus but had never previously communicated it to humans.\(^{34}\) “By looking at the virus’ genetic materials, researchers have found that same Ebola virus has been carried from bats in Central Africa to bats in West Africa over the last 10 years.”\(^{35}\)

A recent research study team focused on Méliandou, Guinea, the index village where the human outbreak began.\(^{36}\) The team gathered testimony from survivors and collected samples, including blood and

\(^{30}\) Id.

\(^{31}\) Id. However, cooking the bat would likely kill the virus, so it is the butchering of bats and the handling of raw bat meat that is riskier. Id.


\(^{33}\) Id.

\(^{34}\) Id.

\(^{35}\) See Rettner, supra note 24.

tissue from captured bats. These efforts yielded a new hypothesis: “Maybe the reservoir host was a bat, yes—but a very different sort of bat, in a different ecological relationship to humans.” The researchers noted that while fruit bats are numerous in southeastern Guinea, they don’t nestle in large masses near Méliandou. However, “the village did harbor a sizable number of small, insectivorous bats, which roosted under the roofs of houses and . . . hollow trees.” The local people called these bats ”lolibelo.” Lolibelo were being frequently hunted, killed and eaten by children as an additional food source.

The researchers discovered next “a large hollow tree, which had recently been set afire, producing as it burned what someone recalled as a ‘rain of bats.’” “[The researchers] collected soil samples at the base of that tree, which eventually yielded traces of DNA assignable to Mops condylurus, more commonly called the Angolan free-tailed bat.”

That species was found to match the first-hand descriptions of lolibelo, continuing to short up the theory. Interestingly enough, “the big hollow tree had reportedly been a favorite play spot for the small children of the village, including [a] now deceased little boy, despite—or perhaps because of—the fact that it was full of little bats.” Although scientists do not know for certain, the top theory today is that the virus spread through the bats, especially given the fact that scientists have found Ebola antibodies in bat species widespread throughout Africa. The virus is said to infect and replicate inside bats without killing the animals. It is a now readily accept conclusion that

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37 Id.
38 Id.
39 Id.
40 Id.
41 Id.
42 Id.
43 Id.
44 Id.
45 Id.
46 Id.
47 Doucleff, supra note 2.
48 See id.
bats can easily spread Ebola. Bats move around for several, if not thousands of miles and, as noted by the research team focused on Méliandou: “Bats don’t need a passport to cross borders.”

2. Transmission and Treatment

A WHO Ebola Situation Assessment for Oct. 6, 2014, states that the virus is most commonly transmitted through blood, feces, and vomit. “Breast milk, urine, and semen have also been found to transmit the Ebola virus, and it is believed that it may even be transmitted through tears and saliva.” Ebola is not transmitted through air, meaning that a person cannot contract the virus from breathing the same air as an infected individual. “However, if an infected individual directly sneezes on a person and the mucus from that sneeze comes into contact with an open cut or the eyes, nose or mouth of someone else, there is a chance of transmission.”

According to the CDC, “standard treatment for Ebola hemorrhagic fever is still limited to supportive therapy.” Supportive therapy is “balancing the patient’s fluid and electrolytes, maintaining their oxygen status and blood pressure, and treating such patients for any complicating infections.” Any patient possibly suffering from “Ebola hemorrhagic fever should be isolated, and caregivers should wear protective garments” when handling such a patient. There are no licensed medications for the treatment of Ebola per se; instead, doctors are currently utilizing to two time-tested options for Ebola treatment: 1) supportive care, and 2) blood transfusions for Ebola survivors.

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49 Id.
50 Id.
52 Bradford, supra note 9.
53 See id.
54 Id. WHO has not documented cases of this actually happening. Id.
55 Davis, supra note 4.
56 Id.
57 Id.
II. EXAMINING THE COUNTRIES PLAGUED BY EBOLA IN 2014

A. Guinea

In the small village of Méliandou, Guinea, is where the first case of Ebola began in 2014, with an 18-month-old boy by the name of Emile Ouamouno. 59 He died from Ebola-like symptoms in Méliandou on December 2013. 60 His death was not attributed to Ebola until March 21, 2014. 61 By mid-January of 2014, several members of the boy’s immediate family had developed similar symptoms and then died soon after. 62 Several “midwives, traditional healers, and staff at a hospital in the city of Gueckedou who treated them” met the same untimely end. 63 In the subsequent weeks, “members of the boy’s extended family, many who attended funerals or took care of other ill relatives also fell sick and died.” 64 By that time the virus had “spread to four sub-districts via additional transmission chains” 65 From this “pattern of unprotected exposure”, the people of Guinea began to suffer more loss of life, more funerals, and further tragic spread of the disease. 66

By July 2015, there were 30 confirmed cases of the Ebola virus reported in the week leading to the 12th of that month, with 18 cases in Guinea. 67 While progress is being made, only a zero infection rate would be an ideal outcome. 68


60 Id.

61 See id. The boy developed an illness characterized by fever, black stools, and vomiting on December 26, 2013, and he died two days later. Id.

62 Id.

63 Id.

64 Id.

65 Id.

66 Id.


68 See generally Ebola Virus in Guinea—Update, WORLD HEALTH ORG., EMERGENCY PREPAREDNESS RESPONSE, (Mar. 30, 2014),
B. Sierra Leone

In Sierra Leone, the Ebola outbreak “began slowly and silently, gradually building up to a burst of cases in late May and early June [2014].”\(^{69}\) By the end of the year, “[c]ases had then increased [again], . . . with November seeing the most dramatic jump.”\(^{70}\)

Subsequent investigations by the WHO concluded that “[Sierra Leone’s] first case was a woman who was a guest at the home of the index case in Meliandou, Guinea.”\(^{71}\) After the host family became symptomatic, “she travelled back to her home in Sierra Leone and died shortly after her return in early January 2014.”\(^{72}\) On April 1, Sierra Leone “stepped up vigilance for imported cases” when “two members of the same family who had died from the Ebola virus disease in Guinea were repatriated to Sierra Leone for burial.”\(^{73}\)

“The burst of new cases [of Ebola] seen in early June [of 2014] were traced to the [May 10th] funeral of a respected traditional healer held in Sokoma, a remote village in Kailahun district, near the border with Guinea.”\(^{74}\) This traditional healer apparently “became infected while treating Ebola patients who crossed the border from Guinea, seeking her healing powers.”\(^{75}\)

From this single funeral, “[l]ocal epidemiologists eventually traced 365 Ebola-related deaths. . . which also seeded cases reported in Liberia.”\(^{76}\) Towards mid-June, “a state of emergency was declared in Kailahun, calling for the closing of schools, cinemas, and places of night-time gatherings and the screening of vehicles at checkpoints along the borders with Guinea and Liberia.”\(^{77}\) “On June 24th,
[Médecines Sans Frontières] opened an Ebola treatment center in Kailahun”, but it apparently came a little late, “[a]s an emergency coordinator with the charity noted, ‘We came too late when villages already had dozens of cases. We don’t know where all chains of transmission are taking place.’”78 By mid-July, things were so bad that “teams trained by WHO buried more than 50 bodies over a 12-day period.”79 “The death of Dr. Khan, who was regarded as a national hero, and surrounding publicity removed many public doubts about whether Ebola was ‘real’, and also introduced many questions about the safety of the area’s treatment facilities.”80 After these repeated tragedies, “most foreign medical staff, included [sic] those deployed by WHO, suspended operations in Kailahun.” 81 However, “[c]onfidence was gradually restored and operations resumed in early September.”82

In Kenema, Sierra Leone, “health care workers at the government-run hospital went on strike over unpaid salaries and poor and dangerous working conditions” further proof that the country’s capacity for dealing with the crisis were being stretched too thinly.83 “As the number of patients, doctors, and nurses dying at the Kenema government hospital continued to escalate, [rumors] grew that something other than a disease was responsible for such deaths.”84 In turn, as patients fled or avoided the hospital, more such deaths occurred; resulting in the undermining of the effectiveness of treatment in isolation as a disease control measure.85

Despite witnessing this slew of death, “[r]esidents of villages near Kenema witnessed how quickly the virus could sweep through

78 Id.
79 Id.
80 Id. Confidence in the safety of medical staff was further eroded in the last week of August, when a WHO-deployed epidemiologist working in Kailahun became infected. Id. This was followed a few days later by three staff at a hotel in which foreign medical teams were staying, where they too became infected. Id.
81 Id.
82 Id.
83 Id. Nurses and burial teams complained that they had not been paid for several weeks, had insufficient personal protective equipment, and were forced to use a single broken stretcher to transport bodies as well as patients. Id.
84 Id.
85 Id.
crowded households, but saw few alternatives to home care."\textsuperscript{86} The results were horrifying: "[the] spread within households, where five or six children might share the same mattress" was "ruthlessly swift."\textsuperscript{87}

The WHO field coordinator in Kenema, by opening dialogues with local leaders, learned that "what people wanted was a place where uninfected members of a household could go to ‘self-isolate’.\textsuperscript{88} The idea that arose from this realization was the adoption of tents to offer "sufficient space for one to keep a safe distance from others".\textsuperscript{89} It was the WHO office in Freetown that provided the first tent, with the International Federation of Red Cross and Red Crescent Societies supplying others soon after.\textsuperscript{90} UNICEF donated sleeping mats, bed nets, and even cooking equipment.\textsuperscript{91}

However, "[t]he real surge in cases began in September as the virus gained foothold in Freetown. Teams were soon struggling to bury as many as 30 bodies per day."\textsuperscript{92} Once the situation had become desperately dire, "South Africa deployed a mobile laboratory to Freetown and work began to construct Ebola treatment centers".\textsuperscript{93} By the end of September, "the situation had begun to stabilize in Kailahun and Kenema," but in the "Freetown, Port Loko, Bombali, and Tonkolili districts... there was a sharp and alarming spike in a situation described by WHO as ‘continuing to deteriorate’."\textsuperscript{94} "The biggest challenges in the densely populated capital were limited treatment and diagnostic facilities, and the difficulty of undertaking contact tracing."\textsuperscript{95}

\textsuperscript{86} Id.
\textsuperscript{87} Id.
\textsuperscript{88} Id. They wanted a low-risk environment to stay in while waiting for the results of diagnostic tests. Id. They had observed the repercussions of being infected as people were blocked and quarantined in crowded households. Id.
\textsuperscript{89} Id.
\textsuperscript{90} Id.
\textsuperscript{91} Id.
\textsuperscript{92} Id.
\textsuperscript{93} Id.
\textsuperscript{94} Id.
\textsuperscript{95} Id. In parts of Freetown, as many as three families occupied the same household in shifts, increasing even further the risks of disease spread within these families. Id.
WHO described, as of October, that the situation virus transmission in Freetown and the western districts as ‘rampant’, with more than 400 new suspected cases being reported each week.\textsuperscript{96} “On October 21, the World Food Programme ... supported by funding from the World Bank to airlift[ed] 20 ambulances and 10 mortuary pickup trucks to Freetown to support the government’s efforts to shorten the response times.”\textsuperscript{97} There were also an “additional 44 vehicles [sent] a few weeks later by sea.”\textsuperscript{98}

By December, Sierra Leone’s situation had worsened; the nation “surpassed Liberia as the country reporting the largest cumulative number of cases.”\textsuperscript{99} The total of “new cases reported that week, at nearly 400, was three times as many as in Guinea and Liberia combined.”\textsuperscript{100} “Though cases in Kailahun and Kenema had declined to only one or two each month, the country was still reporting new cases from 10 of its 14 districts.”\textsuperscript{101}

By the end of December, there were over 9000 cases, despite the nation’s relatively small population of 6.2 million.\textsuperscript{102} Sierra Leone’s officials “noted that denial, traditional burials, and fear were still driving [the] spread of the disease in Freetown and adjacent districts, where transmission remained intense.”\textsuperscript{103}

By July 2015, there were 30 confirmed cases of Ebola virus disease (“EVD”) reported in the week to July 5th: 18 in Guinea, 3 in Liberia, and 9 in Sierra Leone, so, there should still be concern for the somewhat relative rise in Guinea and Sierra Leone.\textsuperscript{104}

\textbf{C. Liberia}

It was announced that Liberia was free of Ebola transmission on May 9, 2015, after experiencing no new cases for 42 consecutive

\begin{footnotesize}
\begin{enumerate}
\item[96] Id.
\item[97] Id.
\item[98] Id.
\item[99] Id.
\item[100] Id.
\item[101] Id.
\item[102] Id.
\item[103] Id.
\end{enumerate}
\end{footnotesize}
days. Following this, the country subsequently began a 3-month period of increased surveillance, collecting approximately 30 blood samples and oral swabs each day from potential cases to test for EVD. On June 29, 2015, a confirmed case of Ebola virus surfaced in Margibi County, Liberia—the first new case that was confirmed in the country since March 2015. It was a 17-year-old male who became ill on June 21, and died on June 28; tests on his body revealed a positive result for a strain of the virus that had been previously circulating in Liberia, which suggested that the virus was not imported from Sierra Leone or Guinea. To this date, a CDC field team continues to work with the Liberian Ministry of Health and other partners to determine the source, recognize the chain of transmission, and avoid further spread.

