Zero infection

Last month, United Nations (UN) Secretary-General Ban Ki-moon, World Bank Group President Jim Yong Kim, and World Health Organization (WHO) Director-General Margaret Chan held a press conference after the UN Chief Executive Board’s meeting to assess the global response to the Ebola epidemic. The secretary-general’s message was clear: “Our end game is not near.” To eliminate infection from the human population by mid-2015, as Ban Ki-moon hopes, the world must intensify its fight against this virus, but we should also recognize that we need better ways to combat international health hazards of all kinds.

One year into West Africa’s Ebola epidemic, international attention remains sharply focused on strengthening the response in Guinea, Liberia, and Sierra Leone, where hundreds of new cases arise each week. Its recent spread into Mali is another warning that if epidemics such as Ebola are to be contained, then they must be tackled at their source; that means rapid detection and effective action at the earliest, more manageable stages. To better achieve this in future, we need to bolster global surveillance and enhance national and international capability to react appropriately.

The foundations of a more effective response already exist in the form of multidisciplinary technical networks, WHO’s Global Outbreak and Alert Response Network, the Training Programs in Epidemiology and Public Health Interventions Network, the logistics and special competences of the international humanitarian system, and the International Health Regulations. But these existing elements need to be brought into a stronger system of global governance that can manage a variety of health hazards, especially infectious diseases. A new mechanism could be steered by a single international agency, possibly an existing organization. Irrespective of who leads, multiple agencies must participate: WHO, the World Bank, the World Organization for Animal Health, the World Food Programme, and the International Monetary Fund, among others.

Existing efforts need to be reinforced and placed within a larger, more cohesive operational framework. That framework would provide more-predictable access to expertise, funding, and training, and on a large scale. It would recognize that most emerging infections, including Ebola, have an animal origin, so the veterinary sector would have a key role. Building national capacity is paramount, and the strengthening of national health services is vital. The new mechanism would include an adequately resourced global rapid reaction capability to manage major incidents and provide immediate and sustained assistance where local health services are at risk of being overwhelmed, or where there is a major risk of international spread.

Ebola has underlined the need, and presented an opportunity, to modernize outbreak management. Traditionally, the detection and monitoring of outbreaks have relied on a paper trail of clinical case reports. This is typically insufficient, but can now be supplemented by other techniques, such as the use of handheld data-collection devices, social media, serosurveillance, risk modeling, and analysis of pathogen genome data. Gathering such information is sometimes seen as an unnecessary distraction from immediate health needs. Yet these data are integral to the successful management of outbreaks today.

Preparedness and readiness reflect what happens before, rather than during, a crisis, irrespective of the hazard. We need to improve contingency planning and coordination; develop and stockpile diagnostics, drugs, and vaccines; set up sequencing pipelines and data-sharing protocols; and anticipate public engagement and ethical issues. We need to recognize that disease surveillance and response are global public goods. Ebola reminds us that wherever new diseases emerge, they can quickly and easily become international problems. In the event of a crisis, prior investment in infrastructure, training, and research will pay off many times over.

We can drive Ebola infection out of the human population, but we must also do more to guard against, and respond to, similar crises in the future. All options for doing that are now on the table.

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