

Public preparedness to respond to public health emergencies

Dr Ambrose Otau Talisuna reports on the current status of preparedness to respond to epidemics, pandemics and other public health emergencies

Health security has been defined as the set of activities required to minimise the dangers posed by public health risks like infectious disease epidemics, pandemics and other public health emergencies that affect people living across geographic regions and international boundaries.

Africa experiences an acute public health event once every three to four days or more than 150 events a year.¹ Depending on the disease, an outbreak can cost a country tens of millions of dollars in response and treatment costs alone. But the toll on human lives, on the livelihoods of people, on the already burdened and fragile health systems and ultimately on economies and global health security is far greater.²

Every one of the 47 Member States in the WHO African Region is at risk of health security threats.^{3,4} Emerging and re-emerging threats with pandemic potential are continuously at the continent's door. But of great concern is what recent analysis is revealing – with changing disease epidemiology and re-emerging disease trends, outbreaks and other acute public health emergencies are affecting the region with increasing magnitude and frequency and are expected to emerge in areas unaffected before.⁵

Certainly, surveillance and reporting has improved, accounting for some of the increases in recording trends. There is no denying, however, that other factors are having immense impact, from the growth of cross-border and international travel to increasing human population density and the growth of informal settlements, some of them due to continuing armed conflicts. Also complicit are climate change and natural disasters and changes in the way humans and wild animals interact and in trade and livestock farming.

Worrying trends

First, there is evidence that viral disease outbreaks that were previously rare have recently caused devastating outbreaks in the region. For instance, Ebola and Marburg virus diseases, previously known to be rare, recently caused major outbreaks in Liberia, Guinea and Sierra Leone (2013–2016), in Uganda (2017 and 2018) and in the Democratic Republic of the Congo (2018 and 2019).^{6,7,8} Second, several outbreaks of meningococcal meningitis have occurred outside the meningitis

belt, showing a high likelihood that the areas at risk are expanding.^{9,10,11} Third, certain diseases, like cholera, are transitioning from epidemic to endemic diseases. In 2017, more than 150,000 cholera cases, including more than 3,000 deaths were reported from 17 countries in the African region. Countries where cholera outbreaks were rare prior to 2016, such as Chad and Zambia, reported outbreaks in 2017.¹² Fourth, many of the countries at risk of epidemics also continue to suffer from humanitarian crises that disrupt livelihoods and the economy of these countries, thus constituting a dual burden. Both the current Ebola virus disease outbreak in the Democratic Republic of Congo and the 2013–2016 Ebola virus disease outbreak in West Africa are poignant reminders of the global threat of epidemics. The unprecedented spread of the West Africa Ebola virus disease outbreak and its catastrophic consequences were attributed to several national and international weaknesses triggering a wake-up call to the global community.

Outside of the obvious health impacts caused by epidemics, disease outbreaks also have major socio-economic impacts and cause significant devastation to economies of these countries. For example, the Ebola virus disease epidemic in West Africa – in Liberia, Guinea and Sierra Leone in 2013–2016 – had a huge negative impact on lives, livelihoods and communities and caused wider socioeconomic losses. More than 28,000 people were infected and more than 11,000 of them died. The estimated economic loss in the most affected countries was approximately US\$ 2.2 billion, or about 16% of their collective income.¹³

Responding to public health emergencies immediately and effectively is critical for saving lives and reducing the amount of financing needed to treat cases – and thus mitigating the increased burden on fragile health systems. Just as important, however, is prevention. Many communicable diseases, public health events and emergencies and their associated risk factors in Africa can be prevented or their effects mitigated through proven public health interventions. Preventing disease outbreaks and other public health emergencies, detecting them promptly when they occur and responding swiftly is the essence of health security.

Every country has a responsibility to ensure the health security of its population. Countries have a duty to ensure that they have the appropriate capacity to prevent, detect promptly and respond quickly and effectively. The 47 countries in the WHO African Region are at varying capacity in those duties. In general, most countries have major gaps in their health security capacities.

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A health worker in an Ebola isolation site in DRC

To help countries elevate their preparedness, WHO has taken on a 'One Health Approach' in which programmes, policies, strategies, legislation and research are designed and carried out with input from multiple sectors to achieve better public health outcomes. The areas of work in which a One Health Approach is particularly relevant include food safety, the control of diseases that can spread between animals and humans, such as flu, rabies and Rift Valley fever, and combating antimicrobial resistance.

