



PHM Position Paper

Ebola epidemic exposes the pathology of the global economic and political system

On August 8th 2014 the World Health Organisation declared the Ebola outbreak a 'public health emergency of international concern'¹. The declaration came four months after the WHO reported a major Ebola outbreak in Guinea in West African. The epidemic broke in Guinea and spread to 3 of its neighbours – Liberia, Sierra Leone and Nigeria. The cumulative number of cases and deaths, officially reported to WHO from 23 March to 22 September, is 5,843 cases and 2,803 deaths. To date, 337 health care workers have been infected, and more than 181 of them have died*. Most public health experts agree that the official figures are a major under-estimation of the extent and spread of the disease².

The occurrence of current and past epidemics and mode of spread of the disease, outlined below, are not contested. But this comment aims to go beyond these data in order to shed light on the underlying aetiology of the disease, that is, the global and local political, economic, and other societal factors that underlie Ebola's appearance, spread and high fatality rate at this moment in time and in the particular settings where it has proliferated.

Ebola Epidemics in the past four decades

EVD – Ebola Virus Disease as it is now officially termed - is not a new disease and was first reported almost 40 years ago. Formerly known as Ebola Haemorrhagic Fever, simultaneous outbreaks of the disease were reported from Sudan and the Democratic Republic of Congo in 1976. The latter outbreak was in a village situated on the Ebola river – hence the name. It is conceivable that Ebola infections had remained undetected in rural communities before the identified outbreaks. Since 1976 there have been 24 discrete reports of clusters of infections from different countries in Africa³. The following Table provides details of outbreaks where more than a hundred people were reported to have been infected, before the current epidemic.

Table: Previous Ebola outbreaks with more than 100 cases⁴

| Year | Country | Cases | Deaths | Case fatality |
|------|------------------------------|-------|--------|---------------|
| 2007 | Uganda | 149 | 37 | 25% |
| 2007 | Democratic Republic of Congo | 264 | 187 | 71% |
| 2003 | Congo | 143 | 128 | 90% |
| 2000 | Uganda | 425 | 224 | 53% |

| Year | Country | Cases | Deaths | Case fatality |
|------|------------------------------|-------|--------|---------------|
| 1995 | Democratic Republic of Congo | 315 | 254 | 81% |
| 1976 | Sudan | 284 | 151 | 53% |
| 1976 | Democratic Republic of Congo | 318 | 280 | 88% |

Five distinct sub-types of the Ebola Virus are known to cause infection (Zaire⁵, Bundibugyo, Sudan, Reston and Taï Forest), and their virulence (i.e. the ability to cause serious symptoms) varies across these sub-types. While the case fatality rate (i.e. the percentage of people infected who eventually die) can be as high as 90% for one sub-type, another sub-type (Reston) which has been known to infect people in the Philippines does not lead to fatal outcomes⁶. The Ebola sub-type that is responsible for the present outbreak is the most virulent, with case fatality rates in the region of 60% or more.

How Ebola Spreads

Human beings are not the primary targets of the Ebola virus. It affects humans who come into close contact with the blood, secretions, organs or other bodily fluids of infected animals. In Africa, human outbreaks have been traced to the handling of dead or diseased animals such as chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines⁷. The virus is known to have been the cause of major epidemics in chimpanzees and gorillas. All these animals are found in the tropical rainforests, and countries surrounding these have been the centres of Ebola outbreaks. While many animals are known to be infected by the virus, it is now believed that the virus primarily resides in a few species of fruit bats. Unlike other animals infected by the virus, fruit bats do not show any symptoms of disease and thus act as the reservoir for the Ebola virus⁸. What is still a mystery is that the natural habitat of fruit bats lies in Central Africa (where all the earlier major outbreaks had taken place), hundreds of kms away from the epicentre of the present epidemic in West Africa. It is hypothesized that there might have been a major shift in the habitat of fruit bats, or that the infection was somehow imported into the region by a human contact.

Once the virus affects a human contact, human to human transmission can take place through direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and indirect contact with environments contaminated with such fluids. Traditional burial practices, where mourners come into direct contact with the dead, may also be a source of infection. Health workers, who come into contact with infected patients, are particularly at risk when they work in unhygienic conditions (i.e. not adequately protected with gloves, face masks, overalls, etc.). Once infected, a person is capable of infecting others for up to 7 weeks after recovery from illness⁹.

The incubation period of the disease – i.e. the time between when a person gets infected and when s/he shows symptoms, can vary from 2-21 days. The initial symptoms are very like those of other viral infections – high fever, muscle pain, sore throat and headache. Patients often deteriorate rapidly and develop symptoms of vomiting, internal and external bleeding, diarrhoea and rash. The liver and kidneys are most commonly affected. Those who do not succumb to the disease usually make a complete recovery without any residual effects¹⁰.

