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West Africa's Largest Ebola Outbreak Three Years Later

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A little over a year ago, the World Health Organization officially terminated the Public Health Emergency of International Concern for the Ebola outbreak in West Africa. The outbreak, like most epidemics that occur across the world, slowly dissipated from U.S. news and has mostly since been forgotten. The recent termination of Ebola as a public health emergency in West Africa has regenerated a quiet spark of attention. Three years after the virus's emergence, it's time to revisit West Africa to examine Ebola's impact on the country's' healthcare workers, healthcare system, socio-economic structures, and women and children in the region.

The Ebola virus disease initially appeared in 1976 in small regions of South Sudan and the Democratic Republic of Congo. The two outbreaks remained relatively quiet news to the rest of the world. In contrast, the 2014 Ebola outbreak was the largest, farthest reaching, and most complex occurrence of Ebola. Ebola stems from a family of viruses called Filoviridae, and it is comprised of a filament-like structure of particles that gives the virus more surface area, which allows it to attack a higher number of cells. Every particle of the Ebola virus is coated in glycoproteins, attachment proteins that increase the virus's capacity to affect cells, making it extremely infectious within the body. Once the immune system begins to break down the virus, a process that typically takes between four to ten days, symptoms such as fevers, headaches, and fatigue begin to show. When the virus overpowers healthy cells, the cells erupt and their insides are released. Their remains are then taken up by other cells, which perpetuates the virus. As the symptoms worsen, Ebola-infected individuals suffer from bloody diarrhea, vomiting, loss of appetite, jaundice, and severe sore throat. Macrophages, a type of white blood cell, consume the virus as it travels through the blood. Once macrophages are infected, they discharge proteins, generating coagulation and composing small clots throughout blood vessels. This reduces organs' blood supply, forms other inflammatory-signaling proteins and nitric oxide, and harms the lining of blood vessels, causing them to leak and trigger uncontrollable internal bleeding. Transmission of the Ebola virus is difficult given that it can only occur through direct physical contact with infected bodily fluids and tissues, yet as a hemorrhagic fever virus, it is a swift and effective killer within the individuals it infects.

Dr. Felix Sarria Baez, one of hundreds of Cuban medical workers sent to support the Ebola response in West Africa in October 2014, remembers the exact moment he first felt ill and suspected that he had contracted the Ebola virus. It was a Sunday morning when he woke up with a fever of 100.4 degrees Fahrenheit that rose to 103.1 degrees later in the day. By Monday, he had developed a cough. On Tuesday,

his condition worsened so significantly that he lost consciousness, experienced a fever of 104 degrees Fahrenheit, and developed cerebral encephalitis (brain inflammation) and a rash covering his entire body.

Dr. Baez worked in the Foreign Medical Team in Sierra Leone to help treat Ebola patients, where he ultimately contracted Ebola himself. By February 2016, over 11,000 Ebola-related deaths were reported, many of which occurred in Liberia and Sierra Leone. Of the first 86 cases to appear in the south-eastern regions of Guinea, 59 people died. The irony of this outbreak is that an abundance of the deaths were of the very individuals who were working hard to prevent the spread of the virus. According to data compiled by the World Health Organization (WHO), the fatality rate of healthcare workers who contracted Ebola was 57 percent, while the overall fatality rate of the outbreak was 47 percent. Sierra Leone had the highest healthcare worker fatality rate of 71 percent, whereas the country's overall case fatality rate was 27 percent. This issue highlights the insufficiency of resources to care for the African nationals who are the primary workers in the field of Ebola-infected countries.

There is a lack of adequate facilities in the affected countries to treat their own healthcare workers. At the same time an Ebola-infected American healthcare worker was transported back to the United States for treatment, a Sierra Leone doctor died from Ebola after being rejected for evacuation. WHO received a request from Sierra Leone, who asked to receive much-needed funding to transport their infected doctor to Europe for hopes of better care. The country emphasized that they could not afford to lose another doctor. Yet their request was declined. This was the fourth Ebola-infected Sierra Leonean medical practitioner to die after their evacuation was declined, even as American healthcare workers were being approved for evacuation. The majority of Ebola-infected African healthcare workers were not as lucky as their American or European counterparts, despite the fact that aid teams combatting Ebola on the ground consisted mostly of African healthcare workers. The effects of the outbreak and the lack of funding for medical evacuations of Liberian, Sierra Leonean, and Guinean healthcare workers are felt even today. Liberia has lost 8 percent of its medical staff, including doctors, nurses, and midwives, Sierra Leone 7 percent, and Guinea 1 percent. Consequently the outbreak has made these countries more reliant on outside aid relief.

