

# EBOLA AND BIO

The latest news on the spread of the Ebola virus has raised significant worries across the security community. The greater frequency with which Ebola is appearing raises questions about human accessibility to the virus and the deliberate usage of the virus by humans for harmful purposes. Its high death toll might also be attractive for terrorist groups. Ebola kills between 25 and 90 per cent of those who contract it, according to WHO 2012 statistics. The WHO also notes that, although there are two potential vaccines undergoing “evaluation,” at present none are licensed.

There is speculation that terrorists could use weaponised Ebola virus to deliberately infect humans and to wreak psychological havoc on an unsuspecting and unprepared population. Keeping in mind Dirk Brockmann’s idea that, in an interconnected world, it is airport connections that represent the fastest way for infectious diseases to spread – first through major transportation hubs, then minor hubs, and only then more slowly within countries by other modes of transport (car, donkey, foot), it could be possible to blow such a bomb with the Ebola virus at the major airport allowing the disease to spread worldwide. By reimagining distance in this way, Brockmann shows how the seemingly random spread of illness across the world in fact obeys a simple mechanism: spreading along the transportation networks like the ripples of a stone dropped into a pool. The actual time it takes for a given disease to spread will depend on how infectious it is, but Brockmann argues the pattern will remain essentially the same.

Generally speaking there are several ways of doing so. First of all, there is a cheap and scary way – to use already infected people and/or “dirty bombs” of infected fluids throughout a densely populated city, or use lone wolves (suicide-infectors) on a suicide mission. The idea of using human carriers to intentionally spread deadly pathogens has been around for centuries. In the Middle Ages, for example, adversaries threw infected corpses over their enemy’s city walls in order to spread the deadly Bubonic Plague. “Bioterrorism using human beings as the vector from which the biological ‘bomb’ would ensue is a subset of suicide terrorism” (Valenty Shepherd, 2006). It is quite cheap way, which also does not require any special knowledge of dealing with virus or specific training of those people committing the attack. “I do, at some level, think the government should be concerned about [weaponisation], because if such attack does happen it could be devastating”, said Amanda Teckman, who published “The Bioterrorist Threat of Ebola in East Africa and Implications for Global Health,” in the May 2013 issue of *Global Policy* magazine.

It is necessary to keep in mind that some viruses do mutate to more virulent strains, and Ebola can live inside fluids for several days outside of the body. So if

there were a container of contaminated urine, and if somehow it was transported to suitable location, a lot of damage could be done. One quite simple option would be to approach a lab worker and buy the urine, for example, of an Ebola patient.

Terrorists may also seek to obtain samples of the virus and transfer it to a lab for weaponisation. In this case they would have to know how to handle Ebola, which for scientists working with the virus would mean wearing protective suits in a biohazard Level 4 containment facility. Such a solution would therefore require perfect knowledge of biosafety and biosecurity requirements. Weaponisation of the Ebola virus would be technically challenging, as it requires experts with advanced training and equipment that would be difficult for any but a state actor to obtain within any short period of time. Then, the terrorists would also need to know how to grow large quantities of the virus and transfer it into a delivery device capable of dispersing it over a large area (such as an aerosol). This has been attempted before. Former Soviet Union scientists reportedly tried – but failed – to cultivate Ebola for their own biological weapons program in the 1980s. There is speculation that they were more successful with the Marburg virus, however, a deadly sister virus to Ebola.

Another form of the weaponisation of Ebola can be a some sort of mix of Ebola with another disease, facilitating the dissemination of virus across the territory and population. For example, this could be Ebolapox – a hybrid of Ebola and smallpox. Hypothetically, Ebolapox would cause “blackpox”, causing external bleeding, black skin and internal bleeding (Zubay, 2005).

At time, there were rumours that followers of the Japanese cult Aum Shinrikyo travelled to the Democratic Republic of Congo – then known as Zaire – in 1992 in search of Ebola samples. There is no evidence that they succeeded in finding or bringing home any samples in order to create a spreadable contagion from them, but they did launch a Sarin gas attack that killed 13 people and injured 50 on a Tokyo subway in 1995. Thus it is reasonable to expect that the technology for such an attack is generally available; the only show-stopper is the “material” to be dispersed.

The above-mentioned experience in Japan also may suggest that spreading the virus in local transportation hubs (such as metro stations) might not be the most fruitful attack scenario for terrorists, as responders have a good chance of containing the attack. The effects are likely to be include limited spread of disease (typically, within one city), with opportunities to contain the spread by focusing the response effort on several circles of isolation within the same city. The key factor of successful containment would be early notice of the attack and identification of the virus.



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# D-TERRORISM



A number of deficiencies and defects – including vulnerabilities in global, national, and local public health capacities – impede our ability to cope with the risk of Ebola terrorism. There are limitations of scientific knowledge but the main problem lies in difficulties in decision-making under conditions of uncertainty and stress, complexities in international co-operation, and challenges in communication among experts, policymakers and the public.

The world has shown insufficient preparedness to respond to a severe influenza pandemic or to any

similarly global disease. Although the WHO is the only global agency with legitimate authority to lead the response to a pandemic, it is burdened by a number of structural impediments. First, the WHO is simultaneously the moral voice for health in the world and the servant of its member states, which authorise the overall program and budget. National interests may conflict with a mandate to “equitably protect the health of every person on the planet”.

Second, the budget of the WHO is incommensurate with the scope of its responsibilities. Approximately



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just one quarter of the budget comes from direct member-state assessments, and the rest depends on targeted support for specific projects funded by individual countries and foundations. These budgetary realities and the personnel-management requirements inherent in being a United Nations agency constrain flexibility.

Third, the WHO is better designed to respond to focal, short-term emergencies localised within limited territory (such as investigating an outbreak of haemorrhagic fever in sub-Saharan Africa, or to manage a multiyear, steady-state disease-control programme) than to mount and sustain the kind of intensive, global response that is required to deal with a rapidly unfolding pandemic. Finally, the regional WHO offices are autonomous, with member states of the region responsible for the election of the regional director, budget, and programme. Although this system allows for regional variation to suit local conditions, the arrangement limits the ability of the WHO to direct a globally coherent and co-ordinated response during a global health emergency across multiple regions, due to the often-differing priorities that regions have.

As of 2001, Carus (2001) counts eight instances in which terrorists acquired biological agents: one was

from a legitimate supplier, one was stolen, one was self-manufactured, two were obtained from natural sources and three came from unknown sources. The main argument of those security professionals who do not believe in the possibility of Ebola terrorism is that financial and logistical challenges of transforming virus into a tool of bioterror makes the concern seem overblown – at least as far as widespread devastation is concerned. But in recent years we have witnessed that the technological sophistication of terrorist groups is growing. Some terrorist groups have significant financial resources in their possession (such as the Islamic State), and may acquire access to the necessary skills and knowledge from among their supporters; or they may simply buy skills, acting secretly and keeping the work force in the dark.

Regardless, any terrorist attempting to stoke fears rather than accrue a high body count could have some modicum of success with Ebola. “When talking about bioterror, it’s more about the terror than it is the bio,” Anthony Fauci (the director of the US National Institute of Allergy and Infectious Diseases) said. We must all remember that and prepare to prevent and contain any form of attack.

***While protective measures and surveillance systems have been reinforced, it is near impossible to predict the effects of weaponised Ebola***

**Lina Kolesnikova** is a Russian-born, Brussels-based Fellow of ICPEM. Lina provides consultancy in the area of security, risk and crisis management to number of organisations within both the private and public sectors. She is a member of the advisory board for Crisis Response Journal and CBRNE-Terrorism Newsletter.