

PANDEMIC PREPAREDNESS:

A Conversation on Global Health Security
with Dr. Jennifer Nuzzo

Interviewed by Dana Hatic, October 2020



This interview has been edited for length and clarity.

Fletcher Security Review (FSR): Dr. Nuzzo, thank you for taking the time to speak with *FSR* today. I would love if you could give us a brief introduction and tell me about what your role has been like since the start of the pandemic.

Jennifer Nuzzo (JN): I am an assistant professor at the Johns Hopkins Bloomberg School of Public Health. I am also a senior scholar at the Johns Hopkins Center for Health Security and a senior fellow at the Council on Foreign Relations. I have been involved working on COVID-19 since the first news of an outbreak in China. I run a project called the Outbreak Observatory, which does operational research to improve outbreak responses. One of our activities is to publish a weekly blog, which we do to take stock of what is going on in the world and to try to learn about events—even if we are not actively doing research projects on them, just reminding people that things are happening all the time.

So, we write this weekly blog, and I was on vacation with my family in Florida at the end of December when the team that was working on the blog posts suggested writing about this outbreak that was happening in China. I think we published that blog on the 2nd of January. It really did not stop from there, trying to understand what was going on with the virus and whether it was going to be like another SARS, if it was being spread between humans or not, whether it was linked to the seafood market. There were all these questions that emerged.

Mostly, I think in those early days, it was just trying to keep tabs on and make sense of what was going on. And then, very soon after, it was talking to the media a lot and trying to explain what we thought was going on.

I testified at the first congressional hearing on COVID on the fifth of February. Prior to the hearing, there were questions about how the U.S. response was going, and when I first got the call from the committee, I said, “well, I think actually things are going really well.” The CDC was out in front and they were speaking with authority. And then it seemed, almost overnight, like the U.S. response changed for the worse: we closed borders and did nothing else. Then, I was doing a lot of op-ed writing and still trying to do some sense-making and advising and writing of other things. Since then, those things have stayed the same. There are still a lot of media requests and op-ed writing and policy analysis.

But I have other projects ongoing about COVID. The Outbreak Observatory has two projects to study the operational dimensions: one on vaccines and another on testing. Those are projects that are going to be starting soon. I am also the lead epidemiologist for the testing site that Hopkins runs. Hopkins has a global COVID map and then they kind of built out from that once they saw that billions of eyeballs were on the map. They built a larger site called the Coronavirus Resource Center and one of the focus areas of the resource center is testing. I helped stand up a site that tracks testing in the United States, and internationally, and tries to visualize and analyze the

trends in testing and how they relate to trends in disease numbers, et cetera. So, you have a bunch of ongoing analyses trying to better understand the data with the goal of trying to support better decision making and monthly response.

FSR: Looking at the broader picture, how does the global response to the pandemic track, or not, with what you in your profession would have anticipated?

JN: We published two particularly relevant reports last fall. One was a report called—and this title is a mouthful—Preparedness for a High-Impact Respiratory Pathogen Pandemic. That was commissioned by something called the Global Preparedness Monitoring Board (GPMB). It was a background paper, because the GPMB was this high-level panel; the secretariat is at the World Health Organization (WHO), but it is independent of WHO and it weighs in on the state of global preparedness. When they were getting ready to issue their first report, they had a lot of background papers in the works that were focusing on various aspects of preparedness, but many of them had been heavily influenced by Ebola because that had been the single biggest event prior to the GPMB's first report.

They, I think, became concerned that maybe that was not representative of the full risk that was out there, so they asked us to write one specifically on pandemics and specifically respiratory viruses that have the potential for high lethality and rapid transmission. In September 2019, we published our report considering the state of preparedness for an event involving respiratory pathogens, which have the potential for high lethality and rapid transmission. The premise of the report was that in a pandemic our idea of response completely changes. An epidemic, such as in an Ebola-like situation, is terrible, but it is usually limited to a particular region of the world. In epidemics you at least have the prospect of outside resources being available to come and assist. But in a pandemic, every country is affected at once, and so whatever international resources you have, you basically have to allocate it over a much larger area. So, that effectively dilutes the kind of common response and it becomes, in effect, every country for itself.

That was the basic premise of the report. Then we outlined areas where we thought there would be challenges as a result, like shortages of medical supplies and personal protective equipment, and shortages of critical medicines. There would be a question of whether we would share samples and whether we would share vaccines. There would also be debates over the benefits, harms, and legalities of travel restrictions, and we had insufficient ideas of how and when to use non-pharmaceutical interventions like social distancing measures. I recently went back to that report to look at how it would hold up with respect to COVID, and I was really shocked by how accurate it was. That said, I think one thing that we did not anticipate in that report—it was not just us writing it, it was informed by a lot of different experts—I do not think we fully anticipated how poorly some governments would respond. And, in particular, seeing governments acting against their own best

interests—when problems would come up and they were not necessarily committed to solving them.

