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Invisible Enemies

Why Viruses and Bacteria Constitute a Security Policy Issue

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Epidemics and pandemics are hardly a thing of the past. In fact, it is quite the contrary, as the risk of rapid spread of infectious diseases is greater than ever before. For this reason and because of their drastic socio-economic consequences, epidemics and pandemics are increasingly being assessed through the prism of security. This makes health a matter of national security – and some people are still not happy with this idea.

Preface

Health crises such as the rapid spread of dangerous infectious diseases are increasingly being brought into the context of security and stability. For example, the German Federal Government's 2016 White Paper on Security Policy and the Future of the Armed Forces (*Weißbuch der Bundesregierung zur Sicherheitspolitik und zur Zukunft der Bundeswehr*) makes mention of pandemics and epidemics as a threat to regional stability. In the US, health has played an important role in strategy documents on foreign and security policy since the early 2000s. The background to this development is that globalisation and the increased movement of people and goods have raised the risk of serious epidemics and pandemics to an unprecedented level. At the same time, past serious health crises, such as the Ebola outbreak in West Africa in 2013, have shown the severity of the burden epidemics can place on state structures and supply systems, as well as such crises' ability to ultimately destabilise those systems. Nevertheless, critics doubt that health is a security issue. They believe that modern epidemics do not endanger state stability and that the consequences of increasing security – the illumination of health from a security perspective – are harmful to global health and security policy. This article examines the debate on health security – the security policy view of health – and argues that health does indeed have great relevance to security. What is worrying here is that, although health security is mentioned in important strategy documents, it has thus far scarcely seen any policy implementation on the ground.

For example, the global community remains inadequately prepared for the outbreak of a new epidemic or pandemic. This is particularly alarming given that the question is not whether we will see an epidemic or pandemic in the coming years, but when.

Pandemics – As Old as Mankind

2018 marks the 100th anniversary of the outbreak of one of the most severe pandemics in modern times. The Spanish flu spread twice around the world between 1918 and 1920, infecting one in three people and killing an estimated 50 to 100 million, or 2.5 to five per cent of the world's population at the time. The pandemic affected the course of the First World War and influenced political events in other parts of the world.¹ While the Spanish flu is only one example, it is particularly indicative of the destructive power of epidemics. The Black Death, or bubonic plague, spread along the travel and trade routes from Asia to Europe in the 14th century, killing about one third of the world's population. Even before that, epidemics and pandemics had always influenced human civilisations, brought down empires, and changed the course of battles and wars.

However, the consideration of health issues as an element of national or international security is a relatively recent development that began only in the late 1990s.² Previously, health was considered exclusively as an issue of low politics and security threats were essentially limited to external military threats.³ The 1990s ushered in a change that can be attributed to two trends.

First, the overall understanding of security expanded after the end of the Cold War; security policy was no longer solely understood as fending off external military threats. New issues, such as terrorism but also climate change, were increasingly recognised as threats to security and stability. The focus shifted increasingly towards the connection between development policy and security, and concepts such as the networked approach gained in importance. The reference object for security – the group of people for whom security was to be guaranteed – was also expanded. The state was no longer at the centre of security policy considerations, as notions such as the Human Security concept, which provides for an individual approach, show.⁴ On the whole, the understanding of security was broadened in the 1990s, and became much more comprehensive than it had been during the Cold War.

The Return of Epidemics

Another trend ensuring that the health security concept prevailed is a phenomenon, which experts described as the “return of modern epidemics”.⁵ From the 1980s onwards, infectious diseases increased again and spread rapidly across national borders. Some of these diseases were deadly pathogens, such as HIV/AIDS and SARS, which had previously been unknown. But even diseases that had long been regarded as eradicated, such as the plague, cholera, or diphtheria, re-emerged and caused great uncertainty.

The shock was particularly deep because the assumption in the 1960s and 1970s had been that the age of epidemics was over. Many experts were of the opinion that infectious diseases would be gradually controlled and eradicated in the coming years thanks to medical progress. Safe vaccines, the widespread availability of antibiotics, and significant advances in medicine fuelled this hope. The return of modern epidemics, especially the appearance and incredible destructive power of HIV/AIDS, brought medical optimism to an abrupt end.