Thirty confirmed cases of EVD were reported in the week of July 5th: 13 in Guinea, 3 in Liberia, and 14 in Sierra Leone. For that specific week, Liberia was doing relatively better than the other two countries.

D. Nigeria

The Ebola virus entered Lagos, Nigeria on July 20, 2014 through an infected Liberian air traveler who died 5 days later. At the airport he was noticeably very ill, lying on the floor of the departure gate while waiting to board the flight. He vomited during the flight, when he arrived, and finally in a car that delivered him to a private hospital.

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106 Id.
107 Id.
109 Id.
112 Id.
hospital. As could be expected, tragedy soon followed; the protocol officer who escorted him later died from Ebola.

While being triaged at the hospital, the patient had told the staff that he had malaria, and denied contact with any Ebola patient. The staff later learned that his sister’s body had carried a confirmed case of Ebola and she had died from the disease in Liberia. The traveler had visited his sister while she was in the hospital and attended her funeral. Because malaria is not transmitted from person to person, no staff at the hospital was on alert for Ebola or took even protective precautions against the disease. Over the next few days, nine doctors and nurses became infected, and four of these nine died.

Nigeria is Africa’s most populous country, and the number of people living in Lagos alone is about 21 million, almost as large as the populations of Guinea, Liberia, and Sierra Leone combined. Because thousands of people move in and out of Lagos every day, with frequent gridlocks of traffic, the carrying out, or “contact tracing,” under such conditions is unimaginable. This was the main concern raised shortly after the first case was confirmed and announced. The United States Consul General in Nigeria, Jeffrey Hawkins, said at the time: “The last thing anyone in the world wants to hear is the 2 words, ‘Ebola’ and ‘Lagos’ in the same sentence.” These words conjured images of an “apocalyptic urban outbreak.” Luckily, this was not the case, as the Nigerian government in conjunction with WHO, the CDC, and other similar bodies reached a 100% tracing of known contacts in Lagos, and a 99.8% tracing at the

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113 Id.
114 Id.
115 Id.
116 Id.
117 Id.
118 Id.
119 Id.
120 Id.
121 Id.
122 Id.
123 Id.
124 Id.
second outbreak site in Port Harcourt.\textsuperscript{125} Reportedly, the Nigerian Federal and State governments are said to have provided ample financial and material resources, coupled with well-trained and experienced national staff, to handle the outbreak.\textsuperscript{126} It is worth noting that earlier in the year, WHO confirmed that Nigeria had eradicated guinea-worm disease, another spectacular success story, as well as made significant progress towards interrupting polio transmission.\textsuperscript{127}

\section*{E. Mali}

Mali’s Ministry of Health notified WHO on October 23, 2014, of a laboratory-confirmed case of infection with EVD.\textsuperscript{128} This was the first discovered EVD case in Mali.\textsuperscript{129} The case involved a 2-year-old female who developed symptoms on October 19, 2014 while in Beuila, Guinea, and then travelled by road to Mali.\textsuperscript{130} On October 20, 2014, she was admitted to a healthcare facility in Kayes, Mali.\textsuperscript{131} The next day, she was referred to the Fousseyni Daou Hospital in Kayes.\textsuperscript{132} On October 22, 2014 samples for EVD were taken and analyzed at the Center for TB and AIDS Research in Mali.\textsuperscript{133} The results came back positive for EVD.\textsuperscript{134} The test results were confirmed at the Centers for Disease Control and Prevention (“CDC”) in Atlanta and at the Institute Pasteur.

\textsuperscript{125} \textit{Id.} Unlike the situation in Guinea, Liberia, and Sierra Leone, all identified contacts were physically monitored on a daily basis for 21 days. \textit{Id.} The few contacts who attempted to escape the monitoring system were all diligently tracked, using special intervention teams, and returned to medical observation in order to complete the requisite monitoring period of 21 days. \textit{Id.}

\textsuperscript{126} \textit{Id.} Great epidemiological detective work would eventually link every single one of the country’s 19 confirmed cases back to direct or indirect contact with that July 20 air traveler from Liberia. \textit{Id.}

\textsuperscript{127} \textit{Id.}


\textsuperscript{129} \textit{Id.}

\textsuperscript{130} \textit{Id.}

\textsuperscript{131} \textit{Id.}

\textsuperscript{132} \textit{Id.}

\textsuperscript{133} \textit{Id.}

\textsuperscript{134} \textit{Id.}
de Dakar Senegal. The patient died on October 24, 2014. Eighty-five contacts were identified and subsequently monitored.

**F. Senegal**

On August 30, 2014, Senegal’s Ministry of Public Health and Social Affairs informed WHO about a case of EVD announced in that country on the 29th of that month. This involved a 21-year-old male native of Guinea who came to Dakar by road on August 20th, and stayed with relatives at a home in the borders of the city. On August 23rd, he sought medical care for symptoms that included fever, diarrhea, and vomiting. He received treatment for malaria, but did not improve and left the facility. After leaving the facility, he continued to reside with his relatives; but on August 26th, he was referred to a specialized facility for infectious diseases still showing similar symptoms and was hospitalized. WHO treated this first case in Senegal as a top priority emergency case.

Key operational personnel were consequently dispatched to Dakar to help confine the disease and stop its spread.

**G. The United States**

Three cases of the outbreak in the United States occurred within the timeline indicated below.

On September 30, 2014, the CDC confirmed the first laboratory-confirmed case of Ebola diagnosed in the United States in a man who had traveled to Dallas, Texas from Liberia. This man, Mr. Duncan,

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135 Id.
136 Id.
137 Id.
139 Id.
140 Id.
141 Id.
142 Id.
143 Id.
144 Id.
145 *Cases of Ebola Diagnosed in the United States, CTRS. FOR DISEASE CONTROL AND PREVENTION* (Dec. 16 2014),
did not show symptoms when he left Liberia, but subsequently developed symptoms about four days after arriving in the United States.\textsuperscript{146} Mr. Duncan then sought medical care at Texas Presbyterian Hospital of Dallas, but did so only after developing signs consistent with Ebola.\textsuperscript{147} Because of his travel history and symptoms, the CDC recommended testing him for Ebola.\textsuperscript{148} The medical facility then isolated the patient, and sent his specimen for testing at the CDC and also at a Texas laboratory.\textsuperscript{149} The patient passed away on October 8, 2014.\textsuperscript{150}

Then, on October 15, 2014, a healthcare worker who provided care for Mr. Duncan tested positive for Ebola at Texas Presbyterian Hospital.\textsuperscript{151} This healthcare worker was transferred to Emory Hospital in Atlanta, Georgia.\textsuperscript{152} Because the healthcare worker had traveled by air from Dallas to Cleveland on October 10, and from Cleveland to Dallas on October 13, the CDC followed up to ensure that all passengers and crew members on both flights were contacted by public health professionals to answer questions, and to arrange follow-ups as necessary.\textsuperscript{153} Fortunately, the patient recovered and was discharged on October 28th.\textsuperscript{154} By November 3rd all passengers on either flight completed the twenty-one day monitoring period.\textsuperscript{155}

On October 23, 2014, the New York City Department of Health and Mental Hygiene reported a case of Ebola in a medical aid worker who had served with Doctors without Borders in Guinea and returned to New York City.\textsuperscript{156} The CDC confirmed the diagnosis on October

\textsuperscript{146} Id.
\textsuperscript{147} Id.
\textsuperscript{148} Id.
\textsuperscript{149} Id.
\textsuperscript{150} Id. Local public health officials identified all close contacts of the index patient for daily monitoring for 21 days after exposure. Id.
\textsuperscript{151} Id.
\textsuperscript{152} Id.
\textsuperscript{153} Id.
\textsuperscript{154} Id.
\textsuperscript{155} Id.
\textsuperscript{156} Id.
Fortunately, the patient recovered and was discharged from Bellevue Hospital Center on November 11, 2014.\textsuperscript{158}

Once the first laboratory-confirmed Ebola case was reported in the United States, one could immediately see the difference between the United States (the West) and Africa in coping with this outbreak. As aptly stated by CDC Director Dr. Tom Frieden: “Ebola can be scary. But there’s all the difference in the world between the U.S. and parts of Africa where Ebola is spreading. The United States has a strong health care system and public health professionals who will make sure this case does not threaten our communities.”\textsuperscript{159}

\section*{III. Human Rights of Patients and Workers Versus Protecting Spread of Disease}

\subsection*{A. Siracusa Principle}

The Siracusa Principles on the Limitation and Derogation Provisions in the International Covenant for Civil and Political Rights (“ICCPR”) was developed in Siracusa, Italy, in 1984.\textsuperscript{160} A historical background indicating the rationale at the time behind the Siracusa principles should be insightful.

In the 1970s, there was an international “epidemic” of state emergencies that resulted in political unrest in countries like Argentina, Brazil, Chile, Egypt, India, Ireland, Malaysia, and

\textsuperscript{157} Id.

\textsuperscript{158} Id.


Pakistan.\textsuperscript{161} These state emergencies occurred against the backdrop of the Cold War, where those who did not agree with the national government of their countries were often labelled as dissidents, agents of an international enemy, and/or as threats to national security.\textsuperscript{162} The national security doctrine, which, within the definition of security includes the ability of a state to defend against external and internal aggression and rebellion, came about as a result of such practices.\textsuperscript{163}

As such, the Siracusa Principles were conscripted in response to concerns about the violation of individual human rights that could occur when a state acts to protect the public good, but however, limits the rights of individuals.\textsuperscript{164} While it is important to respect and preserve the ‘rule of law’ under such circumstances, while also protecting the human rights of others, there are interpretive difficulties as to the protection of human rights during state emergencies. Firstly, there is the understanding of many governments that in times of crises, they are free from any form of control and therefore could have recourse to any means deemed necessary to deal with such crises.\textsuperscript{165} Secondly, some governments do not think that international humanitarian covenants are applicable in cases where the conflict is completely internal, and consequently there is no officially declared war under such circumstances.\textsuperscript{166}

The Siracusa Principles can be interpreted as trying to ensure careful consideration in balancing the rights of the individual against the state’s interest in ensuring the well-being of the larger population.\textsuperscript{167} The International Covenant for Civil and Political Rights permits states to derogate from certain human rights


\textsuperscript{162} Id. at 3.

\textsuperscript{163} Id.

\textsuperscript{164} Id.

\textsuperscript{165} Id. at 3-4.

\textsuperscript{166} Id.

