

CONFLICT, POST-CONFLICT AND FAILED STATES

CHALLENGES TO HEALTHCARE

JENNIFER COLE

The current outbreak of ebola in West Africa has been widely covered in the global media, as the latest example of a health epidemic that can quickly spread across and beyond countries. While drugs development is needed to counter the virus, Jennifer Cole argues that any successful long-term approach to fighting epidemics must be based on a deeper socio-cultural understanding of the dynamics that underpin fragile healthcare systems.

In the last six months, the World Health Organization (WHO) has declared two Public Health Emergencies of International Concern (PHEICs), indicating events that constitute a public health risk to a number of states and which potentially require a co-ordinated international response:¹ one, in May, because of the increasing number of polio cases recorded worldwide – in particular in Syria and Somalia, where the disease had previously been eradicated – and the second, in August, in response to the outbreak of ebola in West Africa which has since become the largest in history of the disease. Two simultaneous PHEICs are of particular note as, prior to this, only one had been declared since the introduction of the term in the WHO's *International Health Regulations (2005)*,² in response to the H1N1 Swine Flu pandemic of 2009–10.

In both instances, the root cause of the emergencies has had as much to do with the geopolitics of the regions in which the outbreaks have emerged as with the characteristics of the diseases themselves.

In Syria, polio re-emerged and spread during a conflict that has disrupted and degraded the previously modern healthcare system, preventing the administration of the childhood vaccinations that had eradicated it within the country fifteen years before. The strain responsible originates from Pakistan, where polio remains endemic in large part due to Taliban opposition to vaccination programmes.³

In West Africa, the current ebola outbreak began in Guéckédou Prefecture in Guinea in December 2013 and gained a foothold in villages and rural areas of neighbouring Liberia and Sierra Leone, countries still recovering from years of civil war and whose healthcare facilities remain extremely basic. From there, it has spread to more urban areas – fuelled by suspicion and mistrust of authority left over from years of conflict and ongoing government corruption – and from these fragile post- conflict states to other countries such as Nigeria and Senegal. Although these countries' healthcare systems are little better equipped to control them – Senegal has less than half as many physicians per capita as Guinea, for example, and spends only \$20 more per person on healthcare – infection has not spread widely. In the case of Senegal, this has been largely due to the quick response of the government and, in particular, the Ministry of Health.⁴ Nigeria has been praised for its swift efforts to contain the disease after it was brought into the country by Liberian- American national Patrick Sawyer; efforts which have included cross-government co-operation, robust contact tracing and increasing screening of travellers arriving at the border. This has ensured a much smaller outbreak than has been seen in other countries.⁵

Polio and ebola can both be controlled by medical science: polio easily, by vaccination; ebola with more difficulty, through stringent infection control, good hygiene and biocontainment, and – ultimately – the development of new drugs once there is sufficient financial incentive. However, this is constrained by the fact that neither polio nor ebola poses a significant threat to the developed West, and the implementation of the

above measures depends on an advanced and well-financed healthcare infrastructure. The damage these outbreaks are doing is due to the lack of availability, in the regions they affect, of the facilities and systems on which modern healthcare depends.

The long life, largely free from infectious disease, enjoyed by citizens of Western societies is an artificial condition created and maintained by constructs of civilisation as unnatural as electricity or tarmac roads. It is also a luxury that costs money which, in turn, requires stable economies. In the UK, per capita spending on healthcare stood at \$3,468 in 2012,⁶ in comparison to less than \$100 per capita spent by many sub-Saharan and central African countries in the same year. The UK has 2.7 doctors for every 1,000 members of the population; in sub-Saharan and central Africa, the figure is smaller than 0.5.⁷ Sierra Leone, for example, spends just \$96 per capita on healthcare and has 0.02 doctors per 1,000 people and a life expectancy of just forty-five.⁸