The reasons for the return of epidemics are manifold. For one, microbes are extremely adaptable to external conditions and are constantly evolving.⁶ For example, the use of antibiotics has led some microbes to develop complex survival strategies making them resistant to many types of antibiotics. For another, various megatrends associated with globalisation are greatly multiplying the extent of infectious diseases.⁷

Infectious diseases have always spread via trade and travel routes. The increased mobility of goods and people has also greatly increased the speed and geographical range of epidemics, which in turn led to a dramatic rise in the general risk of infection. The SARS pandemic in 2002 and 2003 made it particularly clear just how rapidly and widely an infectious disease can spread in a hyper-connected world before the international community even realises what it is dealing with – let alone being able to respond appropriately. From Hong Kong, SARS spread to three other continents within two days, resulting in over 8,000 cases of the disease and over 770 deaths worldwide and causing significant socio-economic damage and great uncertainty among populations.

The risk of rapidly spreading infectious diseases is higher today than ever before.

Steady population growth is another reason for the increased occurrence of modern epidemics. As the world population grows, so does the number of potential hosts for pathogens. Whereas in 1950 there were 2.5 billion people on earth, the figure is currently around 7.6 billion. By 2050, an estimated 9.7 billion people will populate the world.⁸ At the same time, urbanisation is reducing the geographical distance between these people, further increasing the risk of infection. Insufficient hygienic conditions, such as poor or contaminated drinking water supplies and a lack of waste disposal in megacities, are ideal reservoirs for the spread of pathogens.

The escalating destruction of the environment is also associated with an increased risk of pandemics and epidemics. This is because many dangerous pathogens can pass from the animal kingdom to humans. So-called zoonoses are transmitted to humans ever more frequently because of environmental degradation, since humans penetrate previously undiscovered reservoirs and this increases their exposure to exotic animals. It is highly likely that the devastating Ebola epidemic in West Africa from 2014 to 2015 was caused by a bat that transferred

the deadly virus to an 18-month-old boy in the province of Guéckédou in southern Guinea.⁹

Contrary to the assumptions of the medical optimism that prevailed in the 1960s and 1970s, we live today in one of the most dangerous times in terms of the rapid spread of infectious diseases. The former Director-General of WHO, Gro Harlem Brundtland, describes the current conditions of diseases as follows: “Today, in an interconnected world, bacteria and viruses travel almost as fast as e-mail and financial



flows. Globalization has connected Bujumbura to Bombay and Bangkok to Boston.”¹⁰ Bill Gates, who works with the Bill & Melinda Gates Foundation to fight diseases worldwide, also says, “We’ve created, in terms of spread, the most dangerous environment that we’ve ever had in the history of mankind.”¹¹ These highly favourable conditions for viruses and bacteria are leading to a disturbing shift in the sensitive relationship between humans and microbes. Never before in history have new diseases developed as rapidly as they do today, at the rate of

about one per year.¹² Professor Stefan Elbe, who is conducting research on infectious diseases through the prism of security at the University of Sussex, says, “The medical optimism of the twentieth century has thus been displaced. We have entered a new era of deep microbial unease.”¹³

Health Security – What Does It Mean?

Health Security is a concept that considers this development and deals with health issues from a security point of view. Exactly what it entails depends on the perspective of the actor. There is still no generally accepted definition. What is certain, however, is that health issues have been on the agenda of national security institutions since the late 1990s. This development and the presence of the security paradigm in the health policy debate, clearly show that what were previously two strictly separate areas – health and security – have moved closer together.

In essence, three narratives are mentioned time and again in the security policy debate on health issues.¹⁴ One is that pathogens today can spread very quickly, sometimes unnoticed, due to the strong networking of the world as explained above.

