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The Ebola outbreak: local and global containment

by Cristina Barrios

Having spread rapidly across several West African states over the summer, the Ebola virus now threatens to undermine the security and economic prospects of the entire region. To date, the World Health Organization (WHO) has reported over 2,600 casualties, with an estimated 5,300 people confirmed or suspected of having contracted the disease. While Médécins Sans Frontières (MSF) issued warnings back in March this year, the WHO declared the outbreak to be a 'public health emergency of international concern' on 8 August 2014, once mortality rates began to rise sharply, particularly in Liberia, Sierra Leone and Guinea.

As past experiences with other infectious diseases like avian influenza (bird flu) or the Severe Acute Respiratory Syndrome (SARS) have demonstrated, coordinated international action is needed to effectively contain the spread of deadly viruses. Steps have been taken to boost financial contributions and improve operational capabilities. The WHO, for example, has drawn up a comprehensive 6-9 month roadmap to halt the ongoing transmission of Ebola, but has also projected that over 20,000 people are likely to be infected during this period. Meanwhile, the World Bank recently approved a $105 million grant to expedite the containment of the epidemic in the three most affected countries, and the US has pledged to send 3,000 troops to train medical staff and help build treatment centres. On 19 September, the UN Security Council unanimously approved a resolution declaring the outbreak as a threat to international peace and security, and announced its intention to launch a new mission to distribute aid and improve medical facilities – 9 months after Ebola was first identified.

For its part, the EU has orchestrated its response through the European Commission's Directorate-General Health and Consumers (DG SANCO), while the Directorate-General Humanitarian Aid and Civil Protection (DG ECHO) has announced the availability of €11.9 million to address humanitarian needs. In addition, the Commission is set to grant an additional €5 million in support of a prospective African Union (AU) mission to help stem further contagion. However, the international financial assistance actually disbursed continues to fall far short of what has been pledged. With no signs of the virus's spread slowing down, the WHO is also likely to upwardly revise the estimated $490 million it requires to fight the disease to approximately $1 billion in the wake of the UN Secretary General's call for a twenty-fold increase in aid.

Following a heightened sense of panic, tightened restrictions on travel and trade have begun to take

a toll on the economies of the countries affected. Tourism and export revenues have been hit hard, while multinational companies have threatened to halt their operations in the region. Worryingly, cases have also been confirmed in Senegal and Nigeria, the region's economic power-houses. Although the chances of this regional epidemic becoming a global pandemic are still low, the sluggish pace at which international actors are mobilising is providing a window of opportunity for Ebola to continue its expansion.

Losing the battle?

Despite the hysteria, the overall risk of infection remains low: in order to contract the pathogen, a person needs to come into direct contact with bodily fluids of the infected. Nonetheless, the virus continues to expand due to inadequate precautions and poor sanitation in the affected areas. One additional problem is that Ebola symptoms are similar to those of other diseases – most notably malaria, which is widespread in the region. As a result, those who became ill – or who were taking care of the infected – have often spread the virus before realising that they had contracted it themselves.

No cure currently exists for Ebola, and the casualty rate for this outbreak is particularly high (50-70%). The resulting fear and panic have subsequently nurtured conspiracy theories based on political or ethnic rivalries – often linked to paranoid assumptions that Ebola is being purposefully spread. Over the past weeks, intense and targeted information campaigns have increased public awareness but conditions on the ground remain appalling. Citizens are ever more disgruntled with the efforts of ill-equipped local authorities to effectively monitor and halt the spread of the virus.

From endemic to epidemic?

Ebola is endemic (a disease regularly found among particular people or in a certain area) to parts of Central and West Africa, where one species of fruit bat is the primary host. Up to 15 countries are at high risk of contagion, especially the Democratic Republic of the Congo (DRC), where the virus was first identified in 1976. The current Ebola epidemic (a growing disease affecting a high number of cases in a specific region over a given period of time) originates in the forested area which spans from Guinea, through Sierra Leone, to Liberia. Modern-day mobility is a widely recognised conduit for the rapid spread of highly contagious diseases, as demonstrated by one particular case in Senegal which involved several actors from the same family spread across the region. And in Nigeria, a cluster of Ebola cases were sparked by a traveller from Liberia.

The advance of the disease has shed light on the correlation between the levels of poverty (and the accompanying lack of medical expertise and facilities) and the speed at which the virus has ravaged the countries around its epicentre. Nigeria and Senegal are displaying a greater capacity to spot potential cases and deal with them swiftly, while Liberia and Sierra Leone are all but dependent on international assistance. Guinea, which is also severely affected, is struggling to contain the epidemic and Cote d'Ivoire is attempting to isolate itself by closing its borders and imposing travel restrictions.

