EBOLA Epidemic: A New Threat to International Security?

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Communicable diseases can kill and can cause long-term disability. The microbes are dynamic, changeable, and more and more resilient to the weaponry humans use to combat them. They are responsible for more than 14 million deaths each year, mainly in developing countries. Acute respiratory infections, HIV/AIDS, diarrhea, malaria and tuberculosis are the biggest infectious killers in the world and particularly in Africa. Besides mortality figures, they also determine a high burden in terms of disability and morbidity, affecting individuals, families and entire societies, causing great human suffering and major obstacles to economic development1. Public health officials once suggested that it might someday be possible to "close the book" on the study and treatment of infectious diseases, but despite considerable progress, communicable diseases continue to present significant challenges as new microbial threats emerge and reemerge2. The Ebola virus is one of these emergent threats.

Keywords: emerging infectious diseases, Ebola virus, outbreak, epidemic, human security, international security.

Human security rose as a concept in the international security discourse after the falling of the Iron Curtain. As Roland Paris puts it, "human security is the latest in a long line of neologisms (common security, global security, cooperative security and comprehensive security), that encourage policymakers and scholars to think about international security as something more than the military defense of state interests and territory"[3]. The term, which is widely used today by a wide range of governments, international organizations and non-governmental organizations, is part of a long series of attempts to broaden traditional conceptions of security[4]. The concept is most often associated with the 1994 Human Development Report on Human Security drafted by Mahbub ul Haq, even though the term itself was in circulation earlier[5]. The intent of human security was to bridge the freedom from want and freedom from fear, freedoms that lay at the heart of the United Nations[6]. Eventually, it stressed that human security is nothing more than: (1) Safety from chronic threats such as hunger, disease and repression; (2) Protection from sudden and hurtful disruptions in the patterns of daily life – whether in jobs, in homes or in communities.

On 24th of July 2012, the Ministry of Health of the East African country of Uganda reported an outbreak of Ebola hemorrhagic fever to the World Health Organization. Five days later, it took its death toll, as 14 persons (out of 20) died of the disease, resulting in a case fatality proportion of 63.4%[7]. By the beginning of October, WHO declared the outbreak over, counting a total of 24 confirmed and probable cases, of which 17 resulted in death. On November 17th, another occurrence sprung in Uganda killing three people. Until December 2nd 2012 a total of seven confirmed and probable cases and four fatalities were reported[8]. It was just an alarm signal to what was yet to come.

History. In 1967 a mysterious infection hit laboratory workers in Marburg, Germany and in Belgrade, former Yugoslavia[9]. Twenty-five workers, who were carrying out research on the polio virus, became

