

# THIS WEEK

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## Out of Africa

*The Ebola outbreak in West Africa must be shut down now, or the disease will continue to spread.*

**E**bola is out of control in Liberia, Sierra Leone and Guinea. Although this has been the case since late spring, the international pledges of help have yet to translate into concerted, rapid action on the ground. The virus still has the upper hand. Between 23 September and 1 October alone, the number of cases rose from 6,500 to almost 7,500, according to the World Health Organization.

The situation has become so bad that no one knows the true numbers of cases and deaths, only that they are probably much larger than official estimates. And the accompanying collapse of the countries' health systems means that people are unnecessarily falling victim to malaria and other diseases. One does not need a mathematical model to foresee how bad this could get.

The biggest risk is that the outbreak will spread to neighbouring countries. The risk to the rest of the world, and in particular to richer countries, remains low. But there is no room for complacency. Spain and the United States have now had cases, and the hapless management of the US case serves as a reminder that even a country with probably the most developed plans for responding to biological threats — be they natural or terrorist — can fall far short when put to the test. The infected man had flown from Liberia to Dallas, Texas, on 20 September. Four days later, he started to develop symptoms; he went to the hospital on 26 September, but no red flags were raised and he was sent home. He was not isolated until 28 September, after returning to the hospital in an ambulance.

The people he had been staying with were then quarantined, but spent more than a week in an apartment that still contained his Ebola-contaminated clothing and linen, which they had to decontaminate and bag as best they could. Meanwhile, local, state and federal officials argued over their disparate laws governing the decontamination and transport of dangerous pathogens, before belatedly sending in a commercial clean-up team.

The US health system is sufficiently robust to stop a full-blown outbreak developing. But even in rich countries, inequalities in access to health care and cost-cutting in the health services can create vulnerabilities. Strong public-health systems, with sufficient slack in them to provide the surge capacity that is needed in a serious outbreak, are a crucial defence.

The average life expectancy in the United States lags behind that of many other developed nations. Although its richest areas boast some of the highest expectancies in the world, some places have expectancies even lower than those in developing countries such as Bangladesh. Were Ebola to spread in underprivileged urban areas, it might not be so easy to control as US officials are making out. The uninsured, in particular, may think twice about going to see a doctor, and so hamper efforts to stem an outbreak.

The media's handling of the first US-diagnosed case also carries lessons. Although much of it has been first-class, the dogged determination to identify the infected man and who he came into contact with could be counterproductive. People who suspect they might have been

in contact with someone infected with Ebola might now be reluctant to come forward in case their names are splashed all over the headlines. The public has a legitimate interest in knowing the places an infected person has frequented, for example, but there is a fine line between this and blatant voyeurism, invasion of privacy and sensationalism.

More broadly, the excessive media and political focus on the threat to the United States and other Western countries — which is relatively low — risks engendering a siege mentality. And as Thomas Frieden, director of the US Centres for Disease Control and Prevention, has pointed out, flight bans and other restrictive measures only hamper access by relief agencies, and diminish the much-needed cooperation of local communities. The first US-diagnosed case, he says, is a stark reminder that the threat of exported cases will persist until the outbreak is quashed.

The world is fiddling while West Africa burns, and unless it acts much faster, the outbreak risks spreading to surrounding regions. Sparks from it could lead to exports to more far-flung places, perhaps even to major cities that lack decent public-health infrastructure. But countries and the public must also realize that although action is needed urgently, the commitments must be sustained until the outbreak has been stamped out, which could take many months. The relatively low threat to developed countries must not distract or detract from the pressing need to tackle the outbreak at its source. ■

**“The world is fiddling while West Africa burns.”**

## A little knowledge

*The significance of expertise passed on by direct contact — tacit knowledge — is moot.*

**F**or the last two decades of the twentieth century, a cold war rumbled on between the laboratories of physicists in Moscow and in the West over the quality of sapphire. The Russian scientists claimed to have measured the rate of decay of the material's resonance — a signal of its quality — with what researchers elsewhere considered impossible precision. The stakes were high: sapphire mirrors were being considered for use in a new generation of laser interferometer gravitational-wave detectors. But were they up to the task? Labs in the United States and United Kingdom could not reproduce the Moscow findings. The discrepancy fuelled mistrust and antagonism.

At the turn of the millennium, the mystery was solved. Measuring the quality of sapphire, it turns out, is as much art as science. The Moscow scientists were expert experimenters, but this expertise was not transferred through the methods sections of their academic papers. The fine fibres used to suspend the sapphire cylinders under investigation