A second narrative is driven by the fear of a deliberate use of pathogens, either by terrorists or by state-funded bioweapons programmes. The anthrax attacks in the US in 2001, brought this danger very much to the attention of Western decision-makers. The reawakened fear of the use of bioweapons has led to a worldwide increase in so-called biodefence programmes since 2001. However, the majority of high-security laboratories today not only research the intentional use of pathogens, but also the natural occurrence of disease outbreaks. Paradoxically, the increase in these programmes, the development of high-security laboratories with the associated materials, and the intensification of research have contributed to a higher risk that bioweapons will be used, since dangerous pathogens can be stolen from these laboratories, or accidents can occur at these facilities.¹⁵



Rapid reaction force: Mega-cities in particular, where many people live together in a small area, create ideal conditions for pathogens to spread rapidly.

Source: © Tyrone Siu, Reuters.

The growth in research on dangerous pathogens, and in particular the progress in the field of gene synthesis, increase the risk of dual use when research results are published and the necessary materials become commercially available. Most recently, a heated debate arose in July 2017 about the publication of the research results by a Canadian research team, which had reconstructed horse pox, – that were extinct in the wild – in the laboratory. The DNA building blocks were legally purchased from a large German company. Although horse pox is not dangerous to humans, experts assume that creating a synthetic variant harmful to humans would be relatively easy.¹⁶

Health problems have the potential to destabilise states or even entire regions.

The third narrative propounds that the drastic socio-economic effects of epidemics endanger state stability. This idea intensified with the debate on HIV/AIDS. The January 2000 meeting of the UN Security Council is regarded as one of the most important milestones in the securitisation of health. For the first time in the history of the United Nations, a health problem – the rapid spread of HIV/AIDS – was discussed as a security threat. The connection between health and security is very direct in the case of HIV/AIDS, since the operational capability and military clout of many armed forces in sub-Saharan Africa, is endangered by their HIV/AIDS rates, some of which are very high. Yet, other socio-economic effects of the disease also give cause for concern with respect to security.¹⁷ In his speech before the UN Security Council, then Secretary General Kofi Annan stressed that the drastic socio-economic consequences of HIV/AIDS threatened state stability: “By overwhelming the continent’s health services, by creating millions of orphans and by decimating health workers and teachers, AIDS is causing social and economic crises which in turn threaten political stability.”¹⁸

At the core of the health security concept is the recognition that a health problem can destabilise a state or even entire regions due to its dramatic impact on the economy, social coexistence, state welfare systems, and trust in state institutions. This also means that not every health problem automatically poses a security threat. Only diseases that have the potential to undermine social and national coexistence pose a threat that is relevant to national security. For this reason, the security policy discourse to date has been limited almost exclusively to communicable diseases that cause acute and particularly serious damage – that is, diseases giving rise to especially severe symptoms or with a high mortality rate. However, it is not only a question of how serious the damage is, but also of how disruptively it occurs. Non-communicable diseases such as diabetes, cancer or cardiovascular diseases already account for a greater burden in emerging and developing countries alike.¹⁹ Another decisive element of the security policy discourse, however, is how acutely damage caused by the disease occurs. The more immediate the damage, the higher the potential to massively disrupt state welfare systems and social coexistence. As a result, highly infectious diseases with a high mortality rate and severe acute symptoms are those usually perceived as security threats.²⁰

Health Security – A Controversial Concept

Treating health problems as a security threat is also heavily criticised for a variety of reasons, however. One is that health is not a matter of national security, since modern epidemics have yet to trigger an immediate state collapse. Even though HIV/AIDS or the Spanish flu were particularly serious pandemics and resulted in immense numbers of deaths, critics argue such diseases have (to date) never completely destabilised any state.²¹

Critics also warn of the consequences and dangers of treating health as a matter of national security. Humanitarian and development actors argue that the pursuit of health policy goals in developing and emerging countries should not

merely favour the strategic interests of Western countries, but instead is to be treated primarily as a human rights issue. Commitment to global health should be guided more by humanitarian principles than by security considerations. Security concerns do not lend themselves well to sustainable health promotion, and their ascendancy opens the door for authoritarian measures if security policy motives and instruments come to play an important role in global public health. Criticism is mainly directed towards the military's increased commitment to health, as humanitarian and development policy actors fear it will undermine political neutrality, which is vital for their survival. The increasing violence against hospitals and medical facilities in war zones, is also being closely linked to the securitisation of health.