\textsuperscript{167} Id. at 7.
obligations, but however, while subject to certain conditions. Art. 4 of the ICCPR provides that:

“\textit{In times of public emergency which threatens the life of the nation and the existence of which is officially proclaimed, the state parties to the present Covenant may take measures derogating from their obligations under the present Covenant to the extent strictly required by the exigencies of the situation provided that such measure are not inconsistent with their other obligations under international law and do not involve discrimination solely on the ground of race, color, sex, language, religion or social origin.}\textsuperscript{168}

Most human rights treaties envisage a system of derogations that allows state parties to vary their obligations temporarily under the treaty in extraordinary circumstances that are in times of public emergency threatening the life of the nation.\textsuperscript{169} Therefore, the derogation regime aims at striking a balance between the protection of individual human rights and the protection of national needs in times of crises, and does so by placing reasonable limits on emergency powers.\textsuperscript{170} The Siracusa Principles on the limitations and derogation provisions of the ICCPR provide guidelines for the rationalization of limitations of ICCPR rights. So, whenever a limitation is required in terms of the Covenant, it has to be necessary.\textsuperscript{171} This term implies that the limitation:


\textsuperscript{170} Karimova, \textit{supra} note 169.

\textsuperscript{171} 
be based on one of the grounds justifying limitations recognized by the relevant article of the Covenant; Responds to a pressing public or social need; Pursues a legitimate aim; Is proportionate to that aim and any assessment as to the necessity of a limitation should be made on objective considerations.\textsuperscript{172}

In the context of limitations in light of public health, the Siracusa Principles necessitate that any measures that limit individual human rights be: 1) provided for and carried out in accordance with law, 2) directed toward a legitimate objective of general interest, 3) strictly necessary in a democratic society to achieve the objective, 4) be least intrusive and restrictive to achieve the objective, 5) be based on scientific evidence, 6) be neither arbitrary nor discriminatory in application and of limited duration, 7) be respectful of human dignity, and 8) be subject to review.\textsuperscript{173} Consequently, public health may be invoked as grounds for limiting certain rights in order to let a state take measures to deal with a serious threat to the health of its population as a whole, or the individual members of its population.\textsuperscript{174} Such measures must be specifically aimed at preventing disease or injury, or providing care for the sick or injured.\textsuperscript{175} In so doing, due regard must be given to the World Health Organization’s International Health Regulations (“IHR”).\textsuperscript{176}

\textsuperscript{172} Id. Furthermore, the Siracusa Principles state the following regarding the limitations: In applying a limitation, a state shall use no more restrictive means than are required for the achievement of the purpose of the limitation . . . [t]he burden of justifying a limitation upon a right guaranteed under the Covenant lies with the state . . . [t]he requirement expressed in Article 12 of the Covenant that any restrictions be consistent with other rights recognized in the Covenant is implicit in limitations to the other rights recognized in the Covenant. . . . [t]he limitation clauses of the Covenant shall not be interpreted to restrict the exercise of any human rights protected to a greater extent by other international obligations binding upon the state. Id.

\textsuperscript{173} Abiola, supra note 161, at 7.

\textsuperscript{174} Id.

\textsuperscript{175} Id.

\textsuperscript{176} Id.
In order to activate the derogation clause, there must be the existence of a situation that amounts to a public emergency. According to the Human Rights Commission (HRC): not every disturbance or catastrophe qualifies as a public emergency which threatens the life of the nation. The European Court of Human Rights (ECtHR) qualified the time of public emergency as: “an exceptional situation of crisis or emergency which afflicts the whole population and constitutes a threat to the organized life of the community of which the community is composed.”

Public health cases can exemplify the application of the Siracusa Principles, primarily in the realm of infectious disease control, such as was the case with the multidrug resistant TB, the pandemic influenza, SARS, and HIV/AIDS, and now with Ebola, situations that will press states to derogate. Were the Siracusa Principles appropriately applied in the case of Ebola outbreak?

B. Human Rights and Quarantine of Ebola Patients

Freedom of movement is a human right that should only be limited in extreme circumstances. The compulsory quarantine of a patient suspected of having an infectious disease should only be a measure of last resort, and should actually be undertaken only after voluntary measures to isolate the patient have failed.

Meddling with the freedom of movement when instituting quarantine or isolation for a communicable disease such as Ebola, MDR-TB, and XDR-TB may be necessary for the public good, and

177 Karimova, supra note 169, at 1.
178 See id. at 3. Absent a specific definition of “public emergency” in the ICCPR and the European Commission on Human Rights (“ECHR”), interpretations of the meaning and scope of the phrase were provided by the Human Rights Commission (HRC) and jurisprudence of the ECHR. Id.
180 See generally Karimova, supra note 169. It is no stretch of the imagination, especially in light of the most recent outbreak of Ebola, to see that any epidemic sufficiently pervasive can press the boundaries and either fall short of or exceed the line of “public emergency”, and therefore see that these are situations that demand further analysis for their human rights implications.
182 Id.
likewise, considered legitimate under international human rights law.\(^{183}\)

However, the key factor in determining if necessary protections exist when rights are restricted is that each one of the five criteria of the Siracusa Principles point (6) must be met, albeit in a limited fashion and subject to review and appeal.\(^ {184}\) The Siracusa Principles require that:

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[1]) \text{The restriction [be] provided for and carried out in accordance with the law;} \ldots [2]) \text{The restriction [be] in the interest of a legitimate objective of general interest;} \ldots [3]) \text{The restriction [be] strictly necessary in a democratic society to achieve the objective;} \ldots [4]) \text{That t]here [be] no less intrusive and restrictive means available to reach the same objective;} \ldots [\text{and 5) That t]he restriction [be] based on scientific evidence and not drafted or imposed arbitrarily i.e. in an unreasonable or otherwise discriminatory manner.}\(^ {185}\)

The main question becomes: Were the above principles observed during the quarantines that took place throughout the Ebola outbreak of 2014?

Even though different circumstances may exist in relation to quarantines between the three West African countries that have been worst hit by the virus (Liberia, Guinea and Sierra Leone),\(^ {186}\) all three countries imposed quarantines at various points in time in an effort to control the further spread of the disease.\(^ {187}\) In Guinea, for example,

183 Id.


185 Id.

186 See HUMAN RIGHTS WATCH, supra note 19. In his July 30 broadcast to the nation, and then on August 7, Sierra Leone’s President Koroma announced a state of emergency and a number of measures to respond to the crisis under section 29(5) of the 1991 constitution. Id. These measures, which were to be taken for 60 to 90 days, included quarantines in all epicenters of the disease enforced by the police; and the protection of health workers and centers by the police and the military. Id. The president also called on local leaders and chiefs to establish by-laws that would complement other efforts to deal with the disease. Id.

President Condé declared on state television a national public health emergency.\textsuperscript{188} The measures that the president announced included the institution of a quarantine enforced by health workers and security forces of anyone suspected of having the disease until test results were obtained.\textsuperscript{189} The president further stated that “[a]nyone who blocks or incites someone to block in any way the detection, isolation treatment, or examination of a sick person, of a suspect case or contact will be considered a menace to public health and will be brought before the law.”\textsuperscript{190}

In Sierra Leone, the government imposed a quarantine for three days (from September 19 to September 21, 2014), requiring: “everybody . . . to stay indoors as 7,000 teams of health and community workers went door to door to root out hidden Ebola patients.”\textsuperscript{191} This was essential, especially given that people were apparently keeping loved ones at home.\textsuperscript{192} As a government spokesman stated: “It’s clear that we have pockets of resistance, in terms of denial.”\textsuperscript{193} Although such methods of disease control may have been applauded by some as the best possible way to target hidden patients, international health organizations have generally been against such forced measures in fighting the epidemic.\textsuperscript{194} They argue that these methods add a punitive element to disease control, and increase hardships for the communities hardest hit by the virus, as well as undermine the needed trust and cooperation that is necessary.\textsuperscript{195} Doctors Without Borders had been working within the region and warned that lockdown could exacerbate the problem: “It has been our experience that lockdowns and quarantines do not help control Ebola, as they end up driving people underground and jeopardizing the trust between people and health

\textsuperscript{188} HUMAN RIGHTS WATCH, supra note 19. On August 13, 2014, the President declared as such under the public health code law 97 of June 19, 1997. Id.
\textsuperscript{189} Id.
\textsuperscript{190} Id.
\textsuperscript{192} See id.
\textsuperscript{193} Id.
\textsuperscript{194} Id.
\textsuperscript{195} Id.
providers.”

On the other hand, a United Nations official supported the idea of traveling house-to-house. Roeland Monash, a UNICEF Representative agreed stating the fight will be won by traveling house-to-house to stop transmission, rather than at an Ebola clinic.

By the same vein, the decision by several states in the United States, including Florida, Illinois, New Jersey, and New York, to impose a mandatory quarantine on healthcare workers, who happened to be mostly volunteers returning from the three countries in West Africa, was met with some resistance. The quarantine caused an unnecessary hardship on people, for example with returning nurse Ms. Kaci Hickox, Ms. Hickox had been caring for Ebola patients in association with Doctors Without Borders in Sierra Leone. The quarantine order often sends the wrong message instead of the important information about the transmission of the virus, namely that it is transmitted by someone who is symptomatic and can only be transmitted through direct contact with bodily fluids such as blood.

Ms. Hickox, after arriving at Newark Liberty Airport in New Jersey, and after a seven-hour wait at the hospital, was put in an isolation tent inside University Hospital in Newark that was poorly heated and with no running shower or toilet.

Twice, Ms. Hickox tested negative for Ebola, including under a test at the Centers for Disease Control and Prevention in Atlanta. Hickox, who told CNN that her “basic human rights have been

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196 Id.
197 Id.
198 Id.
201 See Jaksic, supra note 199.
202 CNN Wire, supra note 200.
203 Id.
violated,” was released two days after testing negative for Ebola. On the other hand, the Governor of New Jersey, Chris Christie, said on Fox News that he had “no second thoughts” about New Jersey’s mandatory quarantine for health care workers. He continued: “I believe that folks who want to take that step and are willing to volunteer also understand that it’s in their interest and the public health interest to have a 21-day period thereafter if they’ve been directly exposed to people with the virus.” The Governor also stated he did not believe that a voluntary system of quarantine could be reliable. According to him, “[quarantine] is the government’s job.” Ms. Hickox retorted by stating that mandatory quarantine is “not a sound public health decision,” and that she believes that public health officials and not politicians should be making policies pertaining to Ebola and public safety.

Is it legal for the US government to quarantine individuals, or groups of people? Although the West African epidemic demands stringent measures to prevent the further spread of the virus

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205 Id.

206 CNN WIRE, supra note 200.

207 Id.

208 Id.

209 Id.

210 Mak, supra note 204. New quarantine regulations were proposed in 2005, amid fears of the pandemic flu and bioterrorism. Id. Under those rules, the airlines were required to keep records that would allow health officials to keep track of passengers. Id. The concept of a “provisional quarantine” would have permitted the federal government to detain individuals for up to three days, with no method for appeal, if the Centers for Disease Control and Prevention believed that a person was infected with certain illnesses. Id. This didn’t work, as people were so uncomfortable about the answers to questions posed that they decided not to answer them at all. Id. The rules were withdrawn in 2010 by the Obama administration after civil-liberties organizations protested, and airlines complained about compliance costs. Id. The federal government tends to be responsible for quarantining individuals traveling from outside the United States, or even between states; by contrast, state and local governments apparently have control over individuals who are traveling only locally. Id.
which may and should include imposition of quarantine protocols that comply with international law, it is trite to say that the quarantine protocols for returning health workers introduced in New Jersey, and amongst other States, were not justifiable under international law, and more importantly, that they were not sustained by scientific evidence. Consequently, the adoption of “overly-broad quarantines and other abusive measures can undermine efforts to contain the Ebola epidemic.” A better and preferable approach would be to “ensure that people have access to health information and care.” Only if and when such limits are unquestionably necessary and based upon protections delineated under international human rights law should restrictions on liberty or movement be imposed upon civilians.

C. Gender Discrimination and Ebola

Although different epidemics affect populations in different ways, “the gender disparities documented in countries affected by West Africa’s Ebola outbreak are actually the norm during disasters across the globe.” By August 2014, approximately 55–60% of all Ebola fatalities in Guinea, Liberia, and Sierra Leone were women. According to one Liberian minister at an Ebola task force meeting, health teams had reported that as much as 75% of Ebola victims were women. Globally, “women and children are 14 times more likely to die in a disaster than are men.”