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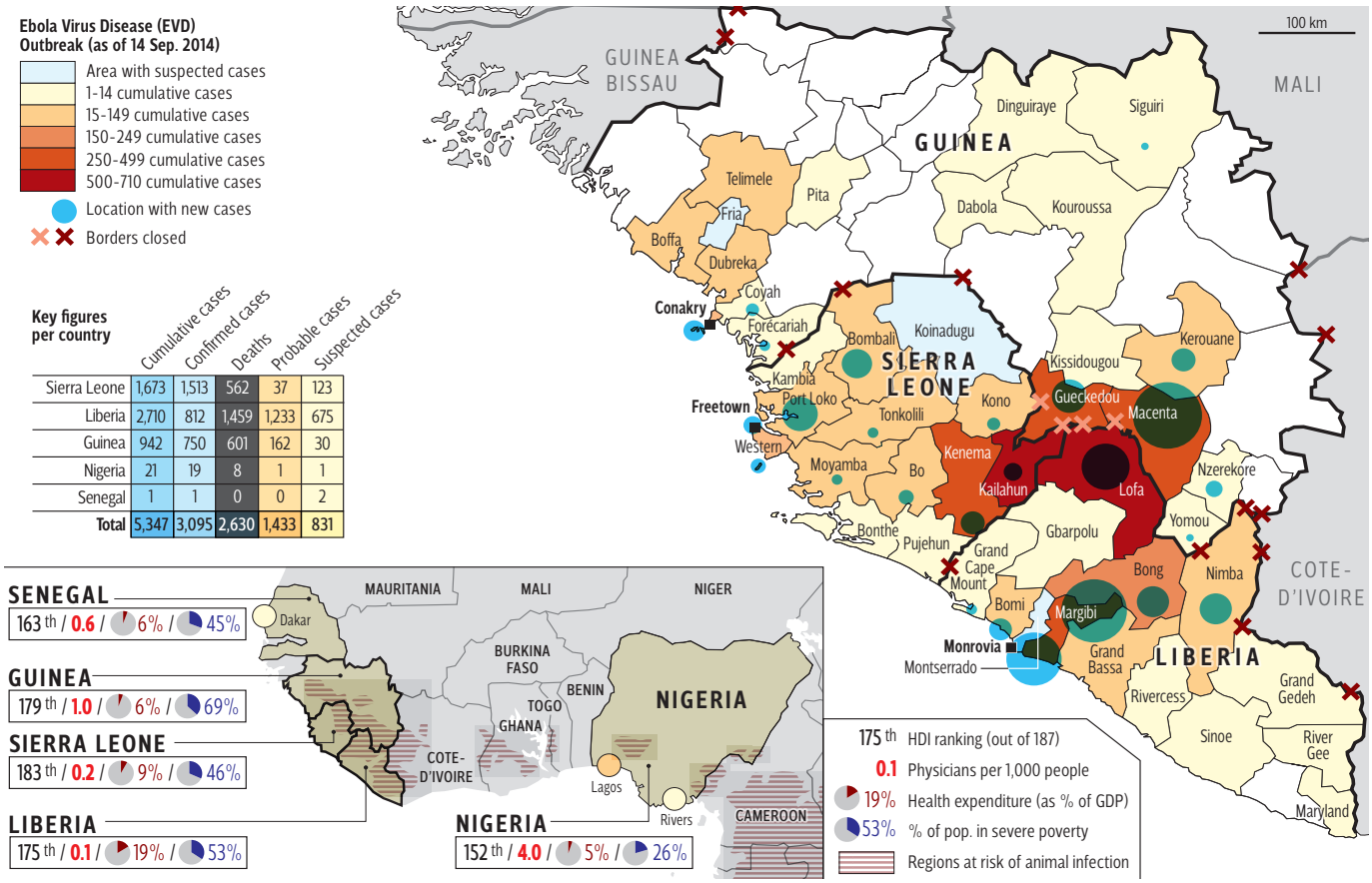
Given the clear regional dimension of the Ebola outbreak, the possibility of it spreading further should not be dismissed. There is fertile ground for Ebola to spread beyond its West African stronghold. Although now in effective isolation, risks still exist for medical professionals treating patients abroad: two infected Americans doctors and a French MSF volunteer were recently repatriated to their respective countries of origin for treatment, while an infected Spanish missionary died shortly after arriving in Madrid last month.

Disease and disruption

Emerging and, most importantly, re-emerging diseases are constant reminders of the currently regional and potentially global health threat posed by Ebola. Recent risks of pandemics have included the bird flu virus: first the highly pathogenic and mutating H5N1, and now H7N9, which is present (though not endemic) in South East Asia, as well as China. SARS is another example; multiplying since 2002, primarily in China and Hong Kong, with other cases documented in Toronto and elsewhere. SARS, much like its Middle Eastern counterpart (MERS), is also carried by animals

Ebola outbreak: hightened risk of regional spillovers



Source: WHO, OCHA, CDC, UNDP (2014 HDI report), University of Oxford – Courtesy image

(mainly ferrets). According to the European Centre for Disease Prevention and Control (ECDC), based in Stockholm, more than 130 MERS infections have been identified in nine different countries since 2012, including Italy, Germany, France and Britain, showing the global reach of an *a priori* regionally confined virus. Nevertheless, while SARS, MERS and the various strains of avian flu received plenty of attention from both the scientific community and the international media, Ebola has been somewhat overlooked for decades – and only recently has it come to dominate global headlines.