Critics from the security policy camp believe that health crises represent a lesser threat than traditional national security concerns do; they sneer at the idea of health security. They often still believe health to be an exotic and relatively unimportant security concern. They also fear that the additional remit of health will further exhaust security policy resources. When it comes to military operations in health crises, some fear the likelihood of an increased 'mission creep'.

Aside from these critical voices, the military does in fact play a role in many areas of global health, such as the research, control, and surveillance of a wide range of dangerous diseases by the American laboratories belonging to the Navy Medical Research Unit (NAMRU).²² Most visible, however, is the military commitment to health that involves combating acute health crises, such as Ebola in West Africa and Zika in Brazil. As is the case when responding to natural disasters or humanitarian crises, the military mainly took on logistic tasks and – as regards Ebola – trained personnel in dealing with the disease. Acknowledging the role of the military and efforts to discover where the military already provides added value in global health, in what areas the involvement of the security sector is beneficial, and where the military should

not intervene, needs to be discussed in an open, evidence-based manner, free of taboos and ideologies.

Health Is a Security Concern

This criticism can be countered by the fact that health problems do indeed represent a massive security threat because they have the potential to destabilise states, societies, and regions. Even if, as critics argue, no state has completely collapsed as a result of a modern epidemic, past outbreaks of infectious diseases have unequivocally demonstrated their potential for immense disruption to societal and state functions. Furthermore, critics of the concept of health security seem to forget that all the trends leading to the return of modern epidemics, such as the interplay of globalisation, mobility, and population growth, will continue apace in future and that the scale and number of epidemics and pandemics will most likely increase. Today, diseases that used to terminate of their own accord, reach urban agglomerations more quickly due to greater mobility and can spread exponentially from there.

The fact that the threat posed by Ebola was underestimated for a long time had devastating consequences for West Africa.

The West Africa Ebola crisis showed this connection very clearly. Experts underestimated the extent of the epidemic in West Africa for so long because previous Ebola outbreaks in remote regions of Central Africa usually terminated quickly, or it was possible to interrupt the infection chains in time. This was not the case in West Africa in 2014, as the virus quickly reached populous regions.

In the main countries affected, the already-weak health sector almost completely collapsed due to the great burden caused by Ebola and led to dramatic repercussions on general medical

care that are still felt over the long-term. Public life came to a standstill because schools, public squares, and markets closed, but also because people feared infection. Food became scarce and prices rose dramatically given that farmers too were affected by the epidemic – they fell ill, died, or fled their farms – and fields could not be cultivated. Economic productivity and trade collapsed due to the panic triggered by the illness and because workers became ill, died, or were caring for relatives. Businesses, banks, hotels, transport companies, and almost all sectors of the economy cut back or shut down their operations completely. Internationally, the countries most affected became increasingly isolated, since other states closed their borders, no longer allowed citizens of the three countries to enter, and suspended travel and trade in the region.²³ In Liberia in particular, the imposition of a quarantine and a dangerous mixture of deep mistrust of state institutions and panic caused by the deadly disease, resulted in riots and violence against security forces and health workers.²⁴

The legitimacy of state structures will also be increasingly called into question if, in the wake of an epidemic or pandemic, as in the case of Ebola, the state can no longer maintain public services or security; leading to a collapse in the public order. If trust in state institutions has suffered long-term damage due to epidemics, this may still have ripple effects many years after health crises have been overcome.

The West African Ebola outbreak was certainly one of the most drastic examples of the link between security and health in the recent past. Other health crises, such as SARS 2002-2003, also seriously impaired trade, the economy, and travel to name a few. The economic ramifications of the pandemic had a deep impact on states such as Canada and Singapore.