Looking at HIV/AIDS as another example of an infectious disease, one can see that women in Africa are

211 See Lander, supra note 187.
212 See HUMAN RIGHTS WATCH, supra note 19, at 4.
213 Id.
214 Id.
217 Id.
218 See PUBLIC HEALTH WATCH, supra note 212.
also disproportionately affected in relation to men.\footnote{219} Sub-Saharan Africa has the most serious HIV and AIDS epidemic in the entire globe.\footnote{220} In 2013, roughly 25 million HIV infected persons, or 70% of the world’s infected, were living in the region.\footnote{221} In Sub-Saharan Africa, like in many parts of the world, the HIV epidemic disproportionately affects women due to social and economic inequalities present.\footnote{222} However, Ebola differs significantly from HIV in that the risk in transmitting Ebola is “present in day to day interaction”, while HIV is more difficult to transmit.\footnote{223} In fear of an increased possibility of infection posed by Ebola, there were calls for limitations on international travel from the countries impacted by the outbreak, namely for denying infected person’s entry into countries where they could receive high quality medical treatment.\footnote{224} This is likely the reason why during the outbreak, Senegal closed its borders with Guinea, and President Ellen Sirleaf closed most of Liberia’s borders, both nations attempting to contain this contagious virus.\footnote{225}

The traditional gender roles played by women in West Africa makes them more vulnerable to Ebola infection.\footnote{226} For example, the women are generally the caregivers of the family and therefore tend to the sick, and in the lethal cases of Ebola, would logically be the ones to perform funeral rites like washing bodies and preparing them for burial.\footnote{227} Likewise, as caregivers and providers, they would engage in

\footnote{219} See HIV and AIDS in Sub-Saharan Africa, AVERT, http://www.avert.org/hiv-aids-sub-saharan-africa.htm#sthash.5q9ZNPu0.dpuf (last updated Apr. 25, 2016) [https://perma.cc/BZ5X-A3TC].

\footnote{220} Id.

\footnote{221} Id.

\footnote{222} Id.

\footnote{223} Kirchner, supra note 10.


\footnote{225} Id. Guinea and Sierra Leone did the same. Kenya, South Africa and others in the region also limited travel to and from the areas. Id.


\footnote{227} See id.
activities and occupations such as carrying out cross-border trading, health work, and serving as traditional birth attendants.\textsuperscript{228} 

Unfortunately, these realities place women at a greater risk of coming into contact with EVD.\textsuperscript{229} Likewise, because “information remains a powerful weapon”, sociocultural intensive barriers to “women’s access to appropriate health information” have worsened the susceptibility of women to Ebola.\textsuperscript{230} Discrepancies in the ability of men and women to access information stems largely from gender inequalities in literacy and secondary education.\textsuperscript{231} “[The] inadequate provision of gender-sensitive information continues to pose threats to ending the proliferation of disease.”\textsuperscript{232} As exemplified by the many years of HIV/AIDS epidemic, the gender gap in the rate of infection between men and woman is invariably reflected by the difference in access to health information, and arguably widens the gender gap even more.\textsuperscript{233} Other factors that contribute to women’s vulnerability include “rigid gender role expectations, gendered poverty, and the influence of ‘boy preference’” on the allotment of education, nutrition, and other vital resources.\textsuperscript{234} Women more often than not face social and cultural exclusions that “inhibit their ability to respond effectively in crises.”\textsuperscript{235} While one can’t predict or prevent all future epidemics, one can certainly change the way women are affected by them, and hopefully limit the level of uncalled-for suffering involved.\textsuperscript{236} Some good policy guidelines and recommendations to take into consideration by governments and relief agencies relating to the role of gender during a crisis like Ebola include:

\begin{quote}
[1)] Including women in strategizing when assessing the scope of problems and designing responses... [2)]
\end{quote}

\textsuperscript{228} Id. 
\textsuperscript{229} See HUMAN RIGHTS WATCH, supra note 19. 
\textsuperscript{230} Manivannan supra note 226, at 1. 
\textsuperscript{231} Id. at 3. 
\textsuperscript{232} Id. 
\textsuperscript{233} Id. 
\textsuperscript{234} PUBLIC HEALTH WATCH, supra note 215. See Mannivan, supra note 226, at 3. 
\textsuperscript{235} PUBLIC HEALTH WATCH, supra note 215. For example, “[i]f a man is sick, the woman can easily bathe him, but the man cannot do so [for the woman].” Id. (“Traditionally, women will take care of the men as compared to them taking care of the women.”). 
\textsuperscript{236} Id.
Ensuring equal distribution of care, facilities, aid and other resources... [3]) Raising the overall status of girls and women so that they are well-fed, educated and can work... [5]) Investing in programs that challenge social attitudes leading to boy preferences and gross imbalances in care and work.\textsuperscript{237}

D. The Rights to Information

In an effort to control and safeguard their reputation, the governments of Guinea, Liberia, and Sierra Leone were said to have been curtailing freedom of expression especially with regards to the Press, thereby regulating the Ebola crisis information outbreak in a manner that protected the government.\textsuperscript{238} Given that journalists are often key disseminators of public health education information, such government restrictions tend to compromise people’s access to timely, accurate information about Ebola, which in turn leads to ignorance and consequently to fear about the disease.\textsuperscript{239} Yet, the right to health as codified in the International Covenant on Economic, Social and Cultural Rights (ICESCR) depends on access to health information, which is an important determinant of health.\textsuperscript{240} In fact, under the ICESCR, state parties are required to take steps essential for “[t]he prevention, treatment and control of epidemic, endemic, occupational and other diseases.”\textsuperscript{241} This at the very minimum requires states to


\textsuperscript{238} See Manivannan, supra note 226, at 1.

\textsuperscript{239} Id.


\textsuperscript{241} Id. at ¶16.
provide access to vital information on preventing and controlling the main health problems in the community.\footnote{Id. ¶ 44.}

Nongovernmental organizations, local newspapers, and community radio, have and will continue to play a key role in public health education.\footnote{HUMAN RIGHTS WATCH, supra note 19, at 6; see Manivannan, supra note 226, at 1; id. at 6-7.} In Liberia, the Civil Society Organization’s Ebola Response Task Force produced clear messages about how the virus is transmitted and about how to prevent the disease, in local languages, while also “using the voices of traditional and religious leaders that have aired on 44 community-based radio stations.”\footnote{Id.} The plans of the Task Force to establish a “situation room” for monitoring the Liberian government’s response to the Ebola crisis, including accountability in the use of resources by the National Task Force and the access to health facilities, was commendable.\footnote{HUMAN RIGHTS WATCH, supra note 19, at 6.} In Sierra Leone’s Kailahun district, one of the epicenters of the outbreak near the border with Liberia and Guinea, a local community radio station, Radio MOA, in conjunction with other community-based organizations, formed their own Ebola Response Task Force and “organized a campaign to combat the rumors that were undermining the medical response.”\footnote{Id.} They transmitted interviews with health experts, officials, and Ebola survivors on the airwaves, reaching tens of thousands of resident in all three countries.\footnote{Id.}

UNESCO has been quite instrumental in disseminating information to fight Ebola through the media.\footnote{See Irina Bokova, Foreword to UNITED NATIONS EDUC. SCIENTIFIC AND CULTURAL ORG., UNESCO’S RESPONSE TO EBOLA, (Dec. 2014), http://unesdoc.unesco.org/images/0023/002311/231158e.pdf [https://perma.cc/HHY8-XFXX].} Following the United Nation’s unanimous adoption of the General Assembly’s resolution 69/1 on September 19, 2014, and the adoption of the Security Council’s resolution 2177 in 2014, to stop the Ebola outbreak,
UNESCO launched a media project in Liberia and Sierra Leone.\textsuperscript{249} “The provision of clear and reliable information is essential for a better understanding of the disease at the community level and as a bulwark for more effective prevention.”\textsuperscript{250} Thus, by communicating risk factors, methods of prevention, and approaches for safe intervention to the people, the UNESCO project has sought to reinforce the governments of Sierra Leone and Liberia in their respective fights to prevent the spread of the disease.\textsuperscript{251} Strengthening prevention in order to suspend the further spread of the disease starts with “clear, accessible, and reliable information provided to people in all districts and counties,” said the Director-General, Irina Bokova.\textsuperscript{252} “Stopping Ebola requires effective action by individual women and men, at the community level, and this project will help us reach and support them.”\textsuperscript{253} International advocacy is therefore vital in transforming negative media accounts about Ebola into objective and realistic ones that reflect malleability and are balanced with role-model stories.\textsuperscript{254}

IV. THE RESPONSE OF THE INTERNATIONAL COMMUNITY

The criticisms levied against the international community for being lukewarm towards the Ebola outbreak in Africa are not unfounded.\textsuperscript{255} Given the lack of investment in the health care systems of the three hardest hit countries in West Africa [Liberia, Sierra Leone and Guinea] investment that requires domestic political will and resources from the international community – the spread of Ebola was

\textsuperscript{250} Id.
\textsuperscript{251} Id.
\textsuperscript{252} Id.
\textsuperscript{253} Id.
\textsuperscript{254} UNITED NATIONS EDUC. SCIENTIFIC AND CULTURAL ORG., UNESCO’S RESPONSE TO EBOLA, (Dec. 2014), http://unesdoc.unesco.org/images/0023/002311/231158e.pdf [https://perma.cc/HHY8-XFXX] [hereinafter UNESCO’S RESPONSE TO EBOLA].
inevitable. Major missteps by the World Health Organization (WHO) and the delayed and frankly indifferent response of wealthier countries have exacerbated the situation. It is worth repeating: people in Liberia, Sierra Leone, and Guinea are dying of poverty.256

Gaffes by organizations like WHO, and the slow and indifferent responses from First World countries, initially made the situation worse.257 Former United Nations Secretary General Kofi Anan echoed this sentiment aptly when he described himself as “bitterly disappointed” in an international response that “lacked luster at best” and was “counter-productive at worse.”258

It seemed that rather than selecting and treating those with the disease in order to avert further transmission, “developed countries seemed to have been more concerned with preventing Ebola from spreading outside of West Africa.”259 This sent the message that the new normal in epidemic response is for “developed countries [just to] do their best to keep their walls up and outsiders at bay.”260

Because the international response to the Ebola crisis in West Africa has been slow and uneven, it inevitably left the local people, local governments, and on-site NGOs to do most of the practical (and most dangerous), hands-on work.261 Doctors Without Borders, also known as Médecins Sans Frontières (MSF), called for states with “biological-disaster response capacity to urgently dispatch human and material resources to West Africa,” and, after about three months, the international community had in fact given at least some form of assistance to the three worst hit countries in the region, although it was

256 Id.
257 Id.
258 Id.
259 Id. Most governments were only taking “action commensurate with the extent of the crisis when Ebola cases were identified in the Western world.” Id. That is why a country like Cuba, despite having suffered crippling effects from the decades-old economic sanctions by the United States, has nonetheless been applauded as a “leader in responding to the crisis” for their quick, comprehensive response. Id.
260 Id.
still limited to very particular sorts of assistance. The wealthy foreign governments focused mainly on financing or building Ebola case management structures, which, while nonetheless vital, left the staffing of the facilities to national authorities, local health care staff, and NGOs that lacked the required expertise. As would be expected, this was not sufficiently helpful, especially at such a precarious time and under the circumstances surrounding such a threat of disease, a threat to lives without regard for borders: “How is it that the international community has left the response to Ebola—now a transnational threat—to doctors, nurses and charity workers?” The cry was loud and clear when Doctors without Borders in Liberia cried out that they had exhausted their available pool of experienced medical staff and could not scale up their response any further: “We desperately need WHO, countries, and other aid agencies to deploy staff to the field. We are Doctors Without Borders but not without limits.” There was a “lack of adequate facilities for isolating and diagnosing patients where they were needed most.” This was especially so given that wherever there were new cases, an all-out response had to be put into motion, while simultaneously expecting local people, governments, and NGOs to be flexible in their approach, adding to the already mounting pressures on health care workers to have to carry out utility calculations of who needs the most, where, and when, with people’s lives hanging in the balance.