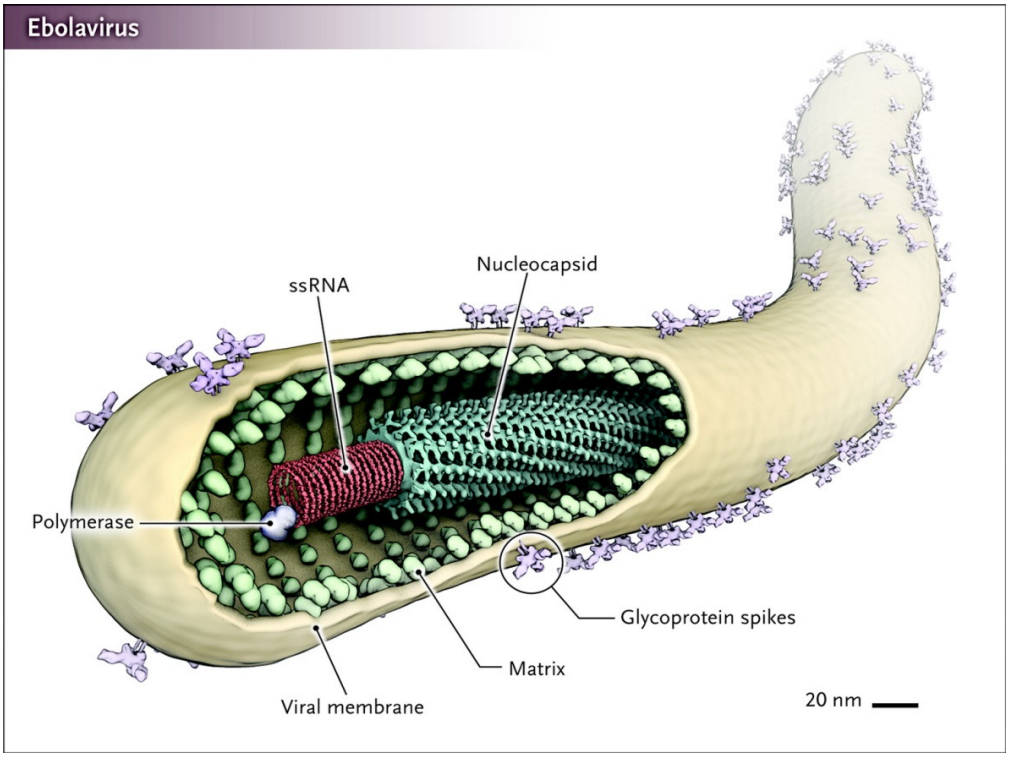


Fig. 1. Ebola virus structure. (Source: N EJM 2014; 371:1375-1378,October 9, 2014)

ill showing a similar set of symptoms: fever, diarrhea, vomiting, shock, and eventually circulatory system collapse. More frighteningly, many of the patients were experiencing severe bleeding, even from a small puncture made to draw blood. The fear spread when individuals who had contact with these scientists also became ill. The medical community was puzzled, as the clinical manifestations were nothing as they seen before. In all, 31 people were infected and 7 (23%) of them died from the disease. The lab tests that were conducted for identifying the etiological agent all came back negative for most of the common infectious.

Instead, using a powerful electronic microscope, scientists found a previously undescribed type of virus in the tissues of animals infected with blood from human patients. The virus was named Marburg, after the city where most of the cases had originated and, since it had morphology unlike any previously known virus, it was placed into a new group, termed *Filoviridae*.

Nearly a decade after the discovery of the Marburg virus, in August 1976, another virus had strike: the Ebola virus. It all began with a patient who visited the Yambuku Mission Hospital in, Zaire, seeking treatment for high fever. He was given a shot of quinine, a drug used to treat malaria, then returned home to rest. Because of the shortage in hospital supplies, the needle used for the injection was reused on other hospital patients. The index patient died on September 8, 1976 and his body was ritually prepared for burial by his family members. Within weeks following the burial, 21 of his friends contracted the infection that had killed him, 18 of them dying shortly after the onset of symptoms. The total death toll and the extent of infection were enormous. The epidemics spread to forty-six villages around Yambuku and had 358 cases and 325 deaths, with a fatality rate of 90.7%, higher than almost any known infectious agent.

Outbreaks

Some major occurrences of Ebola hemorrhagic fever

LOCATION	DATE	DEATHS/INFECTIONS	
Democratic Republic of the Congo*	1976	280 deaths	318 infections
Sudan	1976	151	284
Democratic Republic of the Congo*	1995	250	315
Uganda	2000–2001	224	425
Republic of Congo	December 2002–April 2003	128	143
Democratic Republic of the Congo	2007	187	264
Uganda	December 2007–January 2008	42	131

Note: Country was named Zaire when outbreak occurred; Source: Centers for Disease Control and Prevention

Fig. 2. Ebola Virus Disease Occurrence 1976-2008 (Source: CDC Atlanta)

Throughout the years the virus has produced localized outbreaks and did not trigger epidemics throughout the world. Unlike influenza, which spreads even when people are relatively asymptomatic, Ebola virus is generally transmitted from people who are deathly ill. Most of the scholars who studied the virus

thought that, unless it was to be used as an agent of bioterrorism, it was highly unlikely that the world would experience an epidemic of Ebola because of the restricted manner of its transmission[10]. But the optimism would soon be over.

The Ebola Epidemic 2014. A two-year-old child, identified only as Emile, dies of an unidentified hemorrhagic fever in the town of Guéckédou in Guinea, followed by his mother, sister and grandmother. Mourners at the grandmother's funeral, together with a healthcare worker, carry the virus to nearby villages[11]. On March 10, 2014, hospitals and public health services in Guéckédou and Macenta alerted the Ministry of Health of Guinea and, 2 days later, the organization *Médecins sans Frontières* in Guinea about clusters of a mysterious disease characterized by fever, severe diarrhea, vomiting, and an apparent high fatality rate. Out of eight patients who were hospitalized, three died, additional deaths being reported among the families of the patients. The ministry initiated an epidemiologic investigation and blood samples that had been collected were sent to the biosafety level 4 laboratories in Lyon, France, and Hamburg, Germany, for analysis[12]. The virus was identified as being Ebola Virus.