With regard to healthcare, there is a strong correlation between life expectancy, in particular, and health spending per capita; indeed, it is even stronger than that between life expectancy and GDP per capita.⁹ Even the most basic healthcare – the ability to rehydrate patients who are sweating profusely (with orally administered rehydration salts as well as intravenous drips), to manage blood pressure and treat other infections that strike while the patient's immune system is overworked – can reduce the mortality rate among ebola sufferers from 90 per cent to around 50–60 per cent.¹⁰ Most of the Westerners who have contracted the illness have survived with the benefit of advanced medical care available in their home countries, particularly those who have had access to the experimental drug ZMapp,¹¹ which was fast-tracked through the usual clinical trialling process. The deliberate satire embedded in the *Onion* article entitled 'Experts: Ebola Vaccine at Least 50 White People Away' worked because the truth hurts.¹² An ebola vaccine does not exist yet not because it is scientifically impossible to develop one, but because so far there has been insufficient incentive for pharmaceutical companies to meet the enormous cost of developing treatments for a disease which, so far, has affected only relatively small numbers of people in some of the world's poorest countries. As with AIDS in the late 1980s, that will change if and when large enough numbers of people are affected to ensure a sufficient return on investment. The cost of developing AIDS drugs meant that in the early years, treatment cost \$10,000–15,000 per patient.¹³ This has since come down to below \$300; however, there is no incentive to produce a drug until sufficient numbers of patients are likely to be able to afford the higher price for it. Guinea, Sierra Leone and Liberia all have gross national incomes of less than \$500 per person per year, making them unlikely to be able to afford such drugs in their cheapest form, let alone in the more expensive earlier stages. Despite instances of the disease having been recorded in Africa for more than forty years,¹⁴ the drug development that has been undertaken in relation to ebola has been due more to concern in the US that the virus could be used as a biological weapon, under the US government's \$50-million Project BioShield initiative.¹⁵ Now, however, the realisation of the damage that ebola could cause to Western economies is driving investment, including a grant of \$105 million by the World Bank to support containment efforts in Guinea, Liberia and Sierra Leone,¹⁶ and an additional \$75 million pledged by the US Agency for International Development, bringing total US investment to \$250 million since the current outbreak began – a huge amount for a disease which, fear aside, is affecting only a fraction of the world's population compared with other killers such as malaria and tuberculosis.¹⁷

Dangerous Narratives

Health and healthcare systems depend on stable governments and economies for their implementation. While mistrust of corrupt governments has been a factor in responses to the ebola outbreak in West Africa, and particularly in Sierra Leone and Liberia, where early action was most required, elsewhere it is the instability caused by conflict – rather than mistrust and the lack of effective governance structures in post-conflict situations – that threatens epidemics: for instance, the disruption of the previously stable Syrian society that has led to a re-emergence of polio in the country, prompting the declaration of the other current PHEIC.

As noted, polio is easily controlled by vaccination. In the 1950s, polio paralysed hundreds of thousands of people – mostly children – worldwide. A total of 57,628 cases were recorded across the US in 1952, the year in which the first effective vaccine was developed, but within five years this had fallen to 5,300, with the last case recorded in the US in 1979.¹⁸ By the end of the following decade, North America, Australia and much of Europe were free of the disease: by then, polio was a problem confined to the global South, prompting the WHO to

adopt in 1988 a resolution to eradicate the virus by 2000. This goal was not achieved, not because of ineffective medical science, but because of human opposition in many countries. In northern Nigeria, notably, imams and local political leaders in three states issued a polio vaccination boycott in 2003 – based on claims that vaccines had been contaminated in an attempt by the West to kill Muslims and limit population growth – that put efforts to eradicate the disease back a decade.¹⁹ On the basis of similar claims of Western attempts at population control and spy missions disguised as healthcare initiatives, Taliban opposition is also serving to keep polio endemic in Pakistan and Afghanistan; in Pakistan, Islamist militants killed twenty-seven polio workers between December 2012 and September 2013 alone.²⁰

