OPINION

How the Greater Boston biomedical community is tackling the coronavirus

At a historic meeting held Monday at Harvard Medical School, more than 80 clinicians and scientists came together to commit to a Covid-19 response.

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Updated March 5, 2020, 3 hours ago

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The number of novel coronavirus cases is growing rapidly. The infectious pathogen SARS-CoV-2 — and Covid-19, the often-serious disease it can cause — has already spread

to more than 80 countries. We are on the cusp of a global pandemic, and Boston has the unique biomedical environment to forge this crisis into solutions that benefit our community and the world.

For physician-scientists, medical researchers, front-line clinicians, and epidemiologists in the Greater Boston area, this is not merely a call to duty. This is a historic opportunity to reimagine and revise the way we tackle future outbreaks. No single institution is going to solve this problem. Boston and Cambridge are home to exceptional biomedical research institutions and medical centers. Yet the individual players that make up this ecosystem are at times siloed. We need a more nimble, better synchronized rapid-response system to mobilize diverse expertise to address the current crisis as well as future infectious disease pandemics. And if past is prologue, come they will.

On Monday, we agreed it's time for a change. At a historic meeting held at Harvard Medical School — the first step on a long journey — more than 80 clinicians and scientists representing Harvard, the Massachusetts Institute of Technology, the National Emerging Infectious Diseases Laboratories at Boston University, affiliated academic medical centers, local biotech, pharma, and research institutes, foundations, and the state Department of Public Health came together to commit to an integrated, collaborative response, harnessing the power and collective medical and scientific acumen of this community. Together, those in attendance set in motion a plan to break down institutional barriers and form a consortium to develop diagnostic tools, treatments, and vaccines with utmost urgency for this new coronavirus epidemic. And to welcome others in our community to join this effort.

In this unprecedented endeavor, this consortium is partnering with fellow clinicians and scientists at the heart of the epidemic in China, who hold critical pieces to the puzzle. The Boston-area investigators who gathered communicated in real time via videoconference with their Chinese colleagues at the Guangzhou Institute of Respiratory Health, led by Dr. Zhong Nanshan, the legendary Chinese physician-scientist who spearheaded the response to the SARS epidemic in 2002. Covid-19 is a striking, if unfortunate, reminder

of the value of science that transcends borders and politics for the betterment of humanity.

And now, with the urgent threat posed by Covid-19, the China Evergrande Group has committed $115 million to spark collaborative research among our consortium of local experts, and with GIRH. Efforts are already underway to define priorities, with six working groups established at the Monday meeting to develop research agendas for key areas of focus:

▪ Enhanced diagnostic testing

▪ Epidemiologic modeling to predict the scope, spread and severity of the disease

▪ Understanding the basic biology of the pathogen and its interaction with the host's immune system

▪ Development of therapies to treat those infected and vaccines to prevent infection in those who are not

The meeting also brought together clinicians from across our community and linked them to Chinese clinicians to address optimal care of patients and use of hospital resources.

Through collection of samples from those who have become infected, the development and sharing of new reagents and tools, as well as new grant funding, the consortium will expand the capacity of each individual researcher to contribute knowledge toward ending the epidemic. Essential to the spirit and purpose of the meeting is the commitment to pool and share resources and data, to collaborate and communicate across institutions and continents, and to provide a scalable response not just for this epidemic but for future outbreaks.

This latest effort grows out of a seismic shift in the approach to combating human diseases for which Greater Boston's biomedical community is a leading example. Over

the past two decades, numerous new academic centers and institutes have been established in Boston and Cambridge founded on a common principle: cross-disciplinary science and sharing of facilities and knowledge are critical to major scientific advances. In that effort, international scientific collaborations are just as essential.

These collaborative efforts and the ability to move rapidly in biomedicine have been catalyzed by unrestricted funding provided through philanthropic support. We are now capitalizing on these investments with new funds to stimulate innovation needed to provide solutions. Yet this funding is only the first step toward building the durable community effort we envision. We seek to create a sustainable structure for maximum impact, both for the current coronavirus outbreak and for future emerging pathogens.

There is no better place in the world to create such a consortium, and no better time to do it.

And for this group of people who have devoted their lives and careers to generating new knowledge, to improving the human condition and to saving lives, nothing less will do.

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