That ties into the second report that we published in the fall, which was with colleagues. We released the first Global Health Security Index, which measured the capacities of 195 countries to respond to a pandemic or significant infectious disease emergency. The overarching lesson from the index was that no country was fully prepared for those events. The top weaknesses—pretty much across the board for all countries—were going to be in the health system because that seemed to be the area where most countries lacked capacities. We see this acutely in COVID-19. The fact that the United States and other countries have had to employ lockdowns is because they became deeply worried that their health systems did not have the capacities to meet the demands of a surge of COVID cases.

So, there is just insufficient capacity for pandemics across the globe. But despite the accuracy of our report findings, it is hard to wave away the fact that the United States and the UK both scored at the top of all countries. They did not receive full scores, so they were theoretically not prepared, but they were better positioned than other countries. And so, we really had to reckon with that, like what happened? The United States and the UK are doing terribly—possibly the two worst responses in the world—what is going on? And we recently reconvened our international panel of experts to ask, “Did we get it wrong?” and “What’s wrong?” The outcome of those and subsequent analyses that we have done is that we do not think we got it wrong, but what we did not fully account for is a dimension of governance, which is basically that we would have leaders that would decide not to use the resources that we have, or that would not be committed to fixing problems as they arise, or that they would be choosing instead to pretend the virus does not exist.

Those are hard things to measure, but they are clearly important. We are looking now at how we can better account for that kind of thing while also realizing, hoping, that in some ways maybe it is an anomaly. We do not know, but I think what is an important lesson here is the role that politics can play and that even if you have amassed all of the capacities that you need and you have the best experts in the world who have basically helped set up the systems that other countries are using to their own benefits, if you choose not to use them or actively choose to undermine them, then you can only go so far.

FSR: That’s a great segue into the security context. Considering how much governments can influence management of these kinds of challenges, is there a way to solve that issue? From a security perspective, global health has implications on so many other things. How can we balance that when governments end up having such an impact on managing a pandemic?

JN: First of all, there is one dimension that was in the index on which the United States did not score high—and I suspect it will score on even worse going forward—which is public trust in government. I think a fundamental lesson from epidemics, but also pandemics, is that if



Bradleys in Syria [Image 5 of 5], by APC Jensen Guillory

a government is not trusted by its people, it can only get the people to do so much. Now I think that is an important thing going forward, and I think all leaders, if they want to avoid the pitfalls of COVID-19, should recognize that trust is possibly the most important capacity that you can have to manage a pandemic. One thing that we are looking at now is whether some of these capacities are not just one of many, but possibly an overarching capacity that influences our ability to use everything else, and whether they need to be weighted higher as a result of that. So that is just one aspect.

The other thing is that I feel like a challenge for the field of global health security, prior to COVID, was trying to convince world leaders that health is linked to security. As much as the term has the word “security” in it, the truth is that parts of government that have concerned themselves with global health security have largely been the health sector—barely the agriculture sector, but in places where they have had agriculture-related epidemics that have threatened their economics, the agriculture sector has become maybe a reluctant participant. It has been very hard to involve the defense sector, despite the fact that I think people who work in this field very much believe that when a big event happens, it will undermine the security of a country.

I hope that COVID is the final teaching of that, the last time we have to try to convince people, because we see something where global economic downturn is at historically high levels, with the level of instability that this virus has created, the basic stop of international trade and travel, the consequences of this virus beyond just the staggering health consequences: 230,000 American lives lost [in October 2020], which has eclipsed our single biggest recent domestic trauma of September 11 by several fold. I hope we no longer have to convince people that infectious diseases pose threats to national security and that it takes all of society to be prepared for these events and try to mitigate the impact so that we

do not suffer these consequences. I also think—and this is an area in which I am not particularly an expert but am increasingly concerned—about the role of information, and particularly the role of disinformation campaigns, and the increasing evidence of state-sponsored disinformation campaigns aimed to undermine a response to a pandemic or an epidemic. If adversaries, state actors, and non-state actors are using information as a weapon and using it to exacerbate the health, economic, and social impacts of a pandemic, I think this is a new security risk as well.

FSR: Anticipating a Biden presidency, what does that transition look like? Are there ways for states to consider everything you just said about how vastly this impacts security, and what does implementing new state or international policies look like to move forward from this? Do you think that is possible?

JN: I just look to the countries where they have gotten COVID under control and they are still hampered by a lack of control at the global level. So, I think that is fundamental lesson number one: even if you get your epidemic under control as a country, when the rest of the world is not under control, you still suffer. Australia is looking great, Taiwan is looking great, New Zealand is looking great, but these countries will not return to normal until the rest of the world gets COVID under control. We always talk about infectious diseases linking countries, but we are seeing in this pandemic how our fates are linked by this. New Zealand and Australia, they depend heavily on foreign travel and international students and their economies are global, as all countries are. So even though things are going well within their borders, they are still in for some hurt.