Healthcare depends on stable governments and economies

The re-emergence of a previously controlled disease in Syria is a warning of how fragile scientifically controlled health can be. Polio vaccination was made mandatory in Syria in 1964, with the last indigenous case of the disease recorded in 1995. By 2000, more than 80 per cent of the population had received vaccination, and by 2011, at the beginning of the Syrian crisis, this was estimated to have reached 95 per cent. At that time, Syria was a medically advanced country: there were 1.5 doctors per 1,000 people, good healthcare coverage, near universal vaccination, and sound surveillance and monitoring systems in place. As the crisis unravelled, however, the Syrian healthcare system – like so much else in the country – was severely damaged. Standards of surveillance for Acute Flaccid Paralysis (AFP) – the international gold standard for detecting cases of polio²¹ – were noted to have fallen in 2011 and by 2012 vaccination coverage was estimated to have dropped to barely 50 per cent of the children eligible for vaccinations that year. This sparked fears that unvaccinated Syrian children were at risk of contracting polio from environmental reservoirs known to be present in nearby Egypt, for example, from which polio can spread through contact with contaminated faeces, food or soil. These fears were realised in July 2013 and by the end of January 2014 thirty-six cases had been recorded in Syria,²² putting seven neighbouring countries at risk. Though the outbreak now appears to have been contained (the last new case was recorded on 21 January) through a concerted effort by the WHO and neighbouring countries, the fragility of vaccination-controlled healthcare has been highlighted and there are major concerns that polio might emerge once again in the regions currently controlled by the Islamic State of Iraq and Syria (ISIS). Similarly, as long as the disease remains endemic in Pakistan, there is also a danger that it could inadvertently be carried, for example, by jihadist fighters to other areas of instability across the globe – an outcome made all the more likely by the fact that less than 4 per cent of people infected with the polio virus display obvious symptoms.²³

Elsewhere, the activities of other Islamist groups are having a similar impact on efforts to eradicate polio. In May 2013, cases of the virus were recorded in Mogadishu, Somalia for the first time since 2007, caused by strains imported from northern Nigeria, where Boko Haram murdered nine young women working on polio vaccination programmes in February 2013. The spread of the disease across Somalia has been helped by Al-Shabaab extremists discouraging parents from vaccinating their children by claiming that the vaccines contain AIDS.

Prevention and Containment in Conflict and Post-Conflict Zones

The conditions that lead to PHEICs need to be approached from directions other than purely medical science. Sometimes the challenges are economic, sometimes they are cultural, often they have security aspects, but none are simple. The more cross-disciplinary the approach, the more likely the solutions are to succeed, particularly in societies and situations where the barriers to the implementation of medical solutions are high. Serious outbreaks of the disease in such situations are not new and therefore should not be unexpected. Episodes of diphtheria became common after the break-up of the former Soviet Union due to lack of vaccine supply,²⁴ and outbreaks of malaria affected up to 100,000 people per year in Iraq in the period following the First Gulf War.²⁵

One approach that could be taken is for affected states and international health organisations (ideally in collaboration) to build up better situational awareness at the beginning of outbreaks, not only in terms of epidemiological surveillance, but also by mapping the cultural, societal, and economic situation and analysing the effect this is likely to have on healthcare responses. Barry Hewlett and Richard Amola proposed such an

approach in their study of the ebola outbreak in Uganda in 2001–02,²⁶ suggesting an equivalent of the military Human Terrain System for the public health sector in an effort to ensure that plans to fight disease are context- and culture-specific, taking into account what is likely to work and the local conditions in which non-governmental organisations (NGOs) and international aid teams must work.²⁷ Such mapping would help to indicate the fragility of healthcare systems and how quickly they might collapse (a country with extremely few doctors cannot afford to lose even a small number to ebola, for instance, nor can one without a ready supply of sterile syringes implement a mass vaccination programme quickly), and where simply parachuting in additional supplies and personnel – and importing Western approaches – is likely to be an inappropriate or inadequate response. In the case of the ebola crisis, for example, while the current UK and US commitment to contribute military field hospitals and troops to Sierra Leone and Liberia, respectively, will bolster the weak healthcare systems in these countries, it will do little to address the cultural issues that have prevented locals from seeking medical care from the country's established clinics or from the NGOs operating there since the outbreak began. There may well be short-term benefit, but the long-term strategy for dealing with this and other future outbreaks also needs to be considered. A one-size-fits-all approach will not work in all contexts.

Such methods would also help to identify emerging narratives in public discourse and ensure that negative ones are countered as early as possible. For example, a key factor in the widespread unwillingness amongst parts of the population in Sierra Leone to believe official statements regarding the outbreak of ebola can be traced to political tensions between the ruling All People's Congress (APC) party and the main opposition, the Sierra Leone People's Party (SLPP). The latter draws greater support in the region in which the outbreak originated and some among the local population see ebola as the APC's latest sinister ruse: by killing those with 'ebola' symptoms once they present themselves at government-run health clinics, the ruling party could limit the local population numbers ahead of the forthcoming election. Early engagement by SLPP politicians in support of government and international measures in the ebola-affected regions might have helped to contain the outbreak.

