How Africa can quell the next disease outbreaks

As mobility increases, so must investments in national public-health institutions and local leadership, says **John N. Nkengasong**.

This week, African and global health experts and policymakers are gathering in Addis Ababa to discuss how to enable national public-health institutions (NPHIs) to keep emerging and re-emerging infectious disease in check. At the top of the agenda must be empowering local leadership to act fast.

Africa's population is expected to double from 1.2 billion now to 2.4 billion by 2050. People are travelling greater distances, too. Last year, Ethiopian Airlines alone transported more than 10 million passengers — a 21% rise from 2017. Africa's ambitious plans to establish free trade and travel across the continent will increase movement even more. Although economically advantageous, these plans could set the stage for HIV, Ebola, pandemic influenza, chikungunya, plague, Lassa fever and antimicrobial-resistant bacterial infections to spread farther and faster.

Waiting for emergency help from the West costs lives, health and resources. African leaders are starting to take ownership of investments in their citizens' health, but fewer than 15 countries on the continent currently have institutions that can perform the functions of an effective NPHI, such as disease surveillance linked with a diagnostic laboratory, and the capacity to activate a rapid-response team for outbreaks and serve as an operation centre in public-health emergencies.

As head of the Africa Centres for Disease Control and Prevention (African CDC), I call on all 55 member states to establish or strengthen NPHIs. And I urge the private sector in Africa and worldwide, and bodies everywhere, to invest in these efforts. According to the World Bank, Africa needs between US$2 billion and $3.5 billion a year for epidemic preparedness; in 2015, 8 African nations received from various donors about $700 million for this cause.

I think that much of the gap can be filled from within Africa, where the 2014–16 Ebola outbreak cost roughly $53 billion.The African Business Coalition for Health, formed in 2017, and the United Nations Economic Commission for Africa are encouraging investment and coordinating efforts by African philanthropists and business leaders to support health programmes. The African Union (AU), a 55-member continental organization based in Addis Ababa, has set up a programme to tax imports of goods to Africa, designed to shift AU running costs away from donors. A fraction of these funds should go towards NPHIs.

NPHIs are a health-security imperative in a changing Africa, where rapidly expanding populations mean greater urbanization and more people in slums. Currently, not even half of urban dwellers in sub-Saharan Africa have access to sanitation; even fewer have received the recommended suite of childhood vaccinations. Old diseases, and those once limited to rural and remote areas, are appearing in cities — plague in Antananarivo, Ebola virus in capitals across West Africa. And we have seen time and again that an outbreak in Africa is a global threat.

NPHIs should prioritize four broad areas. First, providing basic functions such as disease surveillance and coordinating emergency operations, even in remote areas. Second, creating lab networks that can quickly diagnose, track and pinpoint the origin of emerging infections. Third, developing a workforce to collect, assess, share and act on quality data, including advanced technologies such as genetic sequencing and informatics. Fourth, developing a strong capacity for social scientists to engage with communities and change behaviours. Sociologists and anthropologists were crucial in ending the Ebola outbreak in West Africa by, for example, promoting safe burials — which meant modifying long-standing traditions, such as washing the corpse of a loved one.

It will take years for NPHIs to strengthen their capacities in these areas. African countries must also collaborate with their neighbours to establish surveillance and lab networks and to pool public-health assets, for example by sending biological specimens to be tested in specialized labs in another country if local expertise is lacking.

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All this requires political leadership, financial commitment, partnerships and innovation. But I have reason for hope. Last month, Paul Kagame, Rwanda's president and AU chair, brought together heads of global bodies, including those of the UN and the World Health Organization, the AU Commission chair, private-sector leaders such as Bill Gates, and heads of state and government across Africa. This gathering culminated in the AU heads of state and government committing to increase domestic investment in health-care infrastructure, and to work with the private sector to do so. In response, a number of private-sector firms pledged $200 million. This is the first time such high-level discussions on or commitments to domestic investment in health systems have occurred.

The moment felt like a game-changer — it established a mechanism to move forward where none had existed. Three of the biggest turning points in the fight against HIV started with similar proclamations, each catalysing others. In 2000, the UN Security Council declared that the AIDS epidemic was an international security threat; in 2001, Kofi Annan, then UN secretary-general, called for a global AIDS fund; in 2003, the President's Emergency Plan for AIDS Relief was launched by then-US president George W. Bush. Nearly 700,000 Africans died of AIDS-related illnesses in 2017 — but that was down by 24% since 2010 in West and Central Africa, and by 42% in East and southern Africa.

Still, no one doubts that this road map for pandemic preparedness requires unprecedented levels of political and financial engagement. It is difficult, but achievable. The health of the continent, and of the world, depends on all of us keeping our commitments. ■

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