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Cutting collaborations will not put 'America first'

Supporting scientists in the developing world is in the United States' self-interest, argues Wasim Maziak.

Studies tracking swine flu in Asia are showing how farmers in the US Midwest can transport livestock more safely. Research into a strange pattern of dementia in middle-aged Colombian villagers has led to a powerful clinical trial to test preventive treatments for Alzheimer's disease. Studies to model how changes such as urbanization and deforestation affect how disease spreads are helping to hone vaccine trials and disease-control strategies.

These efforts were facilitated by the smallest of the 27 institutes and centres that make up the US National Institutes of Health (NIH): the Fogarty International Center. It funds more than 500 projects at 100 US universities that work with scientists in the developing world.

US President Donald Trump wants to axe this. His proposed budget cut for the NIH eliminates the centre. Judging from the campaign's rhetoric, it is not cost-cutting that is being targeted (the centre gets just 0.2% of the NIH's budget). It is the international focus of the institute.

But shutting down international collaborations will not put 'America first'. In a world in which health and well-being are interconnected, an isolationist agenda makes no sense.

I have seen this first-hand. I began my work as a public-health researcher in my native Syria and saw it benefit Americans in unanticipated ways.

Common vectors of health threats know no borders, be they insects, environmental conditions that promote infectious diseases or global communication that spreads unhealthy lifestyles and extremism. The Internet, which connects people in so many positive ways, also recruits

individuals into destructive causes. The most efficient way to address these threats is at their source. Strategies to contain Ebola or Zika viruses — or the next transborder threat that takes us by surprise — will demand collaborations with scientists working where these agents are a bigger threat. These networks cannot be developed overnight.

International collaborations are not as altruistic as they might seem. Helping other nations to confront their health emergencies is more than a good in its own right. It makes those nations more willing and able to help their supporters. Screening measures implemented in West Africa by staff from the US Centers for Disease Control and Prevention during the Ebola outbreak kept infected people from entering other countries, including the United States.

My own story illustrates how funding overseas research can benefit US citizens at minimum cost. In 2001, I was a pulmonologist in a country where more than half of the men smoked; naturally I wanted to research tobacco control. A Fogarty grant allowed me to work with two US collaborators, now close friends, to establish the Syrian Center for Tobacco Studies in Aleppo. The centre continues to serve as a virtual hub for data and training in tobacco-control research and capacity building in the Middle East.

An early challenge was how to assess the public-health effects of the waterpipe, or hookah. The centuries-old method to inhale cooled, unfiltered tobacco smoke was soaring among the region's young people, who wrongly considered it non-addictive and less harmful than cigarettes. The practice was too rare to be on the public-health radar elsewhere.

A few years after we began our work, hookah smoking took off in the United States. It is now on par with cigarette smoking in Americans aged 18–24 and threatens to upend years of progress in eradicating tobacco use. Our NIH-funded research gave the United States at least a 10-year head start in responding to that. We knew how to structure surveillance questions. We understood hookah's toxic and addictive profile, and how it leads to cigarette smoking. We knew that hookah smokers tend to be young and educated, and that the Internet and social media

play a major part in their recruitment. It would have been much more expensive to learn these facts in the United States, where smokers were less common and more dispersed.

In 2006, I was forced to leave my home in Aleppo. I was the only researcher in the country who was funded directly by a US institution, and US–Syrian relations were so tense that I feared for my life. Now in Florida, I contribute to my new country and continue to work with researchers across the Middle East. This dialogue advances the reputation of US institutions and builds bridges that would not otherwise have been possible. For instance, Fogarty support helped US academics to develop links with Middle Eastern scientists to study electronic cigarettes and to produce evidence that will be crucial for the US Food and Drug Administration to regulate sale of the devices and protect Americans' health.

When I worry that the United States might cut off its international science connections, I think about how I nearly made the same mistake.

As my collaborators and I were applying to Fogarty for our first grant, the terror attacks of 11 September 2001 occurred. The hostile rhetoric in the aftermath was disheartening, and we stopped working on the application, convinced that no one would consider a proposal to build a research centre in a Middle Eastern Muslim-majority country.

A couple of weeks later, imagining a world with military interventions as the main way to resolve conflict, we dug the application out again and finished it, reasoning that perhaps our collaboration was more important than it had ever been.

Since then, the world has grown even more connected, and more riven. Closing institutes such as the Fogarty and cutting international science collaborations will only make it more dangerous. ■

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Wasim Maziak chairs the epidemiology department at Florida International University in Miami.
e-mail: wmaziak@fiu.edu