The international outcry over Ebola caused extensive socio-economic damage still seen in the affected countries today. Ebola, and the fear it created, led to border closures and indirectly affected the economies of countries in the sub-region, despite having low and zero outbreak cases, simply because of their connection to the three main Ebola-infected countries. An estimated $2.2 billion in gross domestic product was lost in Liberia, Sierra Leone, and Guinea in 2015. Ebola's economic calamity jeopardized food security, private sector growth, human capital development, and macroeconomic stability. Some economists argue that if the country's budget had focused more on health, the outbreak's effect on Sierra Leone might have been avoided or lessened significantly. Instead, tax incentives and higher profit margins were prioritized on foreign companies. By the year 2017, West Africa will have lost an average of US $3.5 billion per year from the stigma of Ebola due to the resulting closing of borders, decline in trade, reduction of Foreign Direct Investment, cancelations of flights, and reduction in tourist activity. After civil wars and anti-government groups tormented the country, Sierra Leone has worked hard to make socio-economic strides, and Sierra Leone and Liberia have been making significant economic gains. Three years of a major virus epidemic has played a substantial role in reversing these trends. Even as the Ebola outbreak diminishes, its economic impact remains.

The Ebola outbreak wasn't selective in terms of the ages and genders affected, but nevertheless children and women suffered greatly from the epidemic, both physically and socially. Nearly 20 percent of the Ebola cases occurred in children under 15 years of age, and almost 17,300 children lost one or both parents to the virus. The highly infectious quality of Ebola, in combination with the crowded living conditions many Sierra Leonean were in, meant that one ruthless case of Ebola had the capacity to infect entire families. In June 2014, all schools in Guinea, Sierra Leone, and Liberia closed due to the outbreak. By the time the schools reopened a year later, over 1800 hours of education were lost because of these school closures, with students missing an average of 33 weeks in Guinea to 39 weeks in Sierra Leone.

The physical battle of Ebola was most projected during the media frenzy, but it was not the only struggle that required overcoming. One battle hidden from the public eye was coping with the social stigmatization that often comes with being declared Ebola-free after having the virus, and some of this stigmatization is still felt by survivors three years later. Even individuals who were never infected may experience stigmatization from friends and neighbors if their relatives had contracted the disease. Martins and his older brother found that Ebola had a weighty repercussion on their lives, after their mother (a nurse who treated the first Ebola patient in Nigeria) fell ill and died from Ebola. The brothers not only dealt with a death in the family, but also the stigmatization from friends, neighbors, and even their village leaders, who intercepted the brothers' wishes to bury their mother's ashes in their home village. Other relatives and survivors of Ebola faced similar experiences, and female Ebola survivors especially faced the brunt of this stigmatization.

In West Africa, it is common for women to be the main caretakers of children, to aid members of their communities, and to prepare dead bodies for funerals — all activities that place women in greater contact with Ebola and increase their chances of contracting the virus. A healer in a Guinean village, Mbalya, was one of numerous women who contracted (and survived) the virus due to the caretaking role she assumed in her town. Another young Guinean woman, Mariam, witnessed Ebola rage through her family. When she ultimately contracted and recovered from Ebola herself, she faced a loss of both her fiancé and job as secondary school teacher because of the stigma associated with Ebola. The stigma is not just present in West Africa, but it exists in the United States as well. Immigrant Liberian women have spoken of the familiar issue of being stereotyped as carriers of Ebola simply because they came from one of the three main Ebola-affected countries. Upon returning from Liberia, Bestman-Yates admitted that her employer prevented her from returning to her job as a healthcare worker, despite receiving a clear stamp of approval on her health, and her young son had been the center of bullying from classmates who teased him of being infected with Ebola.

The public's initial anxiety over Ebola's appearance three years ago has largely dissipated, as news about the outbreak has been reduced from apocalyptic to inconsequential over the years. As the wider world moves forward to focus on other diseases and outbreaks, it is crucial to remember the lasting effects the Ebola outbreak had (and continues to have) on West Africa. Sierra Leone, Guinea, and Liberia still struggle under the consequences of Ebola, and as new cases have largely disappeared, and the virus has retracted from the region, what is left in the dust are the unseen effects.

It is critical to recognize that while the Ebola outbreak in West African regions are, today, primarily under control, the toll the virus left behind must not be forgotten. The outbreak's sustained damage to the economy, healthcare workers, healthcare system, and patients, especially women and children, demonstrates that emergency aid is not enough. These individuals deserve a long-term solution: the actual restructuring of the healthcare system to better mitigate epidemics and their aftereffects. Only then can Ebola be thought of as a thing of the past.