## The path to zero Ebola cases

## Jim Yong Kim

MONROVIA, LIBERIA In my career as a medical doctor and global health policy maker, I have been in the middle of monumental struggles, including fights to make treatment accessible in the developing world for those living with H.I.V./AIDS as well as multi-drug resistant tuberculosis. But the Ebola epidemic is the worst I've ever seen.

More than 11 months into the crisis, thousands of people are dead and more than 17,000 have been infected. The virus kills quickly, spreads fear even faster, alters human relationships, devastates economies and threatens to cruelly extinguish hope in three fragile countries that were on the rebound after years of misery. No other modern epidemic has been so destructive so fast.

Recently, the regional response to the Ebola epidemic has been extremely effective in slowing its spread. Presidents Alpha Condé of Guinea, Ellen Johnson Sirleaf of Liberia and Ernest Bai Koroma of Sierra Leone have shown strong resolve and determined political will in battling the virus. I recently spent two days in those countries and saw first-hand that the situation today is far better than it was a month ago because of national and international efforts.

But we are not yet on the path to end the epidemic. These three countries and the world must now shift the focus of their strategy with one goal in mind: zero Ebola cases. While each country faces different challenges in reaching this destination, there are common principles that can guide them. Here are five steps the world must take together.

First, we must find the resources required, no matter the cost, to get to zero cases as soon as possible. Any delay will dramatically increase the price in terms

We have underestimated the danger in the past; we must not do so again. of both lives and money. For Senegal, the cost to treat one patient and track all of his contacts was more than \$1 million. For Nigeria, one infected person led to 19 other cases, and more than 19,000 contacts

traced by over 800 health care workers at a cost of more than \$13 million. In Guinea, Liberia and Sierra Leone, there are not one or 10 active transmission lines, but hundreds. Defeating Ebola now will cost billions — but it will spare the rest of the world from the spread of the virus, save lives in the countries, save money over the long term, and help the countries rebuild their economies.

Second, it is time to multiply the number of trained people to hunt down the virus. Responders must track each contact of an infected person. Done right, this strategy will eventually extinguish all transmission lines, ending the epidemic. The focus of this vital activity must be on the intensity, quality and reach of tracking activities deep into the community. The communities need to be engaged, empowered and true partners in the drive to zero. It will also begin these countries' recovery process by providing work for potentially thousands of local people, and teach skills that are much needed to build effective community health care systems.

Third, response coordination and support mechanisms must move down to the district level, with teams capable of collecting and analyzing data to further drive the intervention, as well as to scale up diagnostics and triage capabilities. We must especially focus on one particular piece of data: The percentage of new cases not on previous contact lists. In other words, did trackers previ-

ously identify the people who are newly infected as contacts of other cases, or do the new cases represent unidentified transmission lines? This will tell us whether we're winning or losing. Right now, in all three countries, we have only partial data on this particular indicator.

Fourth, national response strategies must be nimble and adapt to local conditions, rather than be bound by prior commitments. Liberia, for instance, has had the most recent success in the fight against the virus and has seen a dramatic drop in reported cases. When I was in Liberia, they counted 150 active cases — the lowest number in several months. Now there is an opportunity to aggressively set in motion a contact tracing program to stop the lines of transmission, one by one until it's over.

Finally, we must empower the strong leaders in the region who head the response to extinguish the virus wherever it exists. On the ground, there are talented national staff who have been tested on the frontline. There are also international partners: the United States and the United Kingdom, other countries, the United Nations, and international nongovernmental organizations, which have deployed massive resources in support of national efforts. Together, they have stood fast and slowed down this horrific epidemic. We must now give them the freedom and resources to end it.

We have no choice but to beat Ebola. I return from West Africa admiring the leaders and the international responders. But we must also acknowledge that we have underestimated Ebola in the past and it's possible we could do so again. We must not forget we have one goal only: zero cases.

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