Hello and welcome to Columbia Public Health Now, a podcast devoted to exploring the local and global implications of public health challenges in our communities. This Spring, we are focusing the series on the novel coronavirus, otherwise known as COVID-19, and its impact on our world and our health. I am your host Maria Andriella O’Brien and I thank you for listening.

The coronavirus continues its global spread. But in China – the original epicenter for the pandemic – there are reports of a marked decline in new cases and the figures tell us the difference a month can make. On February 13th – China reported 4,000 new infections in just one day. But four weeks later, it was reporting numbers in the single digits. China’s success in fighting the outbreak is attributed to its decision to impose severe travel restrictions in large parts of the country, affecting hundreds of millions of people.

Meanwhile, last week in the United States, President Trump officially declared the pandemic a national emergency, and invoked the Stafford Act. This federal law governs disaster-relief efforts and provides emergency funding to state and local governments.

This followed regional and national travel restrictions, including New York State’s deployment of the national guard to New Rochelle, a suburb of NYC, which is home to the state’s largest outbreak cluster. A day later, President Trump announced a travel ban from several European countries. It’s been a busy week, which is why I am glad to welcome back Dr. Stephen Morse, an expert in infectious disease epidemiology.

In our last conversation, we spoke about the origins of the epidemic. I thought we’d focus today on the policy responses that we’ve seen so far. Let’s start with China, where it all began.

It spread first in Wuhan where there were heavy consequences: many infections, many people in the hospital with tremendous—obviously tremendous—burden on the Chinese health and medical system. People may not think much about Wuhan, unless you live there, but it’s a city of 11 million people, and they go all over the world, just as we New Yorkers do. So, people came from Wuhan to other places and brought the infection with them in many cases and so we saw infections and cases in places like Singapore, and Hong Kong, and initially Asia, but also in Washington state in the United States, on cruise ships, and in some other places.

This is the first time we’ve really tried to prevent the spread of a respiratory, viral infection. So, many of the people who are infected actually are not that sick, they may not even be aware that they have this infection, but they are able to spread it to others when they come down with it.
MARIA ANDRIELLA O’BRIEN

China has come under a great deal of criticism for how they handled the situation, but it seems as though President Xi is taking a bit of a victory lap as the number of new cases has declined so dramatically. What do you think we can learn from how China handled the crisis, and is it applicable to the United States?

DR. STEPHEN MORSE

Almost everything we know about the epidemiology—how quickly it spreads, what percentage might be severely affected, and some of the other measures (although we need to know more about what measures have been effective in treating people)—a lot of what we know, we learn from China because there were simply so many patients. Obviously, there were some missteps early on, which might have made a big difference but they tried as best they could to catch up and it was clearly a Herculean task as these things always are. I think they did prevent it from spreading as far and certainly within the population of China, which is enormous, as much as it could have. I think there was some success there after it started, in keeping it from going further or at least spreading faster. I think we’ve learned a lot from their experiences including their various experiences in handling the patients, treating them, and I think also that since they were the first to get it, you would expect that once it reaches a stable point where you aren’t getting new cases or you’re getting a small number of new cases by preventing new cases, by containing it as they have, then you would expect people would start to recover and it would begin to look a lot better. Those places that get it first obviously may be among the hardest hit but they’re also going to be among the first to get over it.

MARIA ANDRIELLA O’BRIEN

President Trump has declared a travel ban on most European countries. How effective do you think that will be in containing the pandemic?

DR. STEPHEN MORSE

I think, you know, it’s obviously going to impact a lot of people in different ways. I wish all problems could be solved this simply. I think the reality is like the Trojan horse, we already have the virus circulating here, so you know, the travel ban may, given how much it’s now circulating
in Europe have some effect but the real effect is what we do here within our own country to protect the population and prevent the spread. I think that’s the most important thing, because we can block off all travel as China did, but as you can see, that doesn’t necessarily stop the virus especially when it’s already here. I think we need to increase our testing capabilities—that’s still a big gap.

