

# Why Ebola needs a measured response

November 11 2014, by Jacqueline Mitchell

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The poor public health infrastructure in West Africa is what has made the Ebola epidemic so deadly, and quarantines against the disease in the U.S. are counterproductive. Physicians also need to play a more prominent role in assuaging public panic about the outbreak. Those were some of the main points raised last week during a series of discussions at Tufts about the epidemic. The Office of the Provost sponsored the seminars as part of the One Health Initiative, a multidisciplinary effort designed to illustrate the connections between human, animal and environmental health.

While the number of confirmed cases of Ebola in the United States remains at three, the outbreak of the once-rare disease has raised a slew of questions—some scientific, some sociological. More often than not, those issues are intertwined, says Jeffrey K. Griffiths, a professor of public health and community medicine at the School of Medicine.

Griffiths spoke to faculty, staff and students about what is known about the physiology of the Ebola virus, how it infects its victims and the progression of the current outbreak in West Africa.

Ebola, he noted, is a relatively simple virus, rather fragile outside the human body and easily washed off the hands with soap and water. The strain currently raging in West Africa does not appear to be causing its victims to hemorrhage, or "bleed out," a trait once thought to define Ebola, he said. Griffiths described the intricate means by which the virus invades human cells and then methodically cripples the body's immune system—first by sending out decoys to distract immune cells and then by

tampering with the genes that switch the immune response on and off. Incredibly, he noted, that complex plan of attack is not what makes Ebola so formidable.

"We can talk about the pathophysiology, which is important to understand, but the reason it is so bad is because of the complete lack of systems in West Africa. That's the real message," said Griffiths, who also holds appointments at the Friedman School and the School of Engineering.

Science also doesn't have much to do with the debate over whether U.S. health-care workers who travel to West Africa to treat Ebola victims should be quarantined upon their return. That was the consensus among a diverse panel of experts who spoke about the ethical considerations raised by the outbreak.

A majority of [public health](#) experts agree that quarantines are unnecessary and, in fact, counterproductive to halting the spread of Ebola. Still, public demand for them is on the rise. "There's a hierarchy of ethical concerns here, and they aren't all equal," said panelist Sheldon Krimsky, a professor of urban and environmental policy and planning in the School of Arts and Sciences and an adjunct professor in the medical school's Department of Public Health and Community Medicine. "The highest [priority] is to curtail the spread of disease at its source," he said. "The lowest is to respond to public fear by quarantines."

Physicians may need to play a bigger role in managing the public's fear if they hope stop the disease, said Horacio Hojman, surgical director of the surgical [intensive care unit](#) at Tufts Medical Center and an assistant professor at the School of Medicine. "This quarantine is political, not scientific. When we let politicians decide science and the medical community remains silent, it's a disservice to society."

Provided by Tufts University

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