Taking a closer look at some activities of the international community through the framework of WHO, the African Union, and the CDC should help shed some light regarding what they did or are currently doing to curtail the spread of Ebola and put affected African countries and the rest of the international community in a better position than they were in 2014.

262 Id.
263 Id.
264 Id.
266 Response Slow and Uneven, supra note 261.
267 Id.
A. WHO

WHO has been criticized for its initial handling of the Ebola outbreak. Therefore, taking a look at how WHO handled the outbreak would be helpful in understanding whether indeed it was effective or flawed in its response to a major epidemic under the circumstances they faced with the resources at their disposal.

WHO graded the initial Ebola outbreak in Guinea and Liberia as a Level 2 event according to its Emergency Response Framework (“ERF”).\(^\text{268}\) The Level 2 designation directs the WHO “to provide moderate support to the affected countries.”\(^\text{269}\) However, this level was increased to a Level 3 event on July 24, 2014, the Director-General of WHO realizing that the increasing severity of the outbreak in Guinea and Liberia required a more expansive response, and also based on the fact that the outbreak had seemingly spread to another nation: Nigeria.\(^\text{270}\) By initiating the Level 3 event designation, WHO’s response had to direct additional, substantial resources to the affected countries.\(^\text{271}\)

With the intensity of the outbreak, WHO, together with affected countries, launched the Ebola Virus Disease Response Plan for the period running from July to December 2014.\(^\text{272}\) In an effort to rapidly prevent further spread of EVD in West Africa, WHO convened a special ministerial meeting on the outbreak.\(^\text{273}\) The meeting, which was held on July 2–3, 2014 in Accra, Ghana, brought together Ministers of Health and senior health officials from 11 African nations;\(^\text{274}\) it also brought together stakeholders in the affected regions, including Ebola survivors, representatives of airlines and mining


\(^\text{269}\) Id.

\(^\text{270}\) Id.

\(^\text{271}\) Id.

\(^\text{272}\) Id. WHO had issued funding appeals and received a total USD 7,006,230 between March and April of 2014, which were exhausted before the end of the year, exceeding the initial appeal requests made for USD 4,800,00. Id.

\(^\text{273}\) Id. at 4.

\(^\text{274}\) Id. The nations present included: Côte d’Ivoire, Democratic Republic of the Congo, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Senegal, Sierra Leone, and Uganda. Id.
companies, and donor communities, groups that could serve as critical response partners in the months to come.\textsuperscript{275} The Accra meeting secured a consensus of opinion amongst the participants that the WHO would “lead and coordinate the international response to the outbreak.”\textsuperscript{276} The objective of the meeting had been to secure an even greater consensus as to “the optimal way to interrupt the ongoing [Ebola] transmission [rates] in West Africa” and therefore minimize “the human, social, and economic impact of the current outbreak,” and in turn, to learn how to deal with any future outbreaks.\textsuperscript{277} This was arguably achieved, the outcome of this meeting being the Strategy for Accelerated Response to the Ebola Outbreak in West Africa, which declared the two important strategies that would be pursued: 1. “Stop transmission of Ebola virus disease in the affected countries through [the] scaling up [of] effective, evidence-based outbreak control measures. . . . [and; 2.] Prevent the spread of EVD to the neighboring at-risk countries through strengthening [of] epidemic preparedness and response measures.”\textsuperscript{278}

The strategic plan involved establishing the Sub regional Operations Coordinating Centre (“SEOCC”), which is now located in Conakry, Guinea.\textsuperscript{279} The center is the main operations center for West Africa, and served as a coordinating platform during the crisis, bringing together WHO and its partners to “consolidate, harmonize, and streamline the technical support to affected countries.”\textsuperscript{280} WHO

\textsuperscript{275} Id.
\textsuperscript{276} Id. at 3.
\textsuperscript{277} Id.
\textsuperscript{278} Id. Based on the epidemiological profile of the Ebola virus outbreak, the strategy was built on the following three major pillars and associated activities: (1) Immediate outbreak response interventions, including: assessment; reduction of the spread of disease and effective measures to interrupt transmission of Ebola virus disease. . . . (2) Enhancing coordination and collaboration, including: (a) Building on local, regional and national coordination. . . . (b) Whole of society response (incl. potential legislative action, involvement of the military, as appropriate; public order maintenance). . . . (c) Proactive preparedness promotion in neighboring countries – including through social mobilization and training. . . . (3) Scaling-up of human and financial resources mobilization, including: . . . (a) Communication and public engagement (e.g. sharing responsibility for preparedness and response; communication for the general public; sharing of data and information)... (b) Linking health and social care responses. Id.

\textsuperscript{279} Id. at 6.
\textsuperscript{280} Id.
and the Regional Office for Africa continue to “coordinate international and regional deployments and activities, respectively,” and provide additional capacity to the SEOCC.\textsuperscript{281}

Perhaps unsurprisingly, considering many regional governments had declared the epidemic “national health emergencies[, each affected countries established a “National Task Force for Ebola Outbreak Response”].\textsuperscript{282} The three most affected countries have also organized a series of discussions to empower their respective National Task Forces to further develop response plans.\textsuperscript{283} The Governments of Guinea, Liberia, and Sierra Leone implemented their respective national strategic plans for a quicker, and hopefully more effective response.\textsuperscript{284} The application of these operational plans over time have brought concrete improvements, and the scale up of effective outbreak containment measures is working, as recent statistics have shown that the Ebola outbreak has subsided.\textsuperscript{285}

Despite success, however, the future challenges facing the task forces and other WHO-based initiatives cannot be ignored. Major challenges contributing to the on-going outbreak include: 1) Inadequate understanding within communities of the Ebola virus disease, especially given this is the country’s first experience with Ebola; 2) lack of experience among healthcare workers and limited capacities for a rapid response; 3) high exposure to Ebola virus in the communities through household care and customary burial procedures, and the resulting high level of community deaths leading to panic and anxiety; 4) denial, distrust, and rejection of proposed public health interventions arising from misapprehension of the cause of the new disease; 5) fear of the disease by forefront health workers leading to either suboptimal care for patients or substandard implementation of protective measures; 6) close community ties and movement within and across borders has led to difficulties in the tracing and the following up of contacts for the three countries; and, 7) the scale and

\textsuperscript{281} Id.

\textsuperscript{282} Id. at 8.

\textsuperscript{283} Id.

\textsuperscript{284} Id.

the geographical extent of the outbreak in Sierra Leone, and Guinea, require significant and robust response capacities and structures.286

B. The African Union

Some have criticized or even accused, the African leaders for failing to do enough to address the Ebola health crisis.287 “Ebola has exposed the extreme weaknesses of our institutions as governments; countries which are affected were found totally unprepared,” said Graca Machel, Nelson Mandela’s widow.288 Similarly, the AU has been criticized for “waiting 10 months before holding an emergency summit on the outbreak.”289 However, according to the African Union, Africa’s efforts to tackle the Ebola crisis has been largely undermined or unnoticed in spite of the fact that Africans have taken the lead in providing forefront staff, and have shown themselves “better placed to fight infectious diseases in their continent than outsiders.”290 Dr. Olawale Maiyegun, the director of social affairs at the AU commission, said that despite the fact that Africans have shown both the willingness and ability to deal with Ebola, “the focus has been on the work of international agencies and those with the greatest media clout,” overshadowing the work of Africans.291 He continued by pointing out that, “[u]nfortunately, Africans do not have the international voice of CNN, BBC and France 24, [and as a result,]


288 Id.

289 Id.

290 Id.

291 Id.
much of their work is overlooked in the western media.” According to the African Union, “[t]he success of African health workers – including the heroic health workers of Liberia, Sierra Leone and Guinea – shows one thing: African health workers are better placed to fight infectious diseases in their continent than outsiders.” So, what has the African Union done to assist in dealing with the Ebola outbreak and prevention?

In its very first statement on the Ebola outbreak, the African Union expressed its “deep concern at the situation, and its full solidarity and support to the countries affected by this epidemic.” In April 2014, the AU began its response to the crisis; the first “African Ministers of Health Meeting”, was jointly convened by the African Union Commission (AUC) and the WHO in Luanda, Angola. The AU made a strong statement and appeal to its member states with experience in handling EVD to assist with the disease. The response was positive, given that some AU member states sent experts to the affected countries. Then, at its meeting in Addis Ababa, Ethiopia on August 19, 2014, the AU also adopted several decisions on the Ebola outbreak in West Africa, and approved the “immediate deployment of an African Union-led Military and Civilian Humanitarian Mission, encompassing nurses, medical doctors, and other medical and paramedical personnel.” It also included military personnel, which is required “for the effectiveness and protection of the Mission.” Following this decision was the formation of the ASEOWA team, a Strategic Task Force comprised of representatives from various AU departments, UN agencies, and partners. Within the ASEOWA task force are specialist agencies that are supporting the AU with expertise, information

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292 Id.
293 Id.
294 Wilson, supra note 224.
296 Id.
297 Id.
298 See Wilson, supra note 224.
299 Id.
300 See AFRICAN UNION, supra note 295. Within the ASEOWA task force are specialist agencies that are supporting the AU with expertise, information
Operations (CONOPs) envisioned “having up to 1000 health workers in the field, on a rotational basis over the next six-month period,” namely from December 2014–May 2015; success would be measured solely upon whether the affected countries were subsequently confirmed Ebola free.  

An agreement to help create an African Center comparable to the Centers for Disease Control and Prevention was signed on Monday, April 13, 2015, between the United States and the African Union, embodying the United States’ commitment to promoting public health across Africa and global health security. According to the news release, “[t]he African CDC is scheduled to launch sometime this year with the creation of an African Surveillance and Response Unit.” The plan is for the unit to “include an emergency operations center that can coordinate and staff future health emergency responses on the continent.” “Under the agreement, the U.S. CDC will provide the technical expertise for the new African unit, and advise on the future development of the institution.”

The AUC’s decision to quicken the establishment of the CDC in Africa, has prompted: (1) “a rapid assessment of all CDC-type existing centers in Africa;” (2) the organizing of “a meeting of the Multinational Task Force that was established in June 2014, at the insistence of the African Ministers of Health;” a task force which deliberated “the type of CDC to be established, its areas of focus, and the relevant partnerships to support its functions;” (3) the creation of “a comprehensive but concise roadmap for the establishment and functioning of the African CDC by mid-2015;” and (4) the inclusion of “legal, structural, and financial implications of the establishment and updates and additional resources. These partners include: UN agencies, the US Mission to the African Union, the US Center for Disease Control, the European Union, the African Humanitarian Action, and various Embassies who attend meetings from time to time. Id.

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301 Id.
303 Id.
304 Id.
305 Id.
take off of the center, to be submitted to the January 2015 AU Assembly[.]."

So, although not perfect or even the utmost, much has been done and is still being done by the AU to deal with this deadly disease. Indeed, the AU and the Economic Community of West African States have responded relatively well to the crisis, with the AU deploying more than 835 African health workers to Liberia, Sierra Leone, and Guinea at the peak of the epidemic. There is truth in the following statement: “The people of the affected countries should be given credit for doing a good job,” despite their weak health infrastructures and institutions.

C. The CDC

The one-year anniversary of the CDC’s participation and response to the Ebola outbreak was on July 9, 2015. As soon as the CDC became aware of the outbreak, it dispatched a team of experts to Guinea. Although the number of outbreaks continues to subside, the CDC continues to monitor and maintain experts in the most affected regions. Between 2014 and 2015, the CDC dispatched more than a thousand employees to Guinea, Liberia, and Sierra Leone. Many of these workers have made the trip more than once. Others, still “[t]housands more, have also worked on the Ebola response from the CDC’s headquarters in Atlanta, Georgia, as well as from other areas in the United States, and from other countries around the world.” The CDC has, however, not responded alone, and in some cases has collaborated with partners, such as: “the ministries of health in West Africa, the World Health Organization, the CDC Foundation, or with

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306 See AFRICAN UNION, supra note 295.
307 Id.
308 See Jones, supra note 288 (quoting Dr. Olawale Maiyegun).
310 See id. at 1.
311 See id.
312 Id.
313 Id.
314 Id.
other agencies of the U.S. government; for example, with the U.S. Agency for International Development (USAID), Doctors Without Borders (MSF), and other non-for-profit organizations.”315

In May of 2015, “more than a year after the outbreak began, the World Health Organization declared the end of the Ebola outbreak in Liberia,” and yet just a month later, another case of Ebola was reported.”316 However, “cases continue to be reported in Guinea and Sierra Leone” to this day.317

The CDC’s work is not at an end. It “continues to work in West Africa with the goal of stopping new cases in affected countries and keeping them from spreading.”318 How is the CDC in collaboration with its other partners in effectively doing so? Briefly highlighting some of the ways in which they cooperate with such partners will help pinpoint to strategies that may be used in the case of a future outbreak.