There are no approved drugs or vaccines that can treat or prevent the disease. As the disease progresses, the only care possible is supportive – often requiring intravenous hydration and respiratory support. It is clear that the quality of supportive care is crucial in determining the outcome: nearly all (mostly expatriates) evacuated to well-equipped centres have survived.

Not an ideal candidate for an epidemic

There are several typical characteristics that define the disease. The very high case fatality rate sets it apart from most viral diseases that are known to cause epidemics. For example the present Ebola epidemic has a case fatality rate of 60% or more, while even the 1918 influenza epidemic – a rapidly spread airborne infection - that affected a third of the global population and killed an estimated 50 million people had an average case fatality rate of only 2.5-5%. Normal influenza epidemics, typically, have a case fatality rate of less than 0.1%¹¹, i.e. less than 1 in thousand of those infected eventually die of the infection. Another feature that sets apart Ebola infection from other infections that cause epidemics is its relatively low level of infectivity. The Ebola virus can enter the human body only when the bodily secretions of an infected person come in contact with broken skin or mucous membrane (i.e. the linings of eyes, mouth, etc.). The third characteristic of importance is that carrier states in humans are not known¹², and those infected show symptoms of major illness and are relatively easy to identify.

The above three characteristics do not make the Ebola virus an ideal candidate for a major epidemic. As all those who are infected show major symptoms, it would be expected that they would be in a health facility. In which case well known public health safety measures should prevent further spread, as close contact with the infected patient is necessary for the infection to spread.

Why the Epidemic?

Why then are we confronted with an Ebola epidemic in West Africa? The answer lies not in the pathology of the disease but in the pathology of our society and the global political and economic architecture. It is not an accident that the present Ebola epidemic has affected three of the poorest countries in the world. Liberia, Guinea and Sierra Leone number 175, 179 and 183, respectively, out of 187 countries on the United Nation's Human Development Index¹³. Their health systems are ineffective and almost non-existent in many regions. The present epidemic is one brought upon by poverty and, as summarised below, by ruthless exploitation of the region's natural resources.

The social and economic roots of this epidemic

The organism causing the current explosive epidemic, the 'Zaire' species of the Ebola virus, has never been detected in humans in the countries currently affected. How did it travel thousands of kms from its earlier known habitat in Central Africa? We may perhaps never know, but some possibilities are already being discussed. If the 'Zaire' species was recently introduced into the region, it would most likely have been introduced by fruit bats – the natural reservoir of Ebola. However the mere presence of these bats in the proximity of humans could not have caused the epidemic. In fact earlier epidemics by pathogens with similar characteristics seem to follow a pattern: almost invariably, they affect regions whose economies and public health systems have been decimated for a variety of reasons. In such regions, poverty drives people to venture deeper into the forests to look for food and fuel, where they come into contact with animals that act as reservoirs (fruit bats in the current case). The situation is compounded by the inability of an almost non-existent public health

system to respond effectively. Consequently the impoverished health system now becomes the reservoir of infections, and patients and health-workers alike carry the infection to the general population¹⁴. Many of the human outbreaks since 1976 are believed to have begun with the ingestion of an infected monkey or fruit bat. Those afflicted, at least initially, are typically the poorest that are forced, by scarcity, to look for food in the forests.

There is a reason why people in the region affected by the current Ebola epidemic face chronic food shortages and extreme poverty. The affected area in Guinea is part of the Guinea Savannah Zone that has drawn the attention of agribusiness in recent times. In 2010 the British-backed Farm Land of Guinea Limited, bought huge tracts of land that is to be developed for maize and soybean cultivation. The Italian energy company Nuove Iniziative Industriali has bought over 700,000 hectares for biofuel crops¹⁵.

In neighbouring Liberia, agricultural land was already being used for cash crops almost a century ago. The transition of Liberia's agro-economy into a cash-crop export economy, controlled by foreign companies, began as far back as 1925 with the entry of the Firestone Rubber Company. Firestone is believed to have acquired 1 million acres for 99 years at 6 cents an acre. Historical accounts speak of how 20,000 indigenous inhabitants of the area were forced to work for a pittance in Firestone's plantations¹⁶.

Today, Liberia has the highest ratio of foreign direct investment to GDP in the world. In less than a decade, Liberia has signed concession agreements in the iron ore and palm oil industries with numerous TNCs, including BHP Billiton, ArcelorMittal, and Sime Darby¹⁷.

Recent entrants into the business of land-grabbing have been the logging industry and palm oil companies such as Sime Darby (Malaysia) and Golden Veroleum (USA)¹⁸. Meanwhile, the global trade regime in agriculture, both before and after the signing of the WTO agreement in 1994, has continued to undermine the productive base of agriculture in Africa¹⁹.

