



Kaveh Sardari. Courtesy of UPMC Center for Health Security

Straight talk with... Tom Inglesby

When letters containing anthrax spores were mailed to several US senators and media offices in September 2001, just one week after the 9/11 attacks, bioterrorism catapulted to the national stage. Political leaders and public health officials, desperate for guidance on this once-theoretical scenario, turned to experts including Tom Inglesby, then deputy director of the Johns Hopkins Center for Civilian Biodefense Strategies, a bioterrorism research and analysis think tank in Baltimore. In the years that followed, Inglesby and his colleagues ran exercises to simulate bioterror incidents, established a peer-reviewed journal on biodefense and advised government agencies on how to reduce the public health impact of biological threats.

Today, he continues his work with the think tank, which moved to the University of Pittsburgh Medical Center (UPMC) in 2003 (although it stayed headquartered in Baltimore) and which was recently renamed the UPMC Center for Health Security. As director and chief executive officer for the past four years, Inglesby has expanded the center's focus toward preventing public health crises arising from infectious diseases, pandemics and major natural disasters, in addition to biological, chemical and nuclear accidents or threats. Inglesby spoke with **Kevin Jiang** about how responses to bioterrorism, pandemics and natural disasters aren't all that different.

On 30 April, your organization underwent a rebranding, going from being called the Center for Biosecurity of UPMC to the UPMC Center for Health Security. Why the name change?

There are so many similarities between what we need to do to prepare or prevent biological threats and other health security threats that there's a lot of sense in trying to identify the commonalities and develop communities of practice that are able to respond to both. For both biological problems and the broader category of disaster response, you need really well-trained and smart public health and medical professionals. You need access to medicines and vaccines for the problems that you're confronting. You need healthcare institutions

to be well prepared. You need to be able to communicate with the public in ways that help the public help themselves.

Is there a risk of weakening the center's focus on bioterrorism?

We have no intention of diminishing our biosecurity as a priority. Our vision of health security is that it consists of the measures that we take to protect people's health from epidemics, from disasters and from other large-scale threats. What we intend to do is try to expand and develop new partnerships and new collaborations and identify new resources that will allow us to do work in the broader mission space.

How prepared is the US for possible pandemics, especially given the recent scares surrounding H7N9 influenza and the Middle East respiratory syndrome coronavirus?

I think it's far, far better prepared than it was ten years ago. But when you lay out a full story of what a pandemic could do, what we've done is still not enough. There'll be a lot of pressures on the healthcare system and a lot of pressure on [political] leaders for how to govern in a crisis. There's still a long lead time required to make medicines and vaccines. Pandemic planning is particularly challenging given the sweep of the consequences across society, not just health or medical.

The US government spent around \$66 billion on biodefense between 2001 and 2012, yet there have only been a few incidents. Has the funding been justified?

That money has had an incredible return. Something on the order of 92 to 95 percent of what we're calling biodefense actually has multiple beneficial uses—building systems to prepare both for biological events or for natural epidemics or for other kinds of disasters. It's basically prepared public health agencies for hurricanes, for wildfires and for some of the terrible mass shootings that have happened. There's been a misperception that if you build public health preparedness, that you can reach [your target] and turn it off. In reality, the way we need to think about public health preparedness is more like the way we think about fire departments or police departments or national defense. It's not going to be the case that you can retire the fire department because you had no fires over the past year.

The UPMC Center for Health Security recently launched a fellowship program that gives participants the opportunity to engage in biosecurity education and networking. Why was this necessary?

There are a few universities where you can take coursework related to biosecurity. What's missing is any clear professional pathway or training beyond that, any clear road for those young professionals wanting to put their education into practice in the field. So, one of the main purposes of the Emerging Leaders in Biosecurity Initiative is to provide mentorship and guidance to those wanting to apply their educational experiences to real-world biosecurity challenges.

Last month, your center unveiled a new Web-based tool, the Infectious Disease Cost Calculator (IDCC), to measure the financial burden of cholera and dengue fever around the world. Why the focus now on disease economics?

There hasn't been a systematic, uniform, transparent approach to measuring cost in countries around the world for these diseases. The absence of that information is a barrier to those who are arguing for increasing public health programs and tools to cope with those diseases. We hope that [the IDCC] will strengthen the hand of those in countries who are trying to do more, whether it's through vaccine or mosquito nets or clean water or whatever the strategy for the disease at hand. The problem would overall receive greater recognition.