1. Protecting the Borders by Screening

As shown by the way it permeated the various nations of West Africa, Ebola has “proven how easily infectious diseases can cross borders, land, rivers, and even oceans,” infecting far beyond wherever they first strike.319 The three most highly impacted West African countries generally have porous borders and a highly mobile population that enabled “the rapid spread of Ebola from its origin in Guinea.”320 In West Africa, border control measures are very much relaxed; “getting to another country could be as simple as taking a boat trip across a river.”321 This makes it easy for a disease such as Ebola to spread across countries, consequently complicating contact tracing. Therefore, the CDC works with airlines, airports, ministries of health, and other partners to “provide technical assistance for conducting exit screenings and travel restrictions in countries with Ebola.”322

315 Id.
316 Id.
317 See id.
318 Id.
320 CDC, Road to Zero, supra note 310, at 29.
321 Id.
322 Id. at 29. Exit screening helps to identify travelers who may have symptoms of Ebola, or who may have been exposed to Ebola, and thus prevent them from leaving a country until it is confirmed they are not sick. Id.
In the United States, the CDC required air travelers entering the country who have been in Guinea, Liberia, or Sierra Leone to undergo entry screening. As with exit screening, “entry screening helps to prevent the further spread of Ebola . . . by identifying travelers who may be sick with Ebola or may have had exposure to Ebola and by ensuring . . . travelers are directed to appropriate medical care.”

2. Mobilizing Laboratories

The CDC attempts to set up labs close to treatment centers. Ebola treatment centers are no exception, and are usually run by MSF. Staff at treatment centers are formed into contact tracing teams that work to find individuals who have been exposed to patients with Ebola. Should those people develop Ebola symptoms during a twenty-one day monitoring period, they are brought back to the treatment centers where “healthcare workers wearing personal protective gear carefully take a blood sample and send it to the lab.”

323 Id.

324 See id. However, as of June 17, 2015, entry screening changed for travelers coming to the United States from Guinea, Liberia, and Sierra Leone. Id. at 34. These travelers will continue to enter through one of five U.S. airports: New York JFK International Airport, Washington-Dulles International Airport, Newark International Airport, Chicago O’Hare International Airport, and Atlanta Hartsfield-Jackson International Airport. Id. Because the Ebola outbreak in Liberia is now virtually over, CDC no longer recommends active monitoring for those travelers arriving in the United States from Liberia. CDC, Questions and Answers: 2014 Ebola Outbreak, Ctrs. for Disease Control, (Feb. 18, 2016), https://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/qa.html [https://perma.cc/4RXF-JUR8]. Notwithstanding entry travelers will still have their temperatures taken and be asked questions about travel history and possible exposures to Ebola, as well as provide their contact information so that the health department at their destination can connect with them, if needed. See CDC, Road to Zero, supra note 309, at 34. Travelers still undergo exit screening before departing from Liberia. Id. Entry screening and monitoring is not changed for travelers entering the United States from Guinea or Sierra Leone – this includes travelers from Liberia who have also traveled to either Guinea or Sierra Leone within the past 21 days. Id.

325 Mobilizing Laboratories, CTRS. FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/about/ebola/mobilizing-laboratories.html (last visited Dec. 28, 2016) [https://perma.cc/46NM-F5E7].

326 Id.

327 Id.

328 Id.
This is important, given that “early and accurate testing is critical” to preventing unnecessary spread. \(^{329}\) This CDC intervention is clear evidence that “an effective lab infrastructure . . . is essential for countries to rapidly detect and contain [EVD]”. \(^{330}\)

3. Strengthening Health Care to Prevent Infections

Effective infection control can be achieved only with an empowered health care system, which will in turn, “protect communities and the healthcare workers who serve them.” \(^{331}\) Prior to this most recent outbreak of Ebola, “infection control in health facilities in Guinea, Liberia, and Sierra Leone was often minimal at best,” and “[t]he fragile healthcare systems added to a rapid spread of the virus, and made it difficult to contain the epidemic.” \(^{332}\) In addition, “community behaviors needed to change to prevent people from getting Ebola when” taking care of the sick, and “while participating in traditional burials.” \(^{333}\)

On-the-ground training and health care education aimed at reducing the spread of the disease was provided. \(^{334}\) Microplanning sessions with a focus “on the early detection and safe isolation of patients, safe burials, and infection control in health care settings” were hosted by the CDC in Liberia. \(^{335}\) As a result of such experiences, “when the first case of Ebola was diagnosed in the United States, the

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\(^{329}\) See id. Should the sample test negative, “the patient is referred to a non-Ebola clinic for diagnosis and treatment as well as for follow-up testing.” Id. “If the sample tests positive, then the patient is isolated in a treatment center.” Id. Because patients who survive Ebola must eventually leave the treatment center, that happens only when their bodies have cleared the virus and the lab test comes back negative. Id.

\(^{330}\) Id. “When lab responders arrived in Liberia and Sierra Leone . . . they quickly set up mobile labs in both countries.” Id. CDC runs a lab in Bo, Sierra Leone, and has jointly run another lab in Liberia with the National Institutes of Health, and currently supports labs in Liberia along with the U.S. Department of Defense. Id.


\(^{332}\) Id.

\(^{333}\) Id.

\(^{334}\) Id.

\(^{335}\) Id.
CDC worked to tighten infection control procedures.” With the insights garnered from these innovative sessions and the direct experience of handling the EVD epidemic in Africa, the CDC has been able to “improve the preparation of healthcare workers and hospitals around” the United States as well.

4. Burying the Dead

Another plight that comes with an Ebola outbreak is the need to bury the dead. However, “this cannot be done casually because corpses are one of the most infectious things. . .” “If you come into contact with the dead body of an Ebola victim, you are very likely to get Ebola yourself.” Training others to bury dead is a necessity, therefore, to prevent infections to themselves and others. In pursuit of this end, “people are trained how to put on protective suites, masks, goggles, and gloves; how to collect bodies; how to wrap the corpses; and how to bury them.” It was very difficult for responders “to convince families that taking their loved ones to be buried was the right thing to do,” because so often “washing and burying the dead is an important [cultural practice].” As one CDC responder said, “Burial teams told me over and over how they had to sit and talk to families for hours before the family would let them take the corpse away for safe burial. . . just to make a family understand why it was helping the whole community to allow their loved one to be buried without the usual ritual.” Needless to say, proper burial procedures would help in preventing the spread of Ebola.

5. Contact Tracing

Contact tracing is a vital component in preventing the spread of Ebola in an outbreak. Person-to-person transmission can lead to a

336 Id.
337 Id.
338 Id.
339 Id.
340 Id.
341 Id.
342 Id.
343 Id.
344 Id.
345 Olushayo Oluseun Olu et al., Contract Tracing During an Outbreak of Ebola, 4 FRONTIERS IN PUB. HEALTH 1, 1 (2016).
large number of cases." Experience shows “that rapid case finding, paired with proper infection control, is critical in order to stop the spread of Ebola.” The “CDC and [its] partners are using contact tracing to identify new Ebola cases quickly, which increases patients’ chances of survival,” and helps to “isolate patients as soon as they show symptoms, which prevents the spread [of EVD] to others.” Failing to find a contact is an unacceptable standard for tracing teams, because even one oversight “can mean that Ebola will continue to spread, because sick people need care from others.” Contact tracing works, and [it has] been used in each of the previous twenty Ebola outbreaks over the past forty years to successfully control Ebola.

During the 2014 Ebola outbreak, successful uses of contract tracing from Mali, Nigeria, and Senegal have demonstrated how effective the practice was and could be in used in the future for containing outbreaks.

**D. UNESCO, Bioethics, and Ebola**

The United Nations Educational, Scientific and Cultural Organization (UNESCO) “has a key role to play in the global response” to outbreaks that endanger public health. UNESCO is “able to call upon expertise in a number of different fields (such as in culture, education, communication and the sciences), as well as rely on its close working relationship with ministries, civil society, other United Nations agencies, multi-laterals, and other development partners including the private sector,” which places UNESCO “in an

348 Id.
349 Id.
350 Id.
351 Id.
352 UNESCO’S RESPONE TO EBOLA, supra note 254, at 5. UNESCO’s mission statement states: “As a specialized agency of the United Nations, UNESCO – pursuant to its Constitution – contributes to the building of peace, the eradication of poverty, and sustainable development and intercultural dialogue through education, the sciences, culture, communication and information.” Id. at 14.
ideal position to provide support to member states engaged in the Ebola response."

Given UNESCO’s “unique role in bioethics within the international community” and the severity of the 2014 Ebola outbreaks, the International Bioethics Committee (IBC), in conjunction with the Intergovernmental Bioethics Committee (IGBC), adopted a joint statement in September 2014 seeking to strengthen principles within the Universal Declaration on Bioethics and Human Rights. The statement likewise aimed to “strengthen international support in ending the Ebola virus epidemic.” The joint Committees also called on states “to define and implement strategies to fight the epidemic, that involve local populations and [that] take into consideration the particular context within the affected countries, including their ethical, social, and cultural dimensions.” States were urged to “reinforce the capacities of their health systems so that they may face the epidemic financially, and materially,” by utilizing their resources and thereby obtain the ability to prevent the spread of Ebola now and in the future. UNESCO’s Response to Ebola involves thirteen mission critical actions and five Strategic Objectives (“STEPPS”):

1. STOP the outbreak . . . Identify and Trace people with Ebola . . .
2. TREAT the infected . . . Care for Persons with Ebola and Infection Control Medical Care for Responders . . .

353 Id. at 5.
355 Id.
356 UNESCO’S RESPONSE TO EBOLA, supra note 254, at 16.
357 Id.
4. PRESERVE stability Reliable Supplies of Materials and Equipment Transport and Fuel Social Mobilization and Community Engagement Messaging . . . [and]

5. PREVENT outbreaks in countries currently unaffected. 358

V. LESSONS LEARNED AND PREEMPTIONS FOR THE FUTURE

Ebola has transformed the way the international community thinks about epidemiologic diseases. What will the global future look like, particularly for the World Health Organization? As mentioned above, “[t]here were 30 confirmed cases of [EVD] reported in the week [prior] to July 5, 2015: 18 in Guinea, 3 in Liberia, and 9 in Sierra Leone.” 359 Although that was the “highest weekly total since mid-May [2015], improvements to case investigation and contact tracing, together with enhanced incentives to encourage case reporting, and compliance with quarantine measures” had already led responders even then to better understand how the virus spread. 360

The 2014 Ebola outbreak was a “complex emergency [that] galvanized a large number of stakeholders into action;” therefore, a proper system of coordination is required, and the effectiveness of the response will be hampered by “duplication, delays, and gaps in effort.” 361 A number of different structures have already been put into place to inhibit the possibility of a future widespread outbreak, for example: “[(1)] the Emergency Operations Centre in Sierra Leone, [(2)] the Incident Management System in Liberia;” (3) the willingness of governmental decision makers to meet regularly with stakeholders, such as, other governmental officials, the UN, foreign governments, and the African Union. 362

The UN certainly has not been idle:

From the UN and other stakeholders side, in addition to UNMEER, a number of different coordination mechanisms have been initiated to increase the effectiveness of the response, such as the weekly

358 Id. at 14.
360 Id.
361 UNESCO’S RESPONSE TO EBOLA, supra note 254, at 11.
362 See id.
International Interagency Ebola Communication Coordination Call chaired by [the CDC], which includes a number of different stakeholders...