In addition, a better understanding of the mistrust of government and science amongst parts of the population might have led to an approach based more on encouraging people to quarantine themselves in their homes and villages so that appropriately trained NGO and international healthcare workers could treat them *in situ* – thereby mitigating the risk that those infected might inadvertently spread the virus as they travel to clinics for treatment – while still reporting the cases and seeking help. Approaches that have focused more on the social and cultural aspects of disease control have experienced success in the past: the WHO's Global Polio Eradication Initiative, for example, has worked with the Organization of the Islamic Conference to counter the Islamist narratives by issuing fatwas in support of polio vaccination.²⁸ Similarly, other followers of Islam make efforts to highlight that the Qur'an does not prohibit vaccination and in fact requires followers to act to protect their fellow man – an excellent example of this being a recent article about Islam and polio in *The Lancet*²⁹ – while the government of Pakistan has encouraged senior imams to speak out on the topic. This socio-cultural approach should really have been implemented a decade ago however, before the negative narratives gained purchase. A key challenge now is to determine how well the counter- narratives will work.

Rather than science, it is cultural understanding – of the type proposed by Hewlett and Amola, more than a decade ago, which maps beliefs, behaviours and likely compliance, as well as recognising and mitigating likely barriers – that will finally defeat polio in these remaining regions, and which will facilitate strong, or even temporarily stronger, healthcare systems capable of containing and extirpating the current ebola outbreak in West Africa. Better cultural understanding will also alert healthcare experts to areas where culture, as well as vaccines, bacteria and viruses, may challenge medical science in the future. Without this, the medical technology on which modern healthcare depends so strongly is unlikely to win the battle alone.'

Jennifer Cole is a Senior Research Fellow in Resilience and Emergency Management at RUSI and a Reid Scholar in Health, the Human Body and Behaviour (H2B2) at Royal Holloway, University of London. She studied Biological Anthropology at the University of Cambridge.

1 World Health Organization (WHO), 'IHR Procedures Concerning Public Health Emergencies of International Concern (PHEIC)', <<http://www.who.int/ihr/procedures/pheic/en/>>, accessed 18 September 2014. The announcement of a PHEIC triggers the

2 WHO, *International Health Regulations (2005)*, 2nd ed. (Geneva: WHO, 2008). The International Health Regulations provide a legally binding framework for co-ordinated international surveillance of and response to notable health events.

3 Dara Mohammadi, 'The Final Push for Polio Eradication', *The Lancet* (Vol. 380, No. 9840, 2012), pp. 460–62.

4 WHO, 'Ebola Situation in Senegal Remains Stable', 12 September 2014, <<http://www.who.int/mediacentre/news/ebola/12-september-2014/en/>>, accessed 18 September 2014.

5 International SOS, 'Nigeria', <https://www.internationalsos.com/ebola/index.cfm?content_id=418&language_id=ENG>, accessed 22 September 2014.

6 WHO, 'Health Financing: Per Capita Total Expenditure on Health at Average Exchange Rate (US\$): 2012', <http://gamapserver.who.int/gho/interactive_charts/health_financing/atlas.html?indicator=i3>, accessed 16 September 2014.

7 WHO, 'Health Workforce: Density of Physicians (Total Number per 1000 Population), Latest Available Year', <http://gamapserver.who.int/gho/interactive_charts/health_workforce/PhysiciansDensity_Total/atlas.html>, accessed 22 September 2009.

8 WHO, 'Health Financing'.

9 OECD, 'Health at a Glance 2011: OECD Indicators', 2011, <http://www.oecd-ilibrary.org/sites/health_glance-2011-en/01/01/index.html?ns/Chapter&itemId=/content/chapter/health_glance-2011-4-en>, accessed 18 September 2014.

10 WHO, 'Ebola Virus Disease', Fact Sheet No. 103, updated April 2014, <<http://www.who.int/mediacentre/factsheets/fs103/en/>>, accessed 18 September 2014.

11 Centers for Disease Control and Prevention, 'Questions and Answers on Experimental Treatments and Vaccines for Ebola', <<http://www.cdc.gov/vhf/ebola/outbreaks/guinea/qa-experimental-treatments.html>>, accessed 16 September 2014.