Global standards

Although establishing critical public health functions is the sovereign responsibility of countries, the means to fulfil that is global, and the International Health Regulations (2005) constitute the essential vehicle for that action.¹⁴ The International Health Regulations aim at establishing strong public health systems to prepare for and respond to major, acute threats and emergencies that impact the health of people around the globe.

National preparedness to detect emerging or epidemic-prone diseases and effective response mechanism demands adequate financial resources and investment in public health systems. Many of the capabilities and much of the infrastructure required for the strengthening of capacities to meet the required IHR standards have additional utility beyond health security and also contribute to broader health systems strengthening, tackling endemic diseases and thwarting the threat of antimicrobial resistance. Several countries in the WHO

African Region are undertaking plans to be prepared in the event of a disaster or epidemic strike. The strategies are detailed in their National Action Plan for Health Security (NAPHs).

Epidemic preparedness reflects the capacity of institutions – public health authorities, health systems and emergency response bodies – to detect, report and respond to outbreaks. To support the establishment of operational readiness, emergency preparedness and IHR capacity building, WHO is making an investment case analysis for health security in Africa.

Recognising that robust metrics for national-level preparedness are critical for assessing global resilience to epidemic and pandemic threats, WHO is supporting risk analysis and mapping and is supporting countries to assess the status of their preparedness using the IHR monitoring and evaluation framework to augment the evidence base for health security planning.¹⁵

Prior to 2015, countries were self-reporting their IHR capabilities, but now the WHO and several partner agencies assess countries across 19 technical areas in a process known as the Joint External Evaluation (JEE).¹⁶ The results of this evaluation of a country's ability to prevent, detect and respond to a health security risk show the importance of continued investment in African health systems.

Currents status of preparedness

None of the 40 African countries that have conducted a JEE had all the required IHR capacities to adequately

respond in the event of a public health emergency.¹⁷ Major gaps have been revealed in most countries for most of the 19 technical areas. For several technical areas – legislation, policy, financing, IHR coordination, communication and advocacy, and anti-micro bacterial resistance – more than 80% of the countries had limited capacity.

But the factors that govern global health security extend beyond the mandate and capacity of the WHO. To this end, WHO national and regional offices are supporting Member States to strengthen their capacity by supporting the development of National Action Plans.

Based on preliminary cost estimates for pandemic preparedness from national action plans for health security, we estimate that approximately US\$9 billion to US\$10 billion is needed over the next three years for the whole of the WHO African Region. This translates into US\$2.50 to US\$3.50 per person per year – making the investment case for pandemic preparedness an affordable public health good. These investment needs are consistent with a 2016 global estimate of US\$4.5 billion per year that was made by a US National Academy of Medicine commission on the global health risk framework for the future.¹⁸

WHO is also advocating for the attainment of Universal Healthcare Coverage (UHC) to strengthen global public health. Countries with stronger health systems are better prepared to cope with the added demands that outbreaks and health emergencies bring. WHO is committed to intensifying efforts to meet the demands of an increasingly globalised world, and to tackle current and future threats to health security.

At the second Africa health forum held in Praia Cabo Verde, in March 2019, high profile national and international panellists deliberated on how to improve health security in Africa using the continuum of the emergency preparedness and response. Health security sessions were kick started by the real foot soldiers providing an update on the ongoing Ebola outbreak in North Kivu, Democratic Republic of the Congo. The DRC has experienced multiple Ebola virus disease outbreaks (EVD) with its first epidemic reported in 1976.¹⁹ The current Ebola virus disease (EVD) in the DRC is the 10th and second most devastating EVD outbreak after the West Africa outbreak.

It is over eight months since this outbreak of Ebola was declared. As of 22 April, 1,353 people had contracted the virus, and 880 (CFR=62%) had lost their lives. In the midst of conflict, and in some of the most challenging conditions, Ebola responders are working round the clock to ensure people can get the information, the care and the treatment they need.

Horizontal approaches

Renewed efforts to build and sustain the IHR (2005) capacities in Africa, unlike past initiatives, have adopted horizontal rather than vertical approaches for sustainable and resilient health systems that can withstand the shocks from outbreaks and other health emergencies. The implementation of health

security strategies should be done in synergy with the implementation of strategies to achieve the sustainable development goals. The synergy of health security strategies and universal health coverage (UHC 2030) should be maximised by all countries. Obstacles, if any, should be surmounted and overcome by recognising the benefit of the synergy of health security and universal health coverage.

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