Over the next 4 to 8 weeks, with a substantial decline in new cases, the outbreak seemed to be resolving, as it did in the past. The medical community was relieved that it would soon be over. They were wrong[13]. The number of cases increased exponentially over the summer, as this viral infection spread more widely in Guinea, Liberia and Sierra Leone[14]. Moreover, cases associated with travel have been identified in Senegal and Nigeria[15].

The 25th known outbreak of Ebola virus infection is unlike any of the previous ones. It has already killed over 6000 people, more than all previous epidemics combined, affecting vir-tually the entire territory of three countries, invol-ving rural areas and major urban centers;

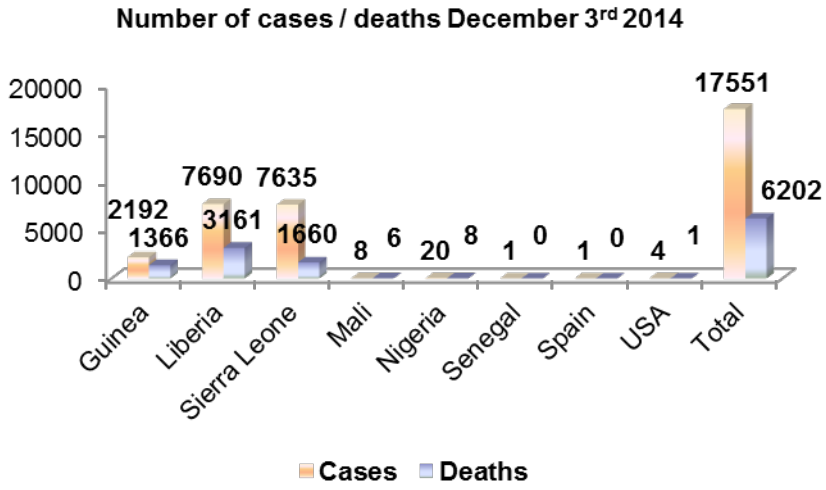


Figure 3. Ebola update (Source:WHO report update http://www.who.int/csr/disease/ebola/situation-reports/en/)

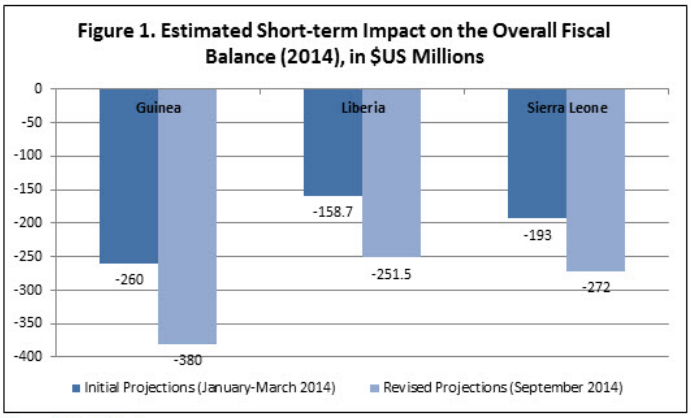
and it is occurring in West Africa, a region that did not witness any Ebola outbreak until now. Above all, the epidemic has evolved into a major humanitarian crisis which, combined with the fear associated with a virulent and potentially deadly contagious infectious disease that respects neither borders nor social status, has finally mobilized the world[16].

On August 8th 2014, 33 weeks into the longest, largest, and most widespread Ebola outbreak on record, the World Health Organization declared the epidemic to be a Public Health Emergency of International Concern (PHEIC). This declaration is usually not made lightly. A PHEIC is an instrument of the International Health Regulations, a legally binding agreement made by 196 countries on containment of major international health threats[17]. Among other binding measures it includes the interdiction for international travel of infected persons or their contacts; reducing people's movement in areas of intense transmission and extraordinary supplementary measures, such as quarantine. For the present situation, funerals and burials should be conducted in the presence of fully trained personnel so as to reduce the risk of spreading infection.

The current Ebola epidemic had some foreseeable causes that had been ignored at the beginning. It is utterly important to recognize that if certain conditions are met, biologic shifts in a pathogen, changes in the interactions between humans and our environment,

dysfunctional and under-resourced health systems, national and international indifference, lack of effective timely response, high population mobility, local customs that can trigger morbidity and mortality, spread in densely populated urban centers and a lack of trust in authorities, what might once have been a limited outbreak can become a massive, nearly uncontrollable epidemic[18].