12 *Onion*, 'Experts: Ebola Vaccine at Least 50 White People Away', 30 June 2014, <<http://www.theonion.com/articles/experts-ebola-vaccine-at-least-50-white-people-away,36580/>>, accessed 22 September 2014.

13 Avert, 'Antiretroviral Drug Prices', <<http://www.avert.org/antiretroviral-drug-prices.htm>>, accessed 22 September 2014.

14 Centers for Disease Control and Prevention, 'Outbreaks Chronology: Ebola Hemorrhagic Fever', <<http://www.cdc.gov/vhf/ebola/resources/outbreak-table.html>>, accessed 18 September 2014.

15 White House, 'Project BioShield: Progress in the War on Terror', <<http://georgewbush-whitehouse.archives.gov/infocus/bioshield/>>, accessed 18 September 2014.

16 World Bank, 'Ebola: World Bank Group Approves US\$105 Million Grant for Faster Epidemic Containment in Guinea, Liberia, and Sierra Leone', press release, 16 September 2014, <<http://www.worldbank.org/en/news/press-release/2014/09/16/ebola-world-bank-group-approves-grant-faster-epidemic-containment-guinea-liberia-sierra-leone>>, accessed 22 September 2014.

17 White House, 'FACT SHEET: US Response to the Ebola Outbreak in West Africa', 16 September 2014, <<http://www.whitehouse.gov/the-press-office/2014/09/16/fact-sheet-us-response-ebola-epidemic-west-africa>>, accessed 22 September 2014.

18 History of Vaccines, 'Polio', <<http://www.historyofvaccines.org/content/timelines/polio>>, accessed 22 September 2014.

19 Ayodele Samuel Jegede, 'What Led to the Nigerian Boycott of the Polio Vaccination Campaign?', *PloS Med* (Vol. 4, No. 3: e73, March 2007).

20 Abdul Momin Kazi et al., 'Failure of Polio Eradication from Pakistan: Threat to World Health?', *Journal of Pioneering Medical Sciences* (Vol. 4, No. 1, January/March 2014).

21 Polio Global Eradication Initiative, 'Surveillance', <[http:// www.polioeradication.org/ Dataandmonitoring/Surveillance.aspx](http://www.polioeradication.org/Dataandmonitoring/Surveillance.aspx)>, accessed 22 September 2014.

22 *Ibid.*

23 Centers for Disease Control and Protection, 'Polio Disease In-Short', <<http://www.cdc.gov/vaccines/vpd-vac/ polio/in-short-both.htm>>, accessed

22 September 2014.

24 Charles R Vitek and Melinda Wharton, 'Diphtheria in the Former Soviet Union: Re-emergence of a Pandemic Disease', *Emerging Infectious Diseases* (Vol. 4, No. 4, December 1998), pp. 539–50.

25 WHO, 'Potential Impact of Conflict on Health in Iraq', Briefing Note, March 2003.

26 Barry S Hewlett and Richard P Amola, 'Cultural Contexts of Ebola in Northern Uganda', *Emerging Infectious Diseases* (Vol. 9, No. 10, 2003), pp. 1242–48.

27 Human Terrain System, US Army <[http:// humanterrainsystem.army.mil/](http://humanterrainsystem.army.mil/)>, accessed 18 September 2014.

28 Global Islamic Advisory Group, 'Final Communique: First Global Islamic Advisory Group Meeting on Polio Eradication', February 2014, <[http://www.polioeradication.org/ Portals/0/Document/Resources/ Declaration_Resolution/Jeddah_ Declaration_EN.pdf](http://www.polioeradication.org/Portals/0/Document/Resources/Declaration_Resolution/Jeddah_Declaration_EN.pdf)>, accessed 18 September 2014; 'Resolution No. 14/31-S&T on Global Cooperation in Polio Eradication Programme Among OIC Member States', thirty-first session of the Islamic Conference on Foreign Ministers (Session of Progress and Global Harmony), Istanbul, June 2004, <[http:// www.polioeradication.org/content/ publications/OIC_resolution_0604.pdf](http://www.polioeradication.org/content/publications/OIC_resolution_0604.pdf)>, accessed 18 September 2014.

29 Fatima Riaz and Yasir Waheed, 'Islam and Polio', *The Lancet Infectious Diseases* (Vol. 14, No. 9, September 2014).