Lessons have been learned in Nigeria, a developing country that successfully prevented a wider spread of the epidemic by containing it. The story has a very clear message, as noted by Dr. Margaret Chan, the WHO Director-General:

*If a country like Nigeria, hampered by serious security problems, can do this—that is, make significant progress towards interrupting polio transmission, eradicate guinea-worm disease and contain Ebola, all at the same time—any country in the world experiencing an imported case can hold onward transmission to just a handful of cases.*

Given analyses of previous Ebola outbreaks in central and eastern Africa, which “indicated the role of gender-related factors as key determinants of exposure and infection,” stakeholders should now know to place special consideration on women and on the effects of “mainstreamed gender” on their campaigns. The serious consequences of such past oversights as to the role of gender resulted in the “estimated gender asymmetries in Ebola infections and fatalities.” Speaking on a reflection panel highlighting ways to improve future responses in regards to gender considerations, the Executive Director of U.N. Women emphasized the importance of appealing and providing information to women, and “noted that such measures could have reduced the number of deaths.”

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363 Id.
364 See Nigeria is Now Free of Ebola Virus Transmission, supra note 111.
365 See Sophie Arie, Ebola: An Opportunity for a Clinical Trial?, BMJ (Aug. 6, 2014), http://www.bmj.com/content/349/bmj.g4997 [https://perma.cc/7UXJ-YFMB]. From 1976 to 2012, twenty-four outbreaks of Ebola have been reported “five in Uganda, six in [Democratic Republic of] Congo, four in Congo-Brazzaville, three in Sudan, four in Gabon, one in Ivory Coast, and one in South Africa. The largest was in Uganda in 2000 when 425 people died.” Id.
366 See Manivannan, supra note 226, at 3.
367 Id.
368 Id.
As discussed above, quarantines can also be an appropriate weapon in the public health response arsenal, but must be employed cautiously; such drastic measures should only be used when they can accommodate to the standards established in the Siracusa Principles.\textsuperscript{369} “When assessing the use of quarantines in the case of Ebola exposure, less drastic measures that could be equally effective should be considered first;” for example, since the first symptom of Ebola is fever, twice-daily temperature checks would be sufficient for monitoring a possible carrier “for symptoms so that he or she can be immediately and safely transported to a hospital with an isolation unit where Ebola can be treated.”\textsuperscript{370}

The launch of the African CDC, along with the creation of an African Surveillance and Response Unit, is a great step in the right direction; “[t]his unit will include an emergency operations center that can coordinate and staff future health emergency responses on the continent.”\textsuperscript{371} The African CDC “will help African countries effectively monitor public health, respond to public health emergencies, address complex health challenges, and build needed capacity,” Dr. Nkosazana Dlamini Zuma, chair of the African Union Commission, said in a CDC news release.\textsuperscript{372} In case of a future widespread outbreak in Africa, this would almost certainly reduce and prevent deaths from Ebola due to the lack of institutional infrastructure. This will be even more likely given the fact that under the agreement, the CDC “will provide technical expertise for the African CDC Surveillance and Response Unit, as well as advise African CDC leadership” on future development of the institution; it will also “support fellowships for ten African epidemiologists to help staff the African CDC Coordinating Center” in Addis Ababa, Ethiopia, and five regional collaborating centers in other areas of the continent.\textsuperscript{373} As noted by Dr. Tom Kenyon, director of the CDC’s

\textsuperscript{369} See Abiola, supra note 161 at 5.

\textsuperscript{370} Id.

\textsuperscript{371} Preidt, supra note 302.


\textsuperscript{373} Id. The epidemiologists will be responsible for disease surveillance, investigations, analysis, and for reporting trends and potential problems. Id.
Center for Global Health, “This is a landmark event in African ownership of improving health across the continent.”

Although “health workers have an ethical obligation to care for their patients, even if doing so involves some degree of risk” to their health, the affected country’s government has a responsibility to ensure that these health workers, and all others involved in the response, have the requisite training in infection control and proper use of protective equipment. Likewise, national governments have the onus upon them to “ensure that health care professionals and others involved in the response are promptly paid, and that social protection programs are in place for the families of government workers who [may] die or become ill as a result of their work in addressing the crisis.” Lessons should be learned and employed from domestic and international workers who raised concerns about a lack of training and appropriate personal protective gear and other related matters.

UNESCO will support the development of national plans and actions to arrange countries bordering widespread transmission sites to speedily scale up communication, social mobilization, and community engagement as described in the previous sections of this article. The ultimate aims are to improve community preparedness and response measures through communication and social mobilization, and to ensure that such communications ease social mobilization and community engagement, which is especially important for supporting behavior changes on traditional issues such as traditional burials, using Ebola Treatment Units, etc.

Findings from Doctors without Borders, dealing with the Ebola epidemic in West Africa, indicate that fear is a limiting factor in trying to control EVD. In an interview, the international president for Doctors without Borders, Dr. Joanne Liu, said that “caring for patients is only one of the three ‘pillars’ of for controlling the Ebola outbreak.” The other two equally vital factors (or “pillars” as Liu described) are tracing possible Ebola cases and educating community members.

374 Id.
375 See Human Rights Watch, supra note 19.
376 Id.
377 Id.
379 Id.
However, she further noted that the main problem was fear amongst both staff, volunteers, and especially community members, and even though “[f]ear is normal when you don’t understand what is going on... [e]verybody has to overcome their own fear before coming to the field [to help].”\textsuperscript{380} Consequently, to eliminate that fear, Doctors without Borders needs go beyond funding, to seeking more volunteers who will engage with the community. Therefore, Dr. Liu concludes, there is a need for people who can engage the community and civic leaders to tell them about the public health challenge presented by a disease like Ebola, and “[to] mobilize the population and make them understand what is [really] going on.”\textsuperscript{381}

Consequently, tackling the fear factor is a lesson that can be used to prepare against potential future outbreaks.\textsuperscript{382} This means that dealing with the fears must involve not only the impacted community but also the volunteers who are there to work in those communities during an outbreak. It was thought that NGO volunteers during the outbreak, possibly because of fear, were not as quick to offer their services as they were in prior crises.\textsuperscript{383} Dr. Liu alluded to this fact by saying that it has not been easy getting help from the international community: “NGOs that I used to see in some other crises, like after the Haiti earthquake or even in [Central African Republic] or South Sudan, are not present right now in Western Africa.”\textsuperscript{384} Yet, without the involvement of other volunteer organizations, it is impossible to contain the Ebola epidemic, which leads to everyone else suffering, aside from the Ebola patients.\textsuperscript{385} Other patients seeking treatment for

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{380} \textit{Id.}
\item \textsuperscript{381} \textit{Id.}
\item \textsuperscript{382} See Human Rights Watch, \textit{supra} note 19. Fear of Ebola has led to attacks on health workers. For example, an angry crowd attacked an Ebola treatment center in Macenta, Guinea accusing the Doctors Without Borders, who run the center, of bringing Ebola to the city. \textit{Id.} In the same vein, people in N’Zérékoré, Guinea’s second largest city, rioted and protested the spraying of a market with disinfectant they believed was infected with the Ebola virus, causing injuries to over 50 people. \textit{Id.}
\item \textsuperscript{384} \textit{What We Need to Contain Ebola, supra} note 378.
\item \textsuperscript{385} \textit{Id.}
\end{enumerate}
\end{footnotesize}
non-Ebola related health service conditions related to malaria or maternity matters, for example, may have to deal with the ripple effect of a general lack of volunteers on the ground; Dr. Liu spoke about the challenges faced in welcoming six pregnant women who were ready to give birth to their babies, yet lost them, because they were walking around the city trying to find a place to deliver them, and that “by the time they got to our centers, the babies were not alive anymore.”

Henceforth, “[a]ll of UNESCO’s Programme Sectors and certain specialized central services will be mobilized to contribute to the Ebola response, both through sector-specific, and multi-sectoral strategies, as well as in line with its Medium-Term Strategy and the 2014-2017 results framework.” The Division for Gender Equality, the Bureau of Strategic Planning, as well as other departments and teams, will provide support.

I believe the international community and its partners are better prepared for an Ebola outbreak today than they were during the outbreak of 2014. It should also be noted that there was no available vaccine for Ebola during the 2014 crisis leading to the rush for the search for an Ebola vaccine, both during and after the outbreak, the subject of the next section.

VI. THE RACE FOR DRUGS AND VACCINES

With numerous Ebola-related deaths during the Ebola epidemic in 2014, there is a race to the top to get an effective vaccine tested and approved, and to have them out there for those who need them. This is just another “arrow” desperately needed in the “quiver” of the Ebola arsenal. Ebola vaccine trials are being fast-tracked as a drug maker’s race to develop a vaccine. In the U.S., this race may have been

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386 *Id.*

387 UNESCO’S RESPONSE TO EBOLA, *supra* note 254, at 15.

388 *Id.* “The Division for Gender Equality, the Africa Department, and the Director-General’s crisis transition and response team will all provide backstopping and monitoring support for all initiatives.” *Id.* “The Bureau of Strategic Planning will also provide support related to field coordination and cooperation with donors.” *Id.*


390 *See id.*

further encouraged by the US Department of Health and Human Services in its announcement on December 9, 2014, centered on the issuance of a new declaration that it would provide liability protection for activities related to Ebola virus vaccines.\(^3\)

Experts believe that wealthier nations such as the United States will readily invest in mass quantities of a safe vaccine, and then stash quantities of it for the future.\(^3\) In fact, the US government has invested more than any other country in researching neglected tropical diseases since the 9/11 terrorist attacks, which augmented fears about possible bioterror attacks.\(^3\) The risks associated with finding a vaccine should not outweigh the benefits, and, after conducting such a moral risk/benefit analysis, the WHO ethics panel has approved the further testing of an Ebola vaccine.\(^3\) Johnson and Johnson is one of the companies that has accelerated its development of an Ebola vaccine, and has already begun clinical trials in 2015, rather than in 2016 as previously planned.\(^3\)

A. Conduct of Clinical Trials

Two experimental Ebola vaccines are now available to willing volunteers in Liberia as part of the next phase of clinical trials.\(^3\) A Liberia-U.S. clinical research partnership backed by the National Institute of Allergy and Infectious Diseases (NIAID), part of the


\(^{393}\) NBC NEWS, *supra* note 391.

\(^{394}\) Arie, *supra* note 365.


National Institutes of Health (NIH), leads the clinical trial. The Partnership for Research on Ebola Vaccines in Liberia, also known as PREVAIL, “is designed to enroll approximately twenty-seven thousand healthy men and women aged 18 years and older,” mainly seeking its pool of volunteers from groups “at particular risk of Ebola infection, including health care workers, communities with ongoing transmission, contact tracers and members of burial teams.” The NIAID’s Director Anthony S. Fauci, M.D., reiterated the importance of trial safety in developing vaccines by stating that:

> It is imperative that any potential countermeasures, including vaccines, be tested in a manner that conforms to the highest ethical and safety standards in clinical trials designed to provide a clear answer to the question of whether a candidate vaccine is safe and can prevent infection. This trial is designed to provide such answers.

This is also why the WHO and international aid agencies, despite being eager to offer both vaccines, as well as other, therapeutic treatments, to the affected population, insist that “for ethical and practical reasons the drugs must first be tested on humans first.” That is why the United States allows the application of the two animal rule in an emergency under US Federal and Drug Administration (“FDA”) regulations, as follows: “as long as a drug has shown efficacy in two different animals and has proven not to have serious side effects

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398 Id. The NIH is the United States’ medical research agency, (which includes 27 Institutes and Centers) and is a component of the U.S. Department of Health and Human Services. Id. It is the primary federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. Id.