MARIA ANDRIELLA O’BRIEN

From a policy viewpoint, there’s been a very varied response to this epidemic. Looking a bit close to our neighborhood—to New Rochelle, New York—which has experienced the largest cluster in the United States so far, Governor Andrew Cuomo recently announced a containment area. It’s a one-mile radius with a synagogue that is at the center of the worst outbreak in the United States. What are your thoughts on this step and its effectiveness in slowing the spread of the coronavirus?

DR. STEPHEN MORSE

So, all of these containment measures basically, for this type of infection, are unprecedented. They’re also very labor and resource intensive, so it’s hard to keep them up for a long time. It makes sense to try to focus it to some degree because you have to limit it to something you can actually manage to sustain for some period. We really don’t know how effective this is going to be. In some places, some of the containment measures—Singapore is often pointed to as an example—China which had to take extreme measures because it had run away so far, you know, but to some extent they were successful in preventing some of the worst consequences and some really greater spread. We don’t know what’s going to happen here because it’s never really been done, so I think it’s very interesting to find out. But as a scientist I’m very interested in terms of what I might expect it might slow things down a bit. I’m not sure that it’s really going to be decisive because there’s so much that’s already got to be circulating in the community before we were aware of it. So, I think it’s really hard to contain this without using very broad areas, very heavy measures, or getting it very, very early—and we almost never get it early enough because we can’t notice it early enough. So, I’m hopeful, I think it’s an interesting thing—at least he’s trying to do it in a rational way, which I give him great credit for and we’ll see how it works.

MARIA ANDRIELLA O’BRIEN
There’s been a lot of debate about closing schools. What do you think should be considered in making that decision?

DR. STEPHEN MORSE
Those were always very difficult decisions during the flu pandemics as well, and different cities have handled them in different ways. Some businesses may find it easier to close and allow their employees to work remotely or schedule staggered work hours. School closing is a much more difficult issue because schools do so many things in addition to just the teaching function, and we don’t want the children who are not in school to be congregating in other places where there may be as great a risk of becoming infected. So, that’s a last resort essentially but it has been done and it does help when necessary.

MARIA ANDRIELLA O’BRIEN
This leads me to my next question, there has been some talk of “flattening the curve” which is a bit of a play on words for an epidemiological concept. Can you talk a little bit about that idea and maybe explain it for our listeners who might not be familiar with the underlying concept and what it means for this pandemic?

DR. STEPHEN MORSE
So, essentially what a lot of countries are doing—we saw that in China, we see that now in Italy—is trying to prevent the transmission of this infection essentially by identifying cases and then trying to restrict the further movement of people who might be infected, although we obviously are not finding all of those who are. Clearly, in Italy there were quite a number who must not have been recognized before they infected a number of others, but the idea is by controlling it in some way, by reducing the amount of transmission hopefully you slow down the rate of transmission so it takes longer for people to become infected—or to come in contact and then become infected. In other words, if left to its own devices you’d see the infections rising very quickly—the number of infected people rising very quickly, exponentially essentially, as you saw in China, doubling every few days. If you can dampen that down and prevent it, you would slow down the progress of the infection. How long you can do that, is still a question—one advantage is that maybe if you do that you can prevent the big peaks that would put such a tremendous burden on healthcare facilities. We’re really not prepared for the kind, and even China with all of its resources and people, were not prepared for the kind of case numbers that
they had to deal with. They had to improvise hospital settings, and build new places, bring people in from all over the country to help with medical care and other things. And that’s something in the United States we probably aren’t even able to do regularly. So, one advantage might be theoretically to space out the needs a little bit so we have fewer people going into the hospital or needing attention at any given time. That’s kind of an optimistic way of looking at it. The question is how long can that really be sustained before it breaks out of this cage we are trying to put it in and then becomes more like an influenza pandemic. And I think that’s still a question we don’t know the answer to but I’m afraid we may find out soon enough.

MARIA ANDRIELLA O’BRIEN

Columbia Public Health Now is a production of the Columbia Mailman School of Public Health in New York City. Visit: mailman.columbia.edu/podcast for more information on our show. Share your comments on social media with #PublicHealthNow. I am your host, Maria Andriella O’Brien and thank you for listening.