Links to security. The latest outbreak of *Zaire ebolavirus* in West Africa has shown once again the limited ability of national public health systems to respond to rare, highly virulent communicable diseases. The medical and public health sectors urgently need to improve education and surveillance, to implement rapid, reliable diagnostic procedures in key regions within or closer to the areas where these viruses are endemic, to improve communication strategies.



Source: World Bank

The link between the Ebola epidemic and security is obvious at least in what concerns human security. The idea of interdependence between public health protection and the maintenance of peace and security gained traction after the end of the Cold War. The diminished threat of inter-state armed conflicts allowed consideration of "non-traditional" security threats, including disease outbreaks, and an increasing emphasis on the anthropocentric notion of "human security". Disease outbreaks and catastrophes can affect any country at any time, causing substantial human suffering and deaths and economic losses. If health systems are ill-equipped to deal with such situations, the affected populations can be very vulnerable[19]. The economic consequences of the outbreak are devastating as this epidemic evolves in less developed countries. The World Bank estimates a loss in GDP in West Africa of over one billion dollars. The Ebola health crisis is also causing a food emergency in West Africa. Restrictions on people's movements and the establishment of quarantine zones to contain the spread of the hemorrhagic fever have led to panic buying, food shortages and price hikes in countries ill-prepared to absorb the shock[20].There are also concerns that widespread poverty could force people to resort to criminality in countries that have just emerged from horrific civil wars[21].

In a leadership vacuum, high-income countries sent in military assets, the UN Security Council declared Ebola a threat to international peace and security and UN Secretary- General Ban Ki-moon created a special UN mission[22]. Failures in leadership have already allowed preventable diseases to spin out of control, with dramatic outcomes to social order and human dignity. If the Ebola epidemic does not spur major reforms in the affected countries, it will undermine the credibility of the WHO and the UN and enable the conditions for future crises to persist.

Consistent with the "all-hazards approach" of the International Health Regulations (2005), the WHO Constitution contains a strong reference to the interdependence of global health and the attainment of peace and security[23], but until the end of the Cold War, global health protection and the maintenance of international peace and security were seemingly "distant strangers"[24].

The emergence of a discourse concerning non-traditional threats to international peace and security is reflected in the practice of the Security Council. One prominent, even though controversial, example of the Council`s broadened understanding that threats to global public health are threats to international security, was the open debate held by the Council in January 2000 on "The situation in Africa: The impact of AIDS on international peace and security" followed by the adoption of Resolution 1308[25]. This first step was followed the UN Secretary-General statement, in 2005, to be "ready, in consultation with the Director-General of WHO, to use my powers under Article 99 of the Charter of the United Nations to call to the attention of the Security Council any overwhelming outbreak of infectious disease that threatens international peace and security"[26]. Further on, at the 2011 Security Council

meeting on new challenges to international peace and security and conflict prevention, the Secretary-General mentioned "pandemics" as one of the defining challenges of our time[27].

Consistent with the above approaches, the adoption of Security Council's September 18th resolution on Ebola is not surprising[28]. Charged with maintaining international peace and security, the UN has the legitimacy and authority that national states lack. It is the second time the Security Council had responded to a health crisis, raising the political profile of Ebola in ways that the WHO could not. In its view the Ebola epidemic could reverse peacekeeping and development gains, at a time when countries of West Africa are recovering from destructive civil wars and a UN peacekeeping mission remains in Liberia. This is definitely the most powerful argument that global public health is closely linked to international security.

Conclusion. The natural and social history of our species has, in large part, been a story about our battles against disease and understanding the nature of these battles has been one of the great scientific triumphs of the last century. We are now facing two major threats from viral diseases: HIV that has spread across the world and continues to plague us for the past 30 years and the Ebola hemorrhagic fever that has been for almost a year an increasing threat[29]. The challenges of emerging or reemerging organisms, increased drug resistance and the intentional or unintentional spread of virulent pathogens, call for increased societal commitment on a global scale. The current outbreak is a tragic illustration of the importance of improving global health and a painful reminder that an outbreak anywhere can be a risk everywhere. The Global Health Security Agenda, apart from prevent wherever possible, detect rapidly and respond effectively, should focus on strengthening public health systems in countries that need it most if the aim is stopping outbreaks before they become emergencies.

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