On the academic side, Andrew Price-Smith, professor at Colorado College, examined the empirical relationship between health and security. In two extensive studies, he demonstrated that a large number of infected people have a

significantly negative impact on governmental capacities and stability.²⁵

In view of the fact that the above-mentioned megatrends such as global mobility of people and goods, population growth, urbanisation, and environmental degradation, will further increase in the future, the risk of epidemics and pandemics will also continue to rise. This will also amplify the danger to stability and security.

Unprepared and Vulnerable

The Ebola crisis in West Africa should never have reached such proportions and it shows us how unprepared and vulnerable the international community is in the fight against epidemics and pandemics. As early as March 2014, it was known that the West Africa outbreak involved Ebola's deadliest form, Zaire, an infectious disease which had been researched since the 1970s. It still took the World Health Organisation until 8 August 2014 to declare a Public Health Emergency of International Concern, however.²⁶ Moreover, Ebola is not a particularly contagious disease, since it can only be transmitted directly from person to person, and not through the air. Some experts went as far as to say just how lucky we are that it was *only* Ebola. If a known, non-airborne disease could wreak such havoc, one dreads to think what devastation a novel, highly contagious, deadly virus might cause.

Important health infra-structures are chronically under-financed.

The epidemic in West Africa was an urgent wake-up call to intensify efforts in the fight against global epidemics. In the period immediately after the epidemic, it seemed as if Ebola had actually been a game-changer. Numerous high-level panels, lessons-learned events, and papers with reform proposals were published and discussed, and important reform processes



Flu vaccination: Reacting quickly and appropriately to the outbreak of a pandemic requires more than just sufficient vaccines. Source: © Reuters.

were initiated, such as those implemented by the WHO. The introduction of the World Bank's Pandemic Emergency Financing Facility or the EU's European Medical Corps, were also important steps in the fight against global epidemics. Nevertheless, according to a World Bank report in May 2017, most countries are, at present, insufficiently prepared for the outbreak of a pandemic or epidemic.²⁷ For example, important health infrastructures that make it possible to detect the outbreak of dangerous infectious diseases early on, such as laboratories, but also emergency centres, are chronically under-financed and neglected. Monitoring especially in countries with particularly dangerous hotspots as regards the development and spread of infectious diseases falls short of what is required.

Especially in the case of flu, experts warn that there is a danger of a worldwide pandemic. Such an outbreak would occur if a new type of influenza virus were transmitted from animals to humans, and developed the ability to transfer from one person to another. People are particularly concerned about H7N9, the deadly avian influenza, which repeatedly occurs in chickens and wild birds in China, and has been transmitted to humans from time to time. In the winter of 2016/2017, 759 people in China fell ill with H7N9, 281 of whom died as a result of the disease. Influenza viruses can mutate particularly rapidly with the risk of person-to-person transmission. The influenza virus that caused the Spanish flu also mutated several times before triggering the serious pandemic that lasted from 1918 to 1920.²⁸

Health Security as an Opportunity

Putting the international community in a position to respond quickly and appropriately to epidemics and pandemics is one of the greatest challenges of the 21st century. Substantial financial resources and comprehensive reforms are needed. The costs incurred from failing to make these preparations and allowing epidemics to continue to endanger social and political stability, will be considerably higher.

An important step in the fight against global epidemics would be to recognise that health is a security issue. Health security must be not only placed on the political agenda, it also needs to be strongly integrated into policy-making as well. The concept of health security has given health policy issues higher priority in social discourse, increased attention, and provided a broader spectrum of actors and considerably more resources. Security policy actors, approaches, and instruments can play an important role in improving efforts to counter global epidemics. However, none of this will be possible unless it is accepted and backed by concrete policy measures. This does not mean that the security policy approach in the fight against epidemics and pandemics is some sort of 'silver bullet', or that it does not pose any risks, but that security policy actors and approaches ought to be incorporated in preparation for epidemics. The trend is clear: epidemics and pandemics are a real threat to security and stability in the hyper-connected 21st century. We cannot afford to ignore this fact any longer.

–translated from German–

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