399 Id. The three co-leaders of the vaccine trial are Stephen B. Kennedy, M.D., MPH, secretary-general of the Liberia College of Physicians and Surgeons; Fatorma Baloy, Ph.D., director, Liberian Institute for Biomedical Research; and H. Clifford Lane, M.D., NIAID’s deputy director for clinical research and special projects. Id. The pharmaceutical company GlaxoSmithKline supplies the cAd3-EBOZ vaccine, while Merck and NewLink Genetics, Inc. supply the VSV-ZEBOV vaccine. Id.

400 Id.

401 Arie, supra note 365. A number of studies for possible treatments and vaccines carried out on primates and mice showed promise. Id.
in healthy humans, it can be made available on compassionate grounds.  

In a partnership, the CDC, the Sierra Leone College of Medicine and the Allied Health Sciences, and the Sierra Leone Ministry of Health and Sanitation took volunteers for the “Sierra Leone Trial to Introduce a Vaccine against Ebola” (STRIVE). Like PREVAIL, this study will assess the safety and efficacy of the rVSV-ZEBOV Ebola vaccine candidate among 6000 healthcare and similarly situated frontline workers.

However, because it will take time to be certain how much protection, if any, the rVSV-ZEBOV vaccine may provide, and in the meantime health workers and other frontline volunteers who have received the vaccines are advised to “continue to take full preventive actions and procedures to protect themselves from Ebola.”

Recently, however, there has been tremendously positive news reported. In Guinea, more 11,841 people have received the vaccine known as rVSV-ZEBOV in a study that targeted people from societies with cases of Ebola. Apparently, none of those who have received the vaccine immediately has thus far contracted the virus. None of those vaccinated immediately were infected, as compared with 23 in the unvaccinated group. This means that the efficacy is 100%, and to add to this is the fact that the vaccine is proven to be well tolerated,

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402 Id.
403 *Ebola Vaccine Trial Begins in Sierra Leone*, CTRS. FOR DISEASE CONTROL AND PREVENTION (Apr. 14, 2015), http://www.cdc.gov/media/releases/2015/p0414-ebola-vaccine.html [https://perma.cc/C7LA-SVEE]. Participants were assigned randomly to one of two timeframes for vaccination: (1) right away or (2) about six months later. Id. All study participants will receive the vaccine and be followed closely for six months. Id. By comparing rates of Ebola virus disease in those who are vaccinated to those who have not yet received the vaccine, the study evaluated if and how well the vaccine worked. Id.
404 Id.
405 Id.
407 Id.
408 Id.
with few side effects.\textsuperscript{409} Given this success, and with a continued effort in gathering data on safety and efficacy, one could quickly expect results in the vaccine being licensed and rolled out as a public health measure.\textsuperscript{410} It is amazing that rVSV-ZEBOV was developed five years ago in Canada, but was left on the shelf; safety trials in humans started during Autumn 2014, and trials in Guinea did not begin until March 2015, a year after the outbreak was recognized.\textsuperscript{411}

Consequently, it has been suggested that an urgently needed global vaccine development fund with contributions from governments, foundations, and industries be established in preparation for potential outbreaks.\textsuperscript{412}

\textbf{B. The Drug Companies Versus Africa: Who Benefits?}

There may be even more delays in the manufacturing of vaccines for EVD in Africa. Manufacturing drugs is, after all, a business for the drug companies, and so their profit margins are taken into consideration, and really should be. However, in an atmosphere where thousands were dying and there was a desperate need to alleviate the spread of deaths from Ebola, asking the question of whether the enormous time and cost for manufacturing sufficient volumes of the new drug for human use was arguably an improper question. An important consideration until the recent 2014 outbreak was the idea that this sort of investment simply did not make economic sense for either drug companies or government investment, because the disease apparently affected only a relatively small number of people in developing countries.\textsuperscript{413} Would this have been different if this

\begin{itemize}
    \item \textsuperscript{409} Id. Side effects included headaches and fatigue, with three experiencing more severe reactions from which they recovered completely. Id.
    \item \textsuperscript{411} Farrar, supra note 410.
    \item \textsuperscript{413} See Arie, supra note 365.
\end{itemize}
epidemic started in a developed world? I do not think so. This is likely an added reason why parts of the African population mistrust the West and “its” volunteer doctors and staff; at a time when there is fear and growing panic, along with schools closed in affected areas, government workers sent on compulsory leave, and people fleeing infected areas, the idea of Western doctors injecting African people with experimental drugs could be disastrous if it became prevalent notion amongst locals.\(^{414}\) This perception is likely why conducting clinical trials in Africa could sometimes prove difficult; it is an issue of mistrust. As one Ebola expert said: “Whereas Westerners might immediately consent to trying an experimental drug faced with a 56% chance of death... in Africa, there is a deep-seated mistrust around drug trials conducted by foreign [organizations].”\(^{415}\) However, in light of some of the recent successful trials and vaccines tested on people in Africa mentioned above, particularly in the three hardest hit countries by EVD, the gap of mistrust may have been greatly narrowed, rendering the issue of whether the vaccines are really meant to help or benefit Africans as opposed to the drug companies moot.

C. Leveraging TRIPS for the Benefit of Africans?

“One third of the world’s population—over two billion people—do not have regular access to the essential medicines that they need.”\(^{416}\) This lack of access is even more prevalent within low and medium income nations, “where new or adapted medicines and vaccines to treat some of the world’s deadliest diseases like Ebola and HIV are unavailable or unaffordable.”\(^{417}\)

“Insufficient innovation and a lack of access to affordable medicines are major barriers to achieving a right to healthcare” in developing countries, in particular in countries like Sierra Leone, Liberia, and Guinea.\(^{418}\) Once the Ebola vaccine is manufactured, tested, and ready to be used, there remain questions about its affordability and availability in the very countries and governments

\(^{414}\) See id.

\(^{415}\) See id.


\(^{417}\) Id.

\(^{418}\) Id. at 1.
that may have prompted its manufacture in the first place. Trade policies should not be used to “reward research with monopolies,” but rather, should support “innovative models that create new, affordable medicines.”

The globalized patent system under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) is the “dominant incentive framework for the development of new medicines.” In 1995, when the World Trade Organization (WTO) was formed, the TRIPS Agreement introduced “minimum standards for protecting and enforcing intellectual property rights.” Under article 27.1 of the TRIPS Agreement, WTO Members are required to make patents “available for any inventions, whether products or processes, in all fields of technology [including] patents for pharmaceutical processes and products,” like vaccines. The required “minimum term of protection that a country must make available” under the agreement is 20 years from the date of filling; however, at the Uruguay Round, countries were accorded the discretion to determine the duration of patents, and as a result, some countries did not grant patent protection for pharmaceutical products, while others excluded pharmaceutical processes. Despite this, in 1994 when TRIPS was introduced, it further reduced the “discretionary powers of WTO Members” to tailor other important aspects of their intellectual property rules.

Despite the TRIPS Agreement serving as a new beginning of sorts for obligations “regarding the protection and enforcement of intellectual property,” WTO members still had flexibilities and safeguards, including the liberty to “determine the grounds for issuing

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419 See id. at 2.
420 Id. at 1.
421 Id. at 3.
423 Id.
424 Id.
425 Id.
compulsory licenses.”\textsuperscript{426} Using compulsory licenses is one of the flexibilities existing in the TRIPS agreement that has been reaffirmed by the 2001 Doha Declaration on TRIPS and Public Health, which confirmed that countries are free to determine the grounds for granting compulsory licenses.\textsuperscript{427} Compulsory licenses may be issued on various grounds of general interest, such as for the public health.\textsuperscript{428} In other words, the TRIPS agreement allows a government under certain circumstances to issue a compulsory license, which is an authorization to use the patent of a rights holder, which would allow the authorized user the ability produce and market a cheaper generic medicine without the right holder’s express authorization.\textsuperscript{429} In exchange, the authorized generic firm must pay a license fee to the patent holder.\textsuperscript{430}

What may happen with the manufacture of an Ebola vaccine or drug for African countries? Can the pharmaceutical company simply price out potentially impacted African nations or refuse to sell to them? Apparently, not quite, because the WTO General Council allows WTO members to grant compulsory licenses for the production and export of generic medicines to both “developing countries” and “least developed countries” with insufficient or no manufacturing capacity in the pharmaceutical arena.\textsuperscript{431} This is referred to as the “Paragraph 6 Solution,” and was formalized as an amendment to the

\textsuperscript{426} Id. at 3. “Compulsory licenses. . . are mechanisms used by public authority to authorize use of a patent-protected invention by the government or third parties without the consent of the patent-holder.” Id.


\textsuperscript{429} See UNAIDS, Using TRIPS Flexibility, supra note 422, at 3.

\textsuperscript{430} Compulsory Licensing of Pharmaceuticals, supra note 427.

TRIPS agreement in 2005.\textsuperscript{432} Therefore, Liberia, Guinea, and Sierra Leone or any other developing country for that matter, may be able to invoke or leverage this provision to acquire drugs, and presumably vaccines manufactured by drug companies.\textsuperscript{433}

**VII. CONCLUSION**

This article has highlighted how the Ebola epidemic has been one of the most challenging global public health emergencies in recent times. “The size and scope of the epidemic demonstrates a need for stronger, sustainable disease detection and prevention capacity worldwide.”\textsuperscript{434} As the outbreak became more dire, cases began to appear in Nigeria, Mali, Senegal, and even the United States.\textsuperscript{435} In total, “nine countries have reported cases of Ebola” and “more than 27,000 people have [been either] suspected... or confirmed to be carriers of the Ebola virus, with more than thousands confirmed dead.”\textsuperscript{436} Needless to say, but no reporting is perfect, and these numbers are likely to have been worse.\textsuperscript{437}

Although any Ebola outbreak would likely result in some degree of death regardless of what precautions are taken, there are steps that can be taken to curtail the spread of the virus once its presence has been identified. During the outbreak in 2014, isolating individuals who are infected was the method used to protect uninfected people, but as has been documented, the isolation technique as not the most effective in curtailing the spread.\textsuperscript{438} A lack of clear procedures and responsibilities,

\textsuperscript{432} See UNAIDS, Using TRIPS Flexibility, supra note 422, at 2. TRIPS affirms that the WTO rules on IP should not prevent countries from taking measures to protect public health. Id. Such measures are known as “TRIPS flexibilities.” See id. at 3. Medicines for HIV illustrate the numerous problems with strict IP protection, the positive role of generic competition in decreasing prices, and the importance of allowing developing countries to use TRIPS flexibilities to enhance competition. See id. at 6-7.

\textsuperscript{433} See generally id. at 3.

\textsuperscript{434} CDC, The Road to Zero, supra note 310, at 1.

\textsuperscript{435} Id.

\textsuperscript{436} Id.

\textsuperscript{437} Id.

and the inadequate separation of Ebola patients from everyone else, staff shortages, lack of protective gear and other factors, contributed to the failure to adequately contain the spread of EVD.\textsuperscript{439} Therefore, a vigorous response of the health care system, acting in conjunction with strong public health policies and practices that are grounded in human rights principles, is crucial in averting further infections.\textsuperscript{440} In responding, the effective identification and treatment of people with the virus should be paramount, as well as contact charting and monitoring of people who may have been exposed to it. Making use of easy and available information campaigns, introducing strong protections for health care workers, and implementing measures to ensure that all people can have access to health care without discrimination are important. Should such an outbreak occur in countries that do not have adequate resources to effectively carry out such an effective response, as was the case in Guinea, Sierra Leone, Liberia, and other nations, the international community should provide assistance and expertise, and should do so in a prompt and timely manner.

The clinical trials and manufacture of new Ebola vaccines is an added and welcomed dimension to the fight both against the spread of EVD and any other potential contagious outbreaks, especially while utilizing TRIPS to actively support governments that make use of the legal safeguards and flexibilities provided to protect and promote the public health. Hence, any such drug companies should provide medical products that are suitable, affordable, and accessible.

As a whole, and based on the discussions in this paper, I believe African countries, as well as the Western countries, are far better prepared for any potential Ebola outbreak today than they were in 2014. Although one hopes for no future outbreaks, the lessons learned should undoubtedly shape future responses to any Ebola outbreak.


\textsuperscript{440} See \textit{Strengthening Health Care and Preventing Infections}, supra note 331.