In Europe, public health authorities still believe that the risk of Ebola taking hold in the continent is low for three main reasons. First, transmission is difficult. Second, awareness of the risks posed by Ebola is running high among the population (especially with those potentially in contact with West Africa) – symptoms are well known, and caution regarding possible cases of exposure to the virus by either direct travel or indirect contact is increasingly exercised. Third, all EU member states have the appropriate levels of preparedness and capacity to deal with cases of Ebola and, thereby, are well placed to interrupt transmission chains quickly at an early stage.

However, the threat posed by Ebola will be greater if the epidemic continues to expand, either to other countries or in urban areas that could become *travel hubs* for the virus to enter Europe. In addition, epidemiologists do not rule out that the mode of contagion may change and become more dangerous over time. This is where details about the virus itself, the possibility of infection through sneezing and experimental medical treatments enter the debate.

Panic never helps in the event of an outbreak – but neither does playing down the severity of the situation. Perhaps for this reason, most EU countries have advised to avoid non-essential travel to Guinea, Liberia and Sierra Leone. European airlines continue to suspend flights to the region and African countries such as South Africa and Kenya have imposed travel restrictions. Meanwhile, the WHO has requested that affected countries prevent international travel of those infected with Ebola and has offered to assist them in the screening of airline passengers.

The wider risks and implications of the epidemic are becoming more evident as entire communities are placed in quarantine and frontiers closed. Riots

have erupted in certain areas where the infected – and those with whom they have had contact – have simply been confined without proper medical attention or even food and water. Furthermore, border closures and travel bans are largely ineffective (or even counterproductive) given the region's porous land frontiers.

Global responses

While the current collective mood is one of crisis management, efforts to improve local healthcare capacities in Liberia, Sierra Leone and Guinea are not moving fast enough. MSF and the Red Cross are operating under the supervision of the WHO, and the UN Office for the Coordination of Humanitarian Affairs (OCHA) may soon take over humanitarian support for Liberia and Sierra Leone. While stakeholders agree that the building up of local institutions is the primary objective to combat the health threat, this can hardly occur at a time when basic national public services are grinding to a halt and public authorities overwhelmed. Funds are now becoming available, albeit at a slow pace, and calls for urgency to step up efforts have been conveyed by both the UN Secretary General and the president of the World Bank. Actions akin to the ones taken by the US in supporting the Ugandan government with the development of expertise and public health measures during a massive Ebola outbreak back in 2000 are also being encouraged.

Developed countries (notably the G-7) are often first in line to respond, i.e. through the 'Global Health Security Initiative' (GHSI), an informal governmental forum based in Canada where member states can share response efforts and coordinate approaches. But BRICS countries could also become essential partners: while they still face healthcare issues themselves, they already work on South-South public health cooperation. China's investment in research and development is second only to that of the US, and India's pharmaceutical industry has played a crucial role with the development and large-scale manufacturing of a meningitis vaccine for Africa.

The current Ebola outbreak has highlighted the leadership of the US in the field of scientific research. The Centers for Disease Control and Prevention (CDC), its leading public institution for infectious diseases (with over 15,000 employees and a yearly budget of $11.3 billion), has sent a rotating team of 70 experts to assist West Africa and gather any information which could assist in the effective diagnosis and further understanding of the disease. The experimental treatment *ZMapp* (already used for Ebola patients with a varying degree of success) is made by the American firm *Mapp Biopharmaceutical*, a company with which the US Department of Health has signed a $25 million contract.

For Europe, the fight against Ebola also involves numerous international healthcare workers and humanitarian personnel deployed in the region which require operational support (including potential evacuation). The *Institut Pasteur* in France and other such centres in the UK and Spain have already been dealing with cases first-hand, and a British pharmaceutical group is planning tests using volunteers in the UK, Mali and the Gambia. In addition, the ECDC supports member states and the Commission's DG SANCO with scientific advice and risk assessment.

The weakest link

While it is true that outbreaks pose risks everywhere (as evidenced by minor crises like the one caused by a strain of E.coli bacteria in Germany and France in 2011), the vulnerability levels of many African countries mean that the threat is that much more serious. The danger here is that the world's weakest link in this regard ends up posing a risk to global health security.

The international community's response to Ebola is, once again, one of containment: meaning that diplomats have been placed under evacuation alert, business trips have been cancelled (even to areas unaffected to the outbreak), and international events – such as the Francophonie summit, foreseen to tatke place in Dakar in November – may be postponed. Although African institutions such as the Economic Community of West African States (ECOWAS) and the AU have expressed their support for the fight against Ebola, their resources are scarce and local leaders seek primarily to protect their own countries.

Delivering on the pledges made is now urgently required to assist local authorities in combatting the disease and preventing its continued expansion. The success of containment is therefore in large part contingent on the ability of international actors to act fast – and in concert – so as to ensure that the spread of Ebola is effectively halted and that the disease, ultimately, is vanquished.

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