It, thus, comes as no surprise that gross ecological changes have been brought about by the takeover of agricultural land by agribusiness. These changes could well be responsible for hitherto unknown pathogens (disease-causing organisms), which had earlier been confined to the wild, to start infecting humans. There are good reasons to believe that prolonged dry spells in the region, brought about by massive deforestation, as well as the penetration of new roads into previously remote forest areas primarily for extractive operations, have led to easier inter-mixing between the animal population in the forests and to the desperation of humans who have been driven deeper into the forest areas for survival and sustenance.

The tragic story of the region is further embellished by years of civil strife, largely fuelled by competition over the control of very valuable natural resources. The civil wars in Liberia and Sierra Leone have involved powerful local interests that work at the behest of transnational corporations and capitalist countries of the North. Diamond mining, for example, was one of the major causes of the civil war in 1991 in Sierra Leone²⁰. These wars have led to enormous displacements of the local population, and consequently increased the pressure on forest land and also accelerated migration out of areas harbouring forest animals.

Weak health systems no accident

The entire world's gaze is on these three countries (itself due to a media epidemic of fear-mongering with virtually no contextual analysis), yet it is not just Ebola that is killing people here. Let us take the

case of Sierra Leone. In the first four months since the beginning of the Ebola outbreak, 848 people had been infected by the virus and 365 had died. In four months Sierra Leone sees around 650 deaths from meningitis, 670 from tuberculosis, 790 from HIV/AIDS, 845 from diarrhoeal diseases, and more than 3,000 from malaria²¹. These deaths have been occurring for decades, not just in the last four months. Yet global attention was not previously focused on these countries. For, to do so, would force the rich and the powerful – global leaders, the capitalist press, the institutions of capitalism, the captains of industry both nationally and globally, UN agencies – to confront the reality of Africa’s poverty and inequality.

Liberia, Guinea and Sierra Leone are not poor by choice. They did not choose not to build functioning health systems. Their colonial occupation (brief in Liberia’s case) and exploitation left them poor. Agencies such as the World Bank and the IMF imposed further misery through their infamous structural adjustment programmes²². These countries (and many others in Africa) were instructed not to increase public spending on welfare and public services by these agencies. The World Trade Organisation promised them greater prosperity in the name of trade liberalisation, and further devastated their economies. The developed capitalist countries send in aid as charity and repatriate back much more through their corporations. These poor countries also subsidise the health systems of rich countries – more doctors born in Liberia and Sierra Leone work in OECD countries than in their home countries²³. Health worker migration – which is nothing short of a direct subsidy that the poor countries of the world provide to the rich – makes it impossible for many countries in West Africa to build credible health systems²⁴. Indeed, many countries in this region, with few exceptions, display the world’s poorest health outcomes, reflecting their impoverishment and weak health systems – especially implicated in poor maternal health outcomes²⁵.

However, the persisting poverty and increasing inequality in these countries is due not only to their lowly placement in the global economic pecking order. In common with other post-colonial situations, corruption has aggravated their economic plight. Sierra Leone’s public sector has been wracked by financial scandal. In 2013 seven medical practitioners and 22 others working in the public service were convicted of misappropriation of donor finances, having ‘misused’ GAVI funds²⁶.

We have known of the Ebola virus for 40 years, yet no vaccine or remedy was ever developed. No pharmaceutical company is interested in a remedy for a disease that afflicts the poor who cannot pay ‘blockbuster’ prices for ‘blockbuster drugs’. Interestingly the only experimental drug that is being discussed (called ZMapp) was developed as a result of a collaboration between US and Canadian public institutions and two small companies²⁷. This is also the story of neglected diseases – the story of Kala Azar, Malaria, TB, Chagas disease and many more. These diseases are neglected by the research industry because they do not satiate the hunger of profit hungry pharmaceutical corporations.

Despite selfless service the health system has been overrun by the epidemic

In the meantime a human tragedy unfolds that is not limited to only those infected by the Ebola virus. The entire health system has been overrun in affected areas, thus amplifying the effect of other diseases. In Liberia’s capital Monrovia, at one point all five of the main hospitals were closed. Some have since reopened but are barely functioning. Health workers, scared for their safety, have fled. They are scared with good reason, given reports that gloves, gowns and even safe water are in short supply. One report from Sierra Leone talks about blood, vomit and urine smeared hospital floors²⁸. Without protective gear, hospital workers treat Ebola patients wearing only scrubs. When

nurses got sick, others went on strike, leaving few people left to pick up patients who had fallen out of their beds (ref needed). Alongside the weak formal health system are private “mushroom” health clinics that have popped up outside the network of licensed clinic and which have housed several Ebola sufferers despite inadequate infrastructure and infection control facilities²⁹.

In the midst of this human tragedy reminiscent of the Black Death in mediaeval times, there are inspiring examples of selfless service. Most health workers, although overwhelmed and under-equipped, have struggled valiantly to save lives and contain the spread of the disease. Several have died in the process. While there has been justifiable concern and then relief worldwide at the evacuation, treatment and survival of dedicated expatriate health personnel from the USA, UK and Netherlands, so far no local health workers have been evacuated, even though, according to the WHO, in West Africa 337 have so far caught Ebola and 181 have died. Dr Sheik Humarr Khan, Sierra Leone’s top Ebola doctor, was being considered for evacuation to a European country when he died of the disease in late July. The Guardian newspaper reported recently the tragic death of Dr Olivet Buck, a doctor in Sierra Leone who treated Ebola virus sufferers, and who, for the past few months, had been fighting the desperate battle against Ebola ravaging parts of her country³⁰. It was recently reported that she had contracted the virus. Local campaigners called for her to be evacuated to Germany to receive treatment since all three previous doctors who had caught the disease in the country had died. Sierra Leone’s president supported this plea, saying that a hospital in Hamburg was “in readiness to receive her”. The World Health Organisation, however, said it would not allow her to leave Sierra Leone, and refused to fund the move. Desperate attempts were made to try to reverse this decision but Olivet died. Her death, as a 59-year-old mother of three and one of the few medical doctors working to save lives of those affected by this disease, raises wider questions about how the world responds to the Ebola crisis, how it protects those working closest to stop its spread, and how foreign lives appear to be valued more highly than local lives. Despite the deaths of previous doctors, the WHO had said merely that it would work to give Buck “the best care possible” in Sierra Leone.

In some parts of this region the economy is coming to a standstill as people are just too afraid to venture out. Symptomatic of peoples’ distrust of the crumbling health system is the report that residents of the West Point slum in Liberia’s capital of Monrovia launched a raid to close down a facility that had quarantined Ebola patients³¹. Similarly, it has been recently reported that six suspects have been arrested in Guinea after the killing of eight people, including three journalists, conducting an Ebola education campaign³².

So we have an epidemic where there should be none. Routine public health measures are not routine here – they are a luxury that surface during epidemics when provided by global charities. And so the world is worried, lest the infection travels to shatter their comfortable existence. This is the downside of the globalised world that global capital had not bargained for. If you create conditions where infections fester, they will come back to haunt you.

A compromised WHO

The WHO, which has recently – amidst considerable fanfare – announced a global emergency, stands indicted as well. Starved of funding by the US-led freeze on financing of UN agencies in the 1990s, it can do little beyond the mouthing of platitudes. Some 80% of its budget is pre-determined by donors, essentially hand-cuffing the organization³³.

According to its constitution, WHO is “the directing and co-ordinating authority on international health work.” While the WHO received its first report about Ebola cases in Guinea on March 22, it took more than three months to convene a meeting of regional health ministers or open a regional coordination centre³⁴.

WHO’s current budget saw cuts in WHO’s outbreak and crisis response of more than 50 percent from the previous budget -- from \$469 million in 2012-13 to \$228 million for 2014-15³⁵. This is the very budget line that the organization needs to rely upon in order to respond to Ebola. The WHO has announced that it needed \$71 million to implement its Ebola response plan – a deficit that would not have existed if it had not slashed its budget for ‘crisis response’ by half!

Conclusion

In the short-term, at a minimum, the response from the global community, and particularly the rich countries, has to be greatly accelerated and much more generous. Large numbers of personnel, quantities of equipment and supportive medicines must be provided. The expediting of ZMapp and other candidate drugs is urgent.

The recent commitment by President Obama of 3000 US army personnel and funds to build emergency treatment centres is to be welcomed, but many would say ‘too little, too late’³⁶. Even the establishment of a UN Foundation Fund and a recent contribution of funds from the Gates Foundation to assist the affected countries³⁷, while positive, does not address the continuing source of this epidemic, nor will it come close to compensating the massive human and economic losses – estimated by the World Bank to run to almost a billion dollars³⁸.

The Ebola epidemic, as we have argued, can be traced to the rampant exploitation of the region’s natural resources, their continuing impoverishment and accompanying weakness of their health systems. In the medium term there is an urgent need to strengthen health systems in the region. While the discourse of ‘health systems strengthening’ has become commonplace, there is little evidence of such strengthening in many countries in the region. In particular there is a persisting crisis of human resources with a serious deficit of health workers, especially in rural areas, as a result of long-term underproduction and continuing out-migration. Major and sustained investment in health systems development, especially in human resources, is required. Initially, this will require increased donor assistance. A longer-term solution requires fundamental changes to economic and power relations between these countries (and indeed many others with similar histories) and the capitalist economies and enterprises that continue to bleed them dry, often with the collusion of local officials and elites.

The epidemic, in all probability, will run its course and die down after leaving a trail of death and destruction. Not because we as a global community would have done very much right, but because of the nature of the virus itself. The moot question is, will we have learnt anything? Or will it be back to business as usual?

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