The other thing is that, nationally speaking, it is going to be impossible to move on until we get this virus under control and decide how we are going to control it. Right now, you are seeing Europe returning to lock downs, which was really disappointing after they had a summer of

basically good-looking case numbers, enough to put the United States to shame. Fortunately, the United States is now in a better place given our rapid roll-out of vaccines. I am optimistic these will prevent us from having a surge of cases like many places in the world are seeing. But there are no guarantees. And so, as much as state governments in the United States may want to pretend the threat of COVID-19 is gone now that vaccines are here, we can't yet give up on our public health measures to slow the spread of this virus. For all the talk of not letting it change our lives, the fact of the matter is that it is changing our lives and we can ignore it for a period of time until the data becomes so obviously bad where the health systems are so clearly at the brink that even, I think, the most skeptical and disbelieving of governors will have no choice but to face it. It is just unfortunate because it is so much harder to control this virus when the case numbers are so high.

All the targeted measures that we hope could be used to go after the virus—the testing, the isolation of anyone who tests positive, starting contact tracing, and finding people who may be exposed and quarantining them—those targeted measures that go after individual infections, they cannot be sustained when the case numbers are out of control, and it really does not leave any other option but shutdowns. I am not a fan of shutdowns; I think they are terrible measures. They are blunt tools that, sure, work, but it is like swinging a giant sledgehammer. It comes with damage. It is always really disappointing to me when we find ourselves in a position where there is no alternative and I very much hope that states can act before it gets to that point.

FSR: The last time there was a similar pandemic a hundred years ago it was a much less globalized world, with much less international travel. Obviously, everything has changed. Do you anticipate similar occurrences within our lifetimes?

JN: Yes. The global conditions that gave rise to COVID-19 are our current global conditions. There is no reason to think it cannot happen again, and there is also no reason to think that this is going to be the worst of it. I hope that is not the case, but I think we have to plan as though it is the case so that we do not get caught off guard again. Respiratory viruses are really challenging, they are fast-moving, they are hard to interrupt because the generations arise so quickly, so you have a small window to act to stop it—unlike something like Ebola, you get a longer timeframe. But as bad as COVID is, it is also not the deadliest virus that is out there, so that is, I think, something that we have to plan for—what if it were worse?

I do not like to be this doomsday person, but I also do not think sticking your head in the sand is a strategy either. Just look at the pace. We actually have data that says the frequency with which these events are happening is increasing. The emergence of new pathogens is increasing. When those pathogens emerge, our current global conditions favor their spread. We have a highly globalized world, and you can get anywhere you want to be in the world in 36 hours. We have a lot of people living

in crowded conditions, a lot of global migration, a lot of underlying health conditions, like obesity and chronic illness, that makes viruses like this more deadly. All of that adds up to the possibility of more frequent deadly events like this. So, we need to be ready, and we need to think about whether our institutions are equipped—one, to try to intervene so that we could stop it from becoming a pandemic, and two, if we are unable to do that, equipping countries to be able to manage these events so that we can mitigate their harms. And then there is also the possibility that people will deliberately misuse biology, and we have not even begun to scratch the surface of thinking about what that would mean if a state actor or a non-state actor decided to deliberately release, God forbid, an engineered pathogen that was created in a laboratory to be more deadly and spread faster than nature could ever come up with. I think we have to consider these things and prepare for them and hope they never come to pass. As opposed to our current mode of preparedness, which people have equated to building a fire station in a town, and then deciding to take apart the fire station and sell off everything that you have after a year of not having a fire. Let's build it, let's plan to support it in perpetuity, and let's hope we never have to use it.

FSR: Are there tangible things that we could do now to prepare a more secure policy stance, in case something like this occurs again within the next five to ten years?

JN: I think the first thing is that, globally, we have to come to better terms on how we are going to respond. It is increasingly clear that countries—as much as it becomes every country for themselves—cannot, in fact, do it on their own. So, I think there are some global initiatives that have shown real value, like global clinical trials to expedite the development of vaccines and therapeutics. We need to improve our surveillance so that we have a better chance of detecting these events when they happen. I think we need to come to some agreement on what measures we are going to use to control the spread of these things. The use of travel restrictions will continue to be debated. There are strengths and weaknesses to these approaches. I think we really need to have a hard look at what they mean, and then I think we need to equip our global institutions like the WHO with more resources and teeth to be able to implement the agreements that we have made. Nationally, I think we need to finally start prioritizing preparedness and equip countries with the resources they need. Some of that will mean encouraging them, incentivizing them, and requiring them to increase their own investments. But it will also mean looking at what financing mechanisms are out there and figuring out whether they can be made available